

# STAMPINGS & WASHERS

2024 CATALOG



**BOKER'S, INC.**

STAMPING & WASHER SPECIALISTS SINCE 1919

WOMEN  
OWNED

32,000 SIZES — 2,000 MATERIALS — ENDLESS POSSIBILITIES

AS9100:2016  
ISO9001:2015  
CERTIFIED


# A NOTE FROM BOKER'S

We are pleased to bring you the Boker's, Inc. 2024 Stampings & Washers Catalog. For over 100 years, we have been honored to provide stamped components and washer solutions to every market and industry to date.

As announced in 2022, we expanded our manufacturing facility to add 66,500 square feet of space for material storage, production, quality assurance and shipping to meet the ever-changing needs of our customers in almost every industry around the world. Since fully coming online, our team has experienced a more streamlined manufacturing process and increased productivity of project workflow, to continue to provide high-quality components, world-class customer service and fast delivery. This new space has also aided the Boker's team in their focused efforts to reduce lead times and exceed on-time deliveries – and now, most orders ship in two weeks or less, which helps you, our customers, keep your processes moving to meet production schedules.

I invite you to read this 2024 Stampings & Washers Catalog and learn how Boker's can help provide value to your organization. I also invite you to connect with our experienced Sales Associates who can answer your questions, provide quotes, or discuss solutions that solve your newest challenge.

As always, it is our greatest pleasure to be at your service.

 Amy Kersey  
CEO/President

**WOMEN  
OWNED**



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**BOKER'S, INC.**

**1860**

Vitus Boker started using short run stamping methods in Denmark

**1901**

Vitus immigrated to the United States

**1919**

V.A. Boker & Sons was founded in Minneapolis

**1923**

Check Protector patented

**1926**

Second location on Erie Street

**1933**

Third location at Bohemian Flats



# 100+ YEARS OF PRECISION MANUFACTURING

It all began in the Minneapolis basement of a young, passionate and focused man named Vitus Boker. He instilled the values of hard work and attention to detail throughout the company as it grew. These values still guide the company today, which inspires the team to provide an exceptional customer experience while producing the highest quality component parts.

Being a value-driven company also means giving back and being good stewards for the surrounding community. From drawing skilled tradespeople from across the Twin Cities to volunteering with local non-profits, Boker's brings passion and attention to detail to everything we do.

## A Part of Every Industry

Boker's has been serving companies on the forefront of technology innovation for over 100 years. As a result, you come into contact with components that Boker's has manufactured almost every day. From airplanes, appliances and medical devices to outdoor recreational equipment, furniture and renewable energy, you interact with items that feature stamped components manufactured by Boker's.

Customers trust Boker's because of their quality, on-time delivery and service. Often times, customers come with a difficult part that they were struggling with and Boker's figures out how to manufacture the part to their exact specifications.

## Continuing the Legacy

Boker's works in and serves all fast-paced and high-demand industries. Over the past 100+ years, we have embraced and been on the forefront of technology evolution and integration.

The future of Boker's is sticking to our wheelhouse of what we are known for while expanding our customer base and serving emerging markets. We will continue to expand capabilities by adapting and pursuing new technologies and processes in an effort to continue exceeding customer expectations.

**Our team works hard and is dedicated to following and continually improving processes. This is the reason Boker's is successful and will continue to be so for at least the next 100 years.**

— *Chuck Kersey, Assistant Sales Manager*

4th location on Snelling Avenue

Held the first meeting of the board of directors

William Tedlund becomes sole owner

66,500 square foot expansion totaling over 165,000 square feet

1939

1942

1947

1968

1986

2008

2018

2019

Vitus retired, leaving company to his children (John, William, Richard, Marie)

Boker's purchased by four employees (William Tedlund, Joseph Basara, Chester Engquist, Joseph Kantorowicz)

Expansion completed totaling over 90,000 square feet

Boker's celebrates 100<sup>th</sup> Anniversary



# The Boker's Advantage

## Over 2,000 Materials

To expedite your order and shorten delivery time, Boker's has immediate access to over 2,000 commonly specified and hard-to-find materials. **Whatever your requirements, if it can be stamped, we can turn it into the part you need.**

**Metallic Materials:** Low carbon, cold rolled strip and sheet steel, SAE 1050, 1075, and 1095 spring steel, blue and black temper spring steel, low alloy steel sheets, brass, copper, nickel silver, beryllium copper, phosphor bronze, stainless steel, aluminum and others.

**Non-Metallic Materials:** Acetal, PTFE, polyester, nylon, fiber, polyethylene, various phenolics and NEMA grade phenolics and others.

**Superalloys:** Iron, cobalt and nickel based alloys such as: Hastelloy, Inconel, Monel and others.

## Secondary Operations

Boker's provides secondary operations including deburring, tapping, counterboring, reaming, and spotfacing to name a few. We also have approved vendors for plating, heat treating, grinding, testing and others.

## Boker's Environmental Compliance

Boker's, Inc. is committed to responsible business practices that portray our dedication to our employees, customers, country and world.

## Certified Quality Management System

Our Quality Management System (QMS) is AS 9100:2016 / ISO 9001:2015 Certified. When you purchase products from us, you can be confident that our processes are efficient and effective.

## Quality Assurance and Certification

- ✓ C of C
- ✓ PPAP
- ✓ DFARS
- ✓ RoHS
- ✓ S.P.C.
- ✓ F.A.I.
- ✓ AS9102
- ✓ REACH
- ✓ ITAR
- ✓ IMDS
- ✓ Dock-To-Stock
- ✓ Conflict Minerals
- ✓ CA Proposition 65
- ✓ Latex-Free
- ✓ WBENC



## Bokers.com is Your Complete Resource

Boker's website provides extensive stamping information including access to thousands of non-standard flat washer, spacer, shim and disk sizes.

Simply key in the desired size range in inch or millimeter measurements by O.D. or I.D. and get immediate display of all stock tool sizes.



## Stay in the Loop with Boker's Bulletin

This electronic newsletter is sent out on a quarterly basis and contains industry news as well as other metal forming industry information.

Subscribe today!  
Scan or visit [bokersbulletin.com](http://bokersbulletin.com)

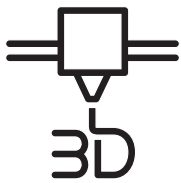




## Prototype Before Production

No more guess work or uncertainty. Only precision.

Make sure to take advantage of our capabilities next time you work with us.



### Boker's 3D Printing Prototyping Services

Boker's offers additive manufacturing (3D printing) to provide customers with 3D prototypes. See how your product will turn out in advance. This service allows our customers to test parts for form and fit prior to production of the actual stamped part.



### Inspection Reports

Certificates of Compliance, Chemical/Physical Analysis, PPAP, FAI and AS9102 are available upon request.



### Fast Delivery

At Boker's, fast delivery is the standard practice. Boker's can also meet your delivery and stocking requirements with flexible "Just-In-Time" (J.I.T.) and "Dock-to-Stock" programs. Your order may also be expedited for faster delivery.

100↕

### Minimum Quantity

Orders require a minimum production run of 100 pieces, though deliveries of lesser quantities can be arranged. Per-unit costs rapidly decrease as the quantity increases.



### High-Volume Orders

Increased production capacity and enhanced technology allows Boker's quality stampings and non-standard washers to be manufactured quickly, well into the millions.



# Quality Stampings Made to Order

Vitus Boker launched the company based on pioneering the production of high-quality, short-run stamped metal parts. With over 100 years of experience, Boker's has earned the reputation as a stamping leader and the respect of many customers for their specialized metal components.



Draws up to 3" deep  
and 8" in diameter



Complex metal forming needs  
in thicknesses from .005" to .190"  
(varies by material)



Flat blanking and  
piercing up to 12" by 12"

## Draws, Forming, Blanking and Piercing

At Boker's, we utilize the latest stamping technologies and manufacturing concepts to continually provide you with stampings of the highest quality. This diligent effort to achieve and retain the highest quality possible in our metal stamping processes goes back to 1919.

### Production Process Overview:

- In-House tool and die department designs and produces custom tooling to be used in the stamping process.
- Material warehouse shears sheets of material into strips or issues a coil of material—metallic or non-metallic.
- The material then transfers to the production floor to be stamped using the custom or stock tool(s) in one or more of our many varieties of punch presses.
- Parts are then (in any combination) blanked, deburred, formed, drawn, tapped or pierced in-house. After in-house production is complete parts may be sent to an approved vendor for plating, heat treating, grinding, or testing before going to Boker's Quality Assurance Department. In our Q.A. Lab, parts are inspected to ensure they meet customer specifications before being released for shipping.





## Precision Fabrication

When you've been successful for 100+ years, quality isn't just a promise, it's our mission. The washers, spacers and shims you get from Boker's will meet your specifications from the first part to the last. Those are not just words at Boker's, but the goal of the quality-conscious personnel who produce your precision parts. Boker's dedicates every department to the task of providing the highest quality washers, spacers and shims.

As a final check, your parts are inspected in the Q.A. Lab before your order is shipped out.

# Washers, Spacers & Shims

**Metric Sizes No Problem!** Boker's maintains over 32,000 stock tools for flat washers, spacers and shims. You can choose from a wide variety of sizes, thicknesses and materials, including non-metallics. With outside diameters of 0.080" to 5.140" and a wide variety of inside diameters, you have millions of flat washer possibilities.



## Special Shapes and Sizes

Boker's also makes special washer shapes and sizes—up to 12" in outside diameter. We can produce a vast number of custom washer types with little to no tooling costs.

Tell us what you need, and we'll make it to your exact specifications. Visit [bokers.com](http://bokers.com) to submit a drawing for a fast quote or to search stock metric sizes.



## The Widest Range of Disks Available

Disks, commonly referred to as discs, circles, plates and/or slugs, are typically round washers with or without a center hole and are typically used to provide a precise space between components or materials or for load disbursement.

All of Boker's 32,000+ flat washer sizes are available without the I.D. hole in more than 2,000 commonly specified and difficult-to-find materials.

- Sizes up to 12" x 12" (flat)
- Thicknesses from .005" to .190" (varies by material)

# SPACE AIR LAND SEA

## Serving a World of Industries

AEROSPACE, AVIATION & DEFENSE • MEDICAL • ELECTRONIC MEASUREMENT & TESTING • TELECOMMUNICATIONS • RENEWABLE ENERGY • OIL & GAS HYDRAULICS • INDUSTRIAL EQUIPMENT • AGRICULTURE • APPLIANCES HVAC • RECREATIONAL VEHICLES • AUTOMOTIVE • INFORMATION TECHNOLOGY PHOTOGRAPHIC & IMAGING EQUIPMENT • OFFICE MACHINES • CUTLERY & HAND TOOLS • CABINET & FURNITURE • CONSUMER PRODUCTS AND MORE

With a commitment to continuous improvement, Boker's recently surveyed a subset of our customer base in our pursuit of perfection. Our customer service team, comprised of key personnel, reviewed every response and identified action assignments focused on providing the highest quality customer service. Thank you to everyone who participated. We are listening.

Here's what our customers are saying:

## Customer Satisfaction is Our #1 Goal

When quality and precision matter the most, turn to Boker's for your stamped components.



“

**BOKER'S STAFF HAVE ALWAYS JUMPED THROUGH HOOPS TO ACCOMMODATE US** WHENEVER WE WERE IN DIRE STRAITS. *I ENJOY WORKING WITH THEIR STAFF EVERY TIME WE NEED TO PLACE AN ORDER.*

- Customer in Defense Industry

**BOKER'S HAS BEEN VERY GOOD IN THESE HARD TIMES.** DELIVERY HAS BEEN MUCH BETTER. *CUSTOMER SERVICE IS EXCELLENT.*

- Customer in Pressure Gauge Manufacturing Industry

**HONESTLY, BOKER'S PROVIDES EXACTLY WHAT WE NEED** IN CUSTOM STAMPED WASHERS AND SPACERS.

- Customer in Firearm Industry

WE'VE BEEN A **SATISFIED BOKER'S CUSTOMER FOR OVER 20 YEARS.** THE QUALITY OF THE PRODUCTS, CUSTOMER SERVICE, AND *LEAD TIMES HAVE ALWAYS BEEN EXCELLENT.*

- Customer in Prosthetics & Orthotics Industry

GIVEN ALL THE *GENERAL SUPPLY CHAIN ISSUES*, BOKER'S HAS **DONE GREAT AND EXCEEDED EXPECTATIONS.**

- Customer in Photography & Imaging Industry

”



# BOKER'S NON-STANDARD WASHERS AND SPACERS

This is our list of stock tools from which our washers are made to your order in any quantity without a tooling charge. We do NOT carry any washers in stock. You can choose an exact thickness for washers within the tool range indicated. For the most up-to-date list of sizes, please visit [bokers.com](http://bokers.com)

| O.D. | I.D. | Choose Any Thickness*<br>From To | O.D. | I.D. | Choose Any Thickness*<br>From To | O.D. | I.D. | Choose Any Thickness*<br>From To | O.D. | I.D. | Choose Any Thickness*<br>From To | O.D. | I.D. | Choose Any Thickness*<br>From To | O.D. | I.D. | Choose Any Thickness*<br>From To |
|------|------|----------------------------------|------|------|----------------------------------|------|------|----------------------------------|------|------|----------------------------------|------|------|----------------------------------|------|------|----------------------------------|
| .080 | .049 | .005 - .010                      | .106 | .077 | .005 - .012                      | .123 | .036 | .005 - .010                      | .135 | .060 | .005 - .010                      | .149 | .095 | .005 - .010                      | .156 | .080 | .025 - .035                      |
| .081 | .033 | .005 - .010                      | .107 | .055 | .005 - .012                      | .123 | .052 | .020 - .040                      | .135 | .066 | .005 - .010                      | .149 | .097 | .015 - .025                      | .156 | .089 | .005 - .015                      |
| .083 | .033 | .010 - .020                      | .108 | .055 | .005 - .020                      | .123 | .058 | .005 - .010                      | .135 | .072 | .005 - .015                      | .150 | .033 | .005 - .010                      | .156 | .094 | .010 - .015                      |
| .084 | .043 | .005 - .010                      | .108 | .061 | .010 - .020                      | .123 | .069 | .005 - .010                      | .135 | .085 | .005 - .010                      | .150 | .035 | .010 - .020                      | .156 | .095 | .005 - .010                      |
| .084 | .048 | .012 - .020                      | .109 | .047 | .012 - .020                      | .123 | .080 | .010 - .020                      | .136 | .064 | .015 - .030                      | .150 | .041 | .005 - .030                      | .156 | .098 | .010 - .020                      |
| .084 | .065 | .005 - .010                      | .109 | .058 | .010 - .020                      | .123 | .082 | .010 - .020                      | .136 | .073 | .005 - .010                      | .150 | .044 | .005 - .010                      | .156 | .100 | .016 - .025                      |
| .085 | .040 | .005 - .010                      | .109 | .067 | .008 - .018                      | .124 | .028 | .005 - .010                      | .136 | .090 | .005 - .010                      | .150 | .046 | .005 - .010                      | .156 | .103 | .015 - .030                      |
| .085 | .043 | .005 - .010                      | .110 | .032 | .010 - .015                      | .124 | .063 | .005 - .010                      | .136 | .095 | .012 - .020                      | .150 | .056 | .015 - .020                      | .156 | .106 | .005 - .010                      |
| .085 | .048 | .010 - .015                      | .110 | .054 | .005 - .010                      | .124 | .065 | .015 - .025                      | .137 | .049 | .005 - .010                      | .150 | .057 | .010 - .020                      | .156 | .115 | .005 - .010                      |
| .086 | .027 | .010 - .020                      | .110 | .055 | .010 - .020                      | .124 | .066 | .015 - .030                      | .137 | .066 | .012 - .025                      | .150 | .059 | .005 - .010                      | .156 | .130 | .010 - .020                      |
| .086 | .036 | .005 - .008                      | .110 | .073 | .005 - .010                      | .124 | .073 | .005 - .010                      | .137 | .077 | .020 - .030                      | .150 | .065 | .005 - .010                      | .157 | .043 | .020 - .030                      |
| .086 | .045 | .005 - .010                      | .111 | .061 | .010 - .020                      | .125 | .049 | .005 - .010                      | .137 | .091 | .008 - .016                      | .150 | .066 | .006 - .010                      | .157 | .057 | .005 - .025                      |
| .086 | .048 | .010 - .015                      | .111 | .067 | .015 - .025                      | .125 | .052 | .005 - .012                      | .138 | .049 | .010 - .020                      | .150 | .073 | .005 - .010                      | .157 | .061 | .010 - .020                      |
| .087 | .025 | .005 - .010                      | .111 | .082 | .005 - .010                      | .125 | .054 | .015 - .025                      | .138 | .070 | .005 - .010                      | .150 | .077 | .010 - .020                      | .157 | .064 | .005 - .010                      |
| .087 | .043 | .015 - .030                      | .112 | .039 | .005 - .010                      | .125 | .055 | .020 - .030                      | .138 | .073 | .005 - .010                      | .150 | .083 | .010 - .020                      | .157 | .066 | .010 - .020                      |
| .088 | .032 | .005 - .010                      | .112 | .044 | .012 - .020                      | .125 | .060 | .015 - .030                      | .138 | .075 | .015 - .030                      | .150 | .087 | .010 - .015                      | .157 | .086 | .005 - .010                      |
| .088 | .066 | .005 - .015                      | .112 | .059 | .015 - .025                      | .125 | .062 | .010 - .020                      | .138 | .088 | .005 - .010                      | .150 | .088 | .005 - .010                      | .157 | .088 | .005 - .010                      |
| .089 | .044 | .005 - .010                      | .112 | .061 | .005 - .010                      | .125 | .063 | .005 - .020                      | .138 | .102 | .005 - .010                      | .150 | .089 | .015 - .025                      | .157 | .091 | .010 - .020                      |
| .089 | .065 | .005 - .015                      | .112 | .062 | .015 - .025                      | .125 | .064 | .010 - .020                      | .139 | .047 | .005 - .010                      | .150 | .090 | .005 - .030                      | .157 | .092 | .010 - .020                      |
| .090 | .030 | .010 - .030                      | .112 | .067 | .015 - .025                      | .125 | .065 | .005 - .030                      | .139 | .053 | .005 - .012                      | .150 | .091 | .005 - .012                      | .157 | .094 | .020 - .030                      |
| .090 | .050 | .010 - .015                      | .112 | .073 | .005 - .010                      | .125 | .066 | .005 - .030                      | .139 | .056 | .010 - .020                      | .150 | .099 | .020 - .025                      | .157 | .096 | .005 - .030                      |
| .090 | .054 | .010 - .015                      | .113 | .052 | .005 - .010                      | .125 | .067 | .015 - .025                      | .139 | .057 | .005 - .012                      | .150 | .116 | .016 - .020                      | .157 | .120 | .005 - .010                      |
| .090 | .064 | .008 - .012                      | .113 | .074 | .005 - .010                      | .125 | .068 | .010 - .032                      | .139 | .063 | .005 - .010                      | .151 | .056 | .015 - .025                      | .157 | .127 | .005 - .010                      |
| .091 | .031 | .005 - .010                      | .114 | .040 | .030 - .040                      | .125 | .069 | .005 - .010                      | .139 | .066 | .015 - .030                      | .151 | .069 | .005 - .010                      | .158 | .040 | .010 - .020                      |
| .091 | .065 | .005 - .010                      | .114 | .044 | .005 - .010                      | .125 | .072 | .012 - .020                      | .139 | .095 | .010 - .020                      | .151 | .073 | .005 - .010                      | .158 | .046 | .012 - .025                      |
| .092 | .027 | .010 - .015                      | .114 | .066 | .005 - .010                      | .125 | .076 | .020 - .025                      | .139 | .097 | .005 - .010                      | .151 | .077 | .015 - .020                      | .158 | .050 | .020 - .035                      |
| .092 | .041 | .008 - .012                      | .114 | .073 | .005 - .010                      | .125 | .078 | .005 - .010                      | .140 | .062 | .005 - .010                      | .151 | .078 | .010 - .020                      | .158 | .057 | .010 - .020                      |
| .092 | .043 | .010 - .020                      | .115 | .031 | .010 - .020                      | .126 | .042 | .008 - .032                      | .140 | .073 | .005 - .010                      | .151 | .083 | .025 - .030                      | .158 | .060 | .020 - .030                      |
| .092 | .044 | .005 - .010                      | .115 | .033 | .005 - .010                      | .126 | .050 | .005 - .012                      | .140 | .082 | .005 - .032                      | .152 | .094 | .020 - .025                      | .158 | .089 | .020 - .032                      |
| .092 | .047 | .005 - .010                      | .115 | .061 | .005 - .010                      | .126 | .052 | .008 - .025                      | .140 | .090 | .005 - .010                      | .152 | .095 | .015 - .025                      | .158 | .094 | .025 - .035                      |
| .092 | .060 | .005 - .010                      | .115 | .079 | .005 - .015                      | .126 | .057 | .025 - .032                      | .140 | .095 | .005 - .010                      | .152 | .098 | .005 - .010                      | .158 | .095 | .005 - .010                      |
| .092 | .068 | .005 - .010                      | .116 | .037 | .005 - .010                      | .126 | .062 | .008 - .040                      | .140 | .109 | .010 - .015                      | .152 | .100 | .005 - .010                      | .158 | .098 | .005 - .015                      |
| .093 | .036 | .010 - .020                      | .116 | .055 | .010 - .020                      | .126 | .064 | .005 - .010                      | .141 | .061 | .005 - .010                      | .153 | .056 | .010 - .020                      | .158 | .100 | .015 - .020                      |
| .093 | .049 | .010 - .020                      | .116 | .066 | .015 - .025                      | .126 | .065 | .005 - .015                      | .141 | .065 | .015 - .025                      | .153 | .061 | .005 - .010                      | .158 | .101 | .005 - .010                      |
| .093 | .051 | .005 - .020                      | .116 | .067 | .005 - .010                      | .126 | .068 | .005 - .010                      | .141 | .067 | .010 - .016                      | .153 | .062 | .005 - .010                      | .158 | .119 | .015 - .025                      |
| .094 | .062 | .010 - .015                      | .116 | .073 | .005 - .010                      | .126 | .073 | .005 - .010                      | .141 | .076 | .005 - .010                      | .153 | .073 | .015 - .025                      | .159 | .077 | .005 - .010                      |
| .095 | .024 | .010 - .015                      | .117 | .032 | .005 - .010                      | .126 | .080 | .005 - .010                      | .141 | .079 | .015 - .025                      | .153 | .077 | .025 - .035                      | .159 | .081 | .005 - .010                      |
| .095 | .043 | .005 - .010                      | .117 | .035 | .005 - .012                      | .126 | .095 | .005 - .015                      | .141 | .092 | .015 - .025                      | .153 | .078 | .005 - .015                      | .159 | .095 | .005 - .010                      |
| .095 | .049 | .005 - .010                      | .117 | .056 | .010 - .015                      | .126 | .096 | .005 - .010                      | .142 | .038 | .015 - .030                      | .153 | .081 | .020 - .035                      | .159 | .100 | .010 - .025                      |
| .095 | .052 | .005 - .010                      | .118 | .058 | .010 - .020                      | .127 | .039 | .020 - .032                      | .142 | .073 | .005 - .010                      | .153 | .095 | .020 - .030                      | .159 | .110 | .005 - .012                      |
| .095 | .056 | .015 - .020                      | .118 | .073 | .005 - .020                      | .127 | .042 | .010 - .020                      | .142 | .076 | .005 - .010                      | .153 | .100 | .010 - .025                      | .160 | .060 | .005 - .015                      |
| .097 | .060 | .005 - .010                      | .118 | .075 | .005 - .015                      | .127 | .047 | .015 - .030                      | .142 | .078 | .005 - .010                      | .154 | .073 | .020 - .040                      | .160 | .088 | .010 - .020                      |
| .097 | .074 | .005 - .010                      | .118 | .080 | .005 - .012                      | .127 | .065 | .012 - .020                      | .142 | .083 | .005 - .010                      | .154 | .095 | .005 - .010                      | .160 | .090 | .005 - .010                      |
| .098 | .040 | .005 - .010                      | .118 | .091 | .005 - .010                      | .127 | .067 | .010 - .020                      | .142 | .089 | .020 - .030                      | .154 | .101 | .005 - .010                      | .160 | .095 | .025 - .040                      |
| .098 | .064 | .010 - .020                      | .120 | .034 | .015 - .030                      | .127 | .077 | .015 - .025                      | .142 | .098 | .010 - .015                      | .154 | .110 | .020 - .030                      | .161 | .063 | .015 - .030                      |
| .098 | .065 | .005 - .010                      | .120 | .039 | .010 - .020                      | .127 | .083 | .015 - .030                      | .143 | .052 | .005 - .010                      | .154 | .115 | .005 - .010                      | .161 | .069 | .010 - .020                      |
| .099 | .050 | .005 - .010                      | .120 | .040 | .010 - .020                      | .127 | .093 | .010 - .015                      | .143 | .083 | .015 - .025                      | .155 | .064 | .015 - .030                      | .161 | .076 | .015 - .030                      |
| .100 | .026 | .010 - .015                      | .120 | .041 | .005 - .010                      | .127 | .094 | .008 - .015                      | .143 | .095 | .010 - .020                      | .155 | .066 | .005 - .010                      | .162 | .061 | .005 - .020                      |
| .100 | .035 | .005 - .010                      | .120 | .050 | .005 - .010                      | .128 | .056 | .015 - .025                      | .143 | .097 | .005 - .015                      | .155 | .069 | .005 - .015                      | .162 | .077 | .012 - .020                      |
| .100 | .040 | .005 - .010                      | .120 | .062 | .010 - .020                      | .128 | .073 | .005 - .010                      | .144 | .065 | .005 - .010                      | .155 | .072 | .020 - .040                      | .162 | .086 | .020 - .032                      |
| .100 | .055 | .020 - .030                      | .120 | .063 | .015 - .030                      | .128 | .076 | .015 - .030                      | .144 | .073 | .005 - .010                      | .155 | .076 | .010 - .020                      | .162 | .092 | .015 - .030                      |
| .100 | .062 | .005 - .010                      | .120 | .065 | .005 - .010                      | .128 | .078 | .005 - .010                      | .144 | .076 | .010 - .020                      | .155 | .078 | .008 - .012                      | .162 | .097 | .010 - .020                      |
| .100 | .065 | .005 - .020                      | .120 | .070 | .015 - .030                      | .128 | .089 | .005 - .010                      | .145 | .056 | .005 - .010                      | .155 | .081 | .005 - .010                      | .162 | .112 | .005 - .010                      |
| .100 | .067 | .015 - .025                      | .120 | .073 | .005 - .010                      | .128 | .103 | .005 - .010                      | .145 | .068 | .005 - .012                      | .155 | .084 | .005 - .010                      | .163 | .082 | .015 - .030                      |
| .101 | .036 | .015 - .025                      | .120 | .080 | .010 - .016                      | .129 | .083 | .010 - .020                      | .145 | .090 | .005 - .010                      | .155 | .094 | .015 - .025                      | .163 | .110 | .015 - .020                      |
| .101 | .045 | .005 - .030                      | .121 | .043 | .005 - .012                      | .130 | .061 | .010 - .020                      | .145 | .097 | .005 - .010                      | .155 | .111 | .005 - .010                      | .163 | .128 | .005 - .010                      |
| .101 | .049 | .015 - .020                      | .121 | .047 | .005 - .010                      | .130 | .063 | .020 - .030                      | .145 | .116 | .005 - .010                      | .155 | .124 | .010 - .020                      | .163 | .129 | .005 - .010                      |
| .101 | .050 | .005 - .010                      | .121 | .054 | .010 - .025                      | .130 | .073 | .005 - .010                      | .146 | .046 | .010 - .020                      | .156 | .044 | .015 - .035                      | .164 | .081 | .010 - .020                      |
| .102 | .040 | .020 - .030                      | .121 | .062 | .010 - .020                      | .131 | .059 | .005 - .012                      | .146 | .065 | .005 - .010                      | .156 | .049 | .005 - .015                      | .164 | .087 | .005 - .010                      |
| .102 | .053 | .020 - .030                      | .121 | .072 | .005 - .010                      | .132 | .073 | .005 - .010                      | .146 | .073 | .005 - .010                      | .156 | .052 | .010 - .032                      | .164 | .100 | .005 - .012                      |
| .104 | .044 | .020 - .030                      | .121 | .092 | .005 - .010                      | .133 | .052 | .005 - .010                      | .146 | .091 | .010 - .020                      | .156 | .053 | .005 - .012                      | .164 | .114 | .010 - .020                      |
| .105 | .030 | .005 - .015                      | .122 | .049 | .010 - .020                      | .133 | .088 | .005 - .010                      | .146 | .107 | .005 - .010                      | .156 | .062 | .020 - .040                      | .165 | .040 | .005 - .010                      |
| .105 | .037 | .015 - .025                      | .122 | .056 | .005 - .010                      | .133 | .096 | .010 - .020                      | .147 | .067 | .020 - .032                      | .156 | .064 | .016 - .025                      | .165 | .045 | .015 - .030                      |
| .105 | .044 | .005 - .010                      | .122 | .066 | .020 - .030                      | .134 | .041 | .005 - .010                      | .147 | .111 | .010 - .025                      | .156 | .065 | .020 - .040                      | .165 | .052 | .010 - .030                      |
| .105 | .047 | .005 - .010                      | .122 | .073 | .005 - .010                      | .134 | .070 | .010 - .020                      | .148 | .068 | .010 - .020                      | .156 | .066 | .020 - .035                      | .165 | .061 | .025 - .040                      |
| .105 | .056 | .015 - .025                      | .122 | .076 | .010 - .020                      | .134 | .071 | .005 - .010                      | .148 | .073 | .005 - .010                      | .156 | .067 | .008 - .018                      | .165 | .071 | .005 - .010                      |
| .105 | .057 | .005 - .010                      | .122 | .095 | .008 - .015                      | .134 | .073 | .005 - .010                      | .148 | .077 | .010 - .020                      | .156 | .068 | .010 - .040                      | .165 | .073 | .005 - .015                      |
| .105 | .063 | .                                |      |      |                                  |      |      |                                  |      |      |                                  |      |      |                                  |      |      |                                  |

## NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .165 | .090 | .005 - .010                   | .175 | .128 | .015 - .020                   | .185 | .093 | .020 - .035                   | .188 | .083 | .025 - .040                   | .196 | .090 | .005 - .010                   | .201 | .134 | .005 - .030                   |
| .165 | .096 | .015 - .030                   | .176 | .053 | .005 - .010                   | .185 | .095 | .005 - .025                   | .188 | .087 | .010 - .020                   | .196 | .102 | .005 - .010                   | .201 | .141 | .005 - .010                   |
| .165 | .100 | .015 - .025                   | .176 | .081 | .005 - .010                   | .185 | .097 | .010 - .020                   | .188 | .093 | .005 - .010                   | .196 | .104 | .005 - .010                   | .201 | .148 | .005 - .012                   |
| .165 | .125 | .005 - .010                   | .176 | .119 | .010 - .020                   | .185 | .098 | .005 - .010                   | .188 | .094 | .005 - .020                   | .196 | .105 | .015 - .030                   | .201 | .161 | .005 - .010                   |
| .165 | .126 | .015 - .025                   | .177 | .053 | .005 - .010                   | .185 | .110 | .020 - .030                   | .188 | .095 | .005 - .010                   | .196 | .117 | .008 - .015                   | .202 | .057 | .010 - .020                   |
| .166 | .062 | .005 - .010                   | .177 | .070 | .005 - .010                   | .185 | .118 | .015 - .030                   | .188 | .102 | .005 - .015                   | .196 | .122 | .005 - .020                   | .202 | .066 | .015 - .025                   |
| .166 | .073 | .010 - .020                   | .177 | .081 | .005 - .010                   | .185 | .119 | .015 - .030                   | .188 | .103 | .020 - .030                   | .196 | .128 | .005 - .010                   | .202 | .067 | .005 - .015                   |
| .166 | .075 | .005 - .010                   | .177 | .094 | .007 - .015                   | .185 | .126 | .020 - .030                   | .188 | .106 | .010 - .020                   | .196 | .129 | .005 - .025                   | .202 | .101 | .015 - .025                   |
| .166 | .081 | .005 - .010                   | .177 | .099 | .005 - .015                   | .185 | .127 | .005 - .010                   | .188 | .113 | .020 - .040                   | .196 | .130 | .010 - .020                   | .202 | .116 | .015 - .020                   |
| .166 | .108 | .010 - .020                   | .177 | .113 | .005 - .015                   | .185 | .128 | .010 - .020                   | .188 | .118 | .015 - .025                   | .196 | .140 | .010 - .020                   | .202 | .120 | .015 - .032                   |
| .166 | .125 | .005 - .010                   | .177 | .119 | .030 - .042                   | .185 | .129 | .005 - .015                   | .188 | .119 | .005 - .012                   | .196 | .142 | .005 - .010                   | .202 | .126 | .005 - .010                   |
| .166 | .129 | .005 - .010                   | .177 | .122 | .015 - .020                   | .185 | .131 | .005 - .010                   | .188 | .121 | .010 - .025                   | .196 | .145 | .005 - .012                   | .202 | .128 | .005 - .010                   |
| .167 | .031 | .005 - .010                   | .177 | .125 | .005 - .010                   | .185 | .134 | .005 - .010                   | .188 | .122 | .005 - .010                   | .197 | .055 | .015 - .025                   | .202 | .134 | .005 - .010                   |
| .167 | .065 | .010 - .020                   | .177 | .127 | .005 - .010                   | .185 | .136 | .010 - .025                   | .188 | .128 | .005 - .036                   | .197 | .062 | .030 - .050                   | .202 | .136 | .020 - .032                   |
| .167 | .078 | .005 - .010                   | .178 | .050 | .030 - .040                   | .185 | .145 | .005 - .010                   | .188 | .129 | .020 - .030                   | .197 | .077 | .005 - .010                   | .203 | .056 | .005 - .010                   |
| .167 | .085 | .010 - .020                   | .178 | .077 | .015 - .030                   | .186 | .028 | .006 - .010                   | .188 | .131 | .020 - .030                   | .197 | .091 | .020 - .040                   | .203 | .063 | .005 - .032                   |
| .167 | .108 | .010 - .020                   | .178 | .087 | .020 - .040                   | .186 | .035 | .005 - .010                   | .188 | .164 | .010 - .020                   | .197 | .099 | .005 - .010                   | .203 | .072 | .015 - .040                   |
| .168 | .082 | .005 - .010                   | .178 | .113 | .005 - .015                   | .186 | .038 | .005 - .010                   | .189 | .043 | .025 - .040                   | .197 | .103 | .005 - .010                   | .203 | .091 | .010 - .040                   |
| .168 | .096 | .025 - .040                   | .178 | .119 | .030 - .042                   | .186 | .046 | .010 - .020                   | .189 | .053 | .030 - .040                   | .197 | .116 | .005 - .010                   | .203 | .092 | .030 - .040                   |
| .168 | .130 | .005 - .010                   | .178 | .123 | .005 - .010                   | .186 | .064 | .008 - .020                   | .189 | .064 | .010 - .050                   | .197 | .121 | .005 - .010                   | .203 | .093 | .040 - .060                   |
| .169 | .027 | .010 - .020                   | .178 | .137 | .010 - .020                   | .186 | .075 | .015 - .025                   | .189 | .094 | .040 - .060                   | .197 | .122 | .020 - .040                   | .203 | .107 | .005 - .010                   |
| .169 | .115 | .015 - .025                   | .178 | .139 | .005 - .010                   | .186 | .079 | .015 - .040                   | .189 | .095 | .025 - .045                   | .197 | .129 | .005 - .010                   | .203 | .114 | .015 - .040                   |
| .169 | .128 | .005 - .010                   | .179 | .039 | .005 - .010                   | .186 | .086 | .005 - .010                   | .189 | .102 | .005 - .010                   | .197 | .139 | .030 - .040                   | .203 | .123 | .005 - .010                   |
| .170 | .034 | .005 - .010                   | .179 | .101 | .010 - .020                   | .186 | .088 | .015 - .025                   | .189 | .108 | .010 - .020                   | .197 | .147 | .015 - .025                   | .203 | .124 | .010 - .020                   |
| .170 | .050 | .015 - .030                   | .179 | .103 | .005 - .010                   | .186 | .093 | .015 - .030                   | .189 | .109 | .005 - .010                   | .198 | .088 | .010 - .020                   | .203 | .128 | .015 - .025                   |
| .170 | .057 | .005 - .010                   | .179 | .113 | .005 - .010                   | .186 | .094 | .025 - .035                   | .189 | .119 | .005 - .010                   | .198 | .092 | .010 - .030                   | .203 | .130 | .005 - .010                   |
| .170 | .064 | .015 - .032                   | .179 | .115 | .025 - .030                   | .186 | .096 | .005 - .010                   | .189 | .136 | .010 - .020                   | .198 | .095 | .015 - .030                   | .203 | .137 | .020 - .040                   |
| .170 | .067 | .010 - .020                   | .180 | .081 | .020 - .035                   | .186 | .098 | .012 - .025                   | .190 | .030 | .005 - .010                   | .198 | .097 | .005 - .010                   | .203 | .170 | .005 - .020                   |
| .170 | .070 | .020 - .030                   | .180 | .089 | .005 - .032                   | .186 | .099 | .005 - .010                   | .190 | .048 | .005 - .010                   | .198 | .102 | .020 - .030                   | .203 | .175 | .005 - .010                   |
| .170 | .089 | .015 - .025                   | .180 | .090 | .010 - .020                   | .186 | .103 | .005 - .010                   | .190 | .091 | .005 - .010                   | .198 | .114 | .005 - .010                   | .203 | .176 | .005 - .010                   |
| .170 | .097 | .005 - .010                   | .180 | .094 | .010 - .025                   | .186 | .108 | .010 - .020                   | .190 | .095 | .040 - .060                   | .198 | .116 | .005 - .010                   | .204 | .044 | .005 - .010                   |
| .170 | .109 | .025 - .035                   | .180 | .096 | .005 - .010                   | .186 | .118 | .030 - .040                   | .190 | .113 | .010 - .020                   | .198 | .126 | .020 - .030                   | .204 | .075 | .025 - .040                   |
| .170 | .121 | .005 - .010                   | .180 | .100 | .025 - .040                   | .186 | .119 | .005 - .010                   | .190 | .128 | .010 - .015                   | .198 | .131 | .020 - .040                   | .204 | .100 | .005 - .010                   |
| .171 | .065 | .005 - .010                   | .180 | .114 | .020 - .040                   | .186 | .124 | .020 - .030                   | .190 | .130 | .015 - .030                   | .198 | .147 | .005 - .010                   | .204 | .105 | .030 - .040                   |
| .171 | .086 | .030 - .050                   | .180 | .115 | .005 - .010                   | .186 | .125 | .010 - .030                   | .190 | .132 | .005 - .010                   | .199 | .050 | .005 - .010                   | .204 | .125 | .025 - .040                   |
| .171 | .087 | .015 - .030                   | .180 | .118 | .005 - .010                   | .186 | .126 | .005 - .010                   | .191 | .038 | .005 - .010                   | .199 | .088 | .030 - .050                   | .204 | .143 | .020 - .030                   |
| .171 | .090 | .005 - .030                   | .180 | .128 | .005 - .010                   | .186 | .127 | .010 - .015                   | .191 | .039 | .010 - .020                   | .199 | .105 | .030 - .050                   | .204 | .157 | .010 - .020                   |
| .171 | .098 | .007 - .015                   | .180 | .141 | .005 - .010                   | .186 | .129 | .020 - .040                   | .191 | .063 | .010 - .016                   | .199 | .122 | .010 - .020                   | .205 | .038 | .015 - .025                   |
| .171 | .101 | .010 - .020                   | .181 | .071 | .005 - .010                   | .186 | .136 | .010 - .020                   | .191 | .065 | .025 - .050                   | .199 | .154 | .005 - .015                   | .205 | .050 | .030 - .040                   |
| .171 | .128 | .010 - .020                   | .181 | .078 | .007 - .016                   | .186 | .155 | .005 - .010                   | .191 | .069 | .025 - .040                   | .199 | .158 | .015 - .020                   | .205 | .079 | .020 - .030                   |
| .171 | .129 | .010 - .020                   | .181 | .087 | .005 - .010                   | .186 | .164 | .005 - .010                   | .191 | .075 | .040 - .060                   | .200 | .026 | .005 - .010                   | .205 | .094 | .010 - .020                   |
| .171 | .130 | .005 - .010                   | .181 | .093 | .005 - .010                   | .187 | .042 | .015 - .030                   | .191 | .077 | .005 - .030                   | .200 | .053 | .005 - .010                   | .205 | .097 | .010 - .020                   |
| .172 | .036 | .005 - .010                   | .181 | .095 | .010 - .016                   | .187 | .074 | .015 - .030                   | .191 | .092 | .032 - .050                   | .200 | .057 | .005 - .010                   | .205 | .112 | .010 - .020                   |
| .172 | .074 | .005 - .020                   | .181 | .116 | .005 - .010                   | .187 | .077 | .020 - .040                   | .191 | .104 | .020 - .030                   | .200 | .066 | .005 - .010                   | .205 | .115 | .015 - .025                   |
| .172 | .080 | .015 - .025                   | .181 | .116 | .015 - .030                   | .187 | .078 | .025 - .050                   | .191 | .119 | .010 - .020                   | .200 | .072 | .020 - .030                   | .205 | .131 | .010 - .020                   |
| .172 | .081 | .020 - .030                   | .181 | .127 | .015 - .025                   | .187 | .080 | .005 - .010                   | .191 | .142 | .005 - .010                   | .200 | .078 | .020 - .030                   | .205 | .137 | .025 - .040                   |
| .172 | .096 | .020 - .032                   | .181 | .128 | .005 - .025                   | .187 | .081 | .005 - .010                   | .191 | .151 | .005 - .010                   | .200 | .079 | .010 - .020                   | .205 | .147 | .025 - .030                   |
| .172 | .103 | .010 - .020                   | .182 | .052 | .010 - .020                   | .187 | .082 | .005 - .042                   | .191 | .162 | .015 - .020                   | .200 | .086 | .025 - .040                   | .206 | .051 | .005 - .015                   |
| .172 | .109 | .020 - .040                   | .182 | .057 | .012 - .020                   | .187 | .084 | .005 - .010                   | .192 | .091 | .020 - .040                   | .200 | .087 | .025 - .040                   | .206 | .094 | .005 - .010                   |
| .172 | .128 | .005 - .010                   | .182 | .068 | .010 - .020                   | .187 | .086 | .030 - .050                   | .192 | .118 | .005 - .010                   | .200 | .090 | .010 - .020                   | .206 | .126 | .005 - .010                   |
| .173 | .065 | .015 - .030                   | .182 | .083 | .040 - .050                   | .187 | .089 | .010 - .030                   | .192 | .120 | .020 - .040                   | .200 | .092 | .005 - .010                   | .206 | .154 | .005 - .010                   |
| .173 | .070 | .020 - .030                   | .182 | .094 | .015 - .030                   | .187 | .090 | .025 - .040                   | .192 | .125 | .005 - .010                   | .200 | .095 | .015 - .025                   | .206 | .161 | .005 - .010                   |
| .173 | .079 | .020 - .030                   | .182 | .110 | .010 - .020                   | .187 | .091 | .015 - .025                   | .192 | .133 | .005 - .010                   | .200 | .096 | .005 - .010                   | .207 | .112 | .005 - .010                   |
| .173 | .088 | .005 - .010                   | .182 | .130 | .005 - .016                   | .187 | .095 | .005 - .010                   | .192 | .149 | .015 - .025                   | .200 | .097 | .015 - .030                   | .207 | .127 | .015 - .025                   |
| .173 | .092 | .020 - .035                   | .182 | .134 | .005 - .010                   | .187 | .096 | .010 - .025                   | .193 | .075 | .015 - .030                   | .200 | .098 | .015 - .025                   | .207 | .132 | .020 - .030                   |
| .173 | .096 | .020 - .040                   | .183 | .067 | .012 - .025                   | .187 | .098 | .015 - .025                   | .193 | .095 | .020 - .040                   | .200 | .100 | .040 - .050                   | .207 | .133 | .020 - .030                   |
| .173 | .100 | .010 - .020                   | .183 | .090 | .010 - .020                   | .187 | .100 | .005 - .010                   | .193 | .103 | .010 - .020                   | .200 | .101 | .005 - .040                   | .207 | .144 | .010 - .020                   |
| .173 | .102 | .010 - .020                   | .183 | .096 | .020 - .030                   | .187 | .104 | .032 - .042                   | .193 | .111 | .005 - .010                   | .200 | .102 | .005 - .030                   | .207 | .147 | .005 - .010                   |
| .173 | .104 | .016 - .025                   | .183 | .097 | .005 - .010                   | .187 | .106 | .015 - .040                   | .193 | .123 | .015 - .030                   | .200 | .105 | .010 - .025                   | .208 | .099 | .010 - .020                   |
| .173 | .114 | .010 - .020                   | .183 | .101 | .020 - .036                   | .187 | .108 | .005 - .010                   | .193 | .130 | .005 - .010                   | .200 | .110 | .025 - .035                   | .208 | .120 | .005 - .060                   |
| .173 | .117 | .005 - .025                   | .183 | .105 | .005 - .010                   | .187 | .115 | .015 - .032                   | .193 | .133 | .005 - .010                   | .200 | .116 | .010 - .020                   | .208 | .127 | .015 - .025                   |
| .174 | .044 | .020 - .030                   | .183 | .106 | .010 - .020                   | .187 | .116 | .010 - .020                   | .193 | .162 | .010 - .012                   | .200 | .124 | .020 - .036                   | .208 | .128 | .040 - .050                   |
| .174 | .077 | .010 - .020                   | .183 | .118 | .015 - .030                   | .187 | .122 | .005 - .010                   | .194 | .065 | .020 - .030                   | .200 | .125 | .005 - .010                   | .208 | .129 | .020 - .030                   |
| .174 | .093 | .040 - .060                   | .183 | .120 | .005 - .010                   | .187 | .124 | .020 - .030                   | .194 | .068 | .040 - .060                   | .200 | .126 | .020 - .036                   | .208 | .130 | .005 - .010                   |
| .174 | .095 | .020 - .032                   | .183 | .131 | .015 - .025                   | .187 | .125 | .005 - .010                   | .194 | .094 | .005 - .010                   | .200 | .128 | .025 - .040                   | .208 | .147 | .005 - .010                   |
| .174 | .097 | .025 - .040                   | .183 | .132 | .005 - .010                   | .187 | .126 | .005 - .010                   | .195 | .032 | .005 - .010                   | .200 | .143 | .015 - .030                   | .208 | .155 | .005 - .010                   |
| .174 | .106 | .005 - .010                   | .183 | .141 | .005 - .020                   | .187 | .127 | .010 - .020                   | .195 | .075 | .020 - .030                   | .200 | .153 | .005 - .010                   | .208 | .163 | .010 - .015                   |
| .174 | .137 | .010 - .020                   | .183 | .143 | .008 - .012                   | .187 | .128 | .005 - .010                   | .195 | .076 | .015 - .030                   | .200 | .160 | .020 - .030                   |      |      |                               |

**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .210 | .182 | .005 - .010                   | .217 | .120 | .025 - .040                   | .221 | .156 | .020 - .030                   | .230 | .180 | .005 - .010                   | .236 | .127 | .005 - .010                   | .243 | .170 | .010 - .020                   |
| .211 | .084 | .015 - .030                   | .217 | .161 | .015 - .030                   | .222 | .050 | .010 - .020                   | .231 | .046 | .005 - .010                   | .236 | .129 | .005 - .010                   | .243 | .188 | .005 - .010                   |
| .211 | .088 | .005 - .010                   | .217 | .166 | .005 - .010                   | .222 | .093 | .020 - .030                   | .231 | .068 | .020 - .030                   | .236 | .130 | .015 - .030                   | .243 | .198 | .005 - .020                   |
| .211 | .091 | .020 - .040                   | .217 | .191 | .005 - .010                   | .222 | .095 | .008 - .012                   | .231 | .096 | .050 - .070                   | .236 | .131 | .005 - .010                   | .244 | .070 | .020 - .030                   |
| .211 | .104 | .005 - .010                   | .218 | .069 | .015 - .025                   | .222 | .114 | .010 - .020                   | .231 | .116 | .040 - .060                   | .236 | .155 | .005 - .010                   | .244 | .088 | .005 - .010                   |
| .211 | .106 | .020 - .040                   | .218 | .078 | .025 - .042                   | .222 | .116 | .025 - .045                   | .231 | .120 | .035 - .048                   | .236 | .160 | .005 - .010                   | .244 | .106 | .015 - .030                   |
| .211 | .111 | .010 - .020                   | .218 | .090 | .015 - .030                   | .222 | .129 | .020 - .030                   | .231 | .127 | .005 - .010                   | .236 | .161 | .005 - .010                   | .244 | .119 | .005 - .010                   |
| .211 | .112 | .005 - .010                   | .218 | .095 | .010 - .050                   | .222 | .134 | .040 - .050                   | .231 | .130 | .010 - .020                   | .236 | .182 | .005 - .010                   | .244 | .127 | .010 - .015                   |
| .211 | .120 | .005 - .010                   | .218 | .097 | .005 - .025                   | .222 | .140 | .010 - .020                   | .231 | .146 | .005 - .010                   | .236 | .192 | .005 - .010                   | .244 | .136 | .010 - .020                   |
| .211 | .129 | .015 - .030                   | .218 | .101 | .020 - .030                   | .222 | .142 | .010 - .020                   | .231 | .155 | .010 - .020                   | .236 | .210 | .005 - .010                   | .244 | .147 | .005 - .015                   |
| .211 | .133 | .020 - .035                   | .218 | .105 | .005 - .032                   | .223 | .059 | .015 - .040                   | .231 | .160 | .010 - .015                   | .237 | .065 | .010 - .020                   | .244 | .150 | .015 - .030                   |
| .211 | .142 | .025 - .035                   | .218 | .106 | .020 - .032                   | .223 | .100 | .005 - .010                   | .231 | .173 | .005 - .010                   | .237 | .070 | .010 - .020                   | .244 | .191 | .015 - .030                   |
| .211 | .158 | .005 - .010                   | .218 | .108 | .008 - .020                   | .223 | .102 | .025 - .035                   | .231 | .177 | .015 - .030                   | .237 | .108 | .040 - .060                   | .244 | .192 | .005 - .010                   |
| .211 | .160 | .005 - .010                   | .218 | .113 | .025 - .040                   | .223 | .118 | .005 - .015                   | .232 | .060 | .030 - .050                   | .237 | .112 | .005 - .010                   | .244 | .195 | .005 - .010                   |
| .211 | .163 | .020 - .032                   | .218 | .116 | .005 - .020                   | .223 | .127 | .025 - .042                   | .232 | .120 | .015 - .025                   | .237 | .127 | .005 - .030                   | .244 | .205 | .010 - .020                   |
| .211 | .167 | .005 - .010                   | .218 | .119 | .005 - .008                   | .223 | .130 | .005 - .010                   | .232 | .133 | .005 - .010                   | .237 | .130 | .005 - .020                   | .245 | .032 | .010 - .015                   |
| .212 | .084 | .005 - .010                   | .218 | .127 | .005 - .010                   | .223 | .132 | .025 - .035                   | .232 | .134 | .010 - .020                   | .237 | .148 | .030 - .050                   | .245 | .045 | .005 - .010                   |
| .212 | .093 | .015 - .030                   | .218 | .128 | .005 - .020                   | .223 | .135 | .010 - .020                   | .232 | .136 | .005 - .010                   | .237 | .157 | .025 - .036                   | .245 | .055 | .005 - .010                   |
| .212 | .120 | .010 - .020                   | .218 | .132 | .008 - .015                   | .223 | .139 | .015 - .025                   | .232 | .155 | .005 - .010                   | .237 | .162 | .005 - .010                   | .245 | .097 | .025 - .040                   |
| .212 | .124 | .005 - .010                   | .218 | .137 | .005 - .010                   | .223 | .155 | .005 - .010                   | .232 | .159 | .006 - .016                   | .237 | .164 | .008 - .035                   | .245 | .127 | .010 - .030                   |
| .212 | .131 | .005 - .010                   | .218 | .138 | .020 - .040                   | .223 | .191 | .005 - .010                   | .233 | .040 | .005 - .010                   | .237 | .193 | .010 - .020                   | .245 | .128 | .005 - .010                   |
| .212 | .135 | .005 - .015                   | .218 | .140 | .015 - .025                   | .224 | .075 | .025 - .040                   | .233 | .060 | .010 - .025                   | .237 | .194 | .010 - .020                   | .245 | .136 | .025 - .040                   |
| .212 | .137 | .015 - .025                   | .218 | .141 | .025 - .036                   | .224 | .139 | .005 - .012                   | .233 | .110 | .005 - .010                   | .238 | .071 | .015 - .030                   | .245 | .141 | .005 - .010                   |
| .212 | .138 | .005 - .012                   | .218 | .143 | .015 - .030                   | .224 | .141 | .005 - .010                   | .233 | .118 | .020 - .040                   | .238 | .115 | .040 - .060                   | .245 | .159 | .005 - .010                   |
| .212 | .158 | .015 - .025                   | .218 | .169 | .015 - .025                   | .224 | .147 | .005 - .010                   | .233 | .124 | .010 - .020                   | .238 | .126 | .030 - .050                   | .245 | .185 | .005 - .010                   |
| .213 | .043 | .005 - .012                   | .219 | .070 | .020 - .030                   | .225 | .063 | .005 - .010                   | .233 | .127 | .005 - .010                   | .238 | .127 | .005 - .010                   | .245 | .204 | .010 - .020                   |
| .213 | .066 | .025 - .040                   | .219 | .085 | .005 - .010                   | .225 | .090 | .015 - .030                   | .233 | .130 | .005 - .015                   | .238 | .143 | .005 - .010                   | .246 | .055 | .005 - .012                   |
| .213 | .077 | .015 - .030                   | .219 | .090 | .005 - .010                   | .225 | .092 | .005 - .010                   | .233 | .147 | .005 - .010                   | .238 | .146 | .030 - .040                   | .246 | .080 | .005 - .010                   |
| .213 | .100 | .005 - .010                   | .219 | .103 | .010 - .020                   | .225 | .101 | .015 - .030                   | .233 | .155 | .005 - .010                   | .238 | .178 | .005 - .010                   | .246 | .094 | .010 - .020                   |
| .213 | .108 | .005 - .010                   | .219 | .106 | .005 - .020                   | .225 | .111 | .015 - .030                   | .233 | .163 | .010 - .015                   | .238 | .181 | .020 - .030                   | .246 | .122 | .025 - .040                   |
| .213 | .110 | .010 - .020                   | .219 | .124 | .020 - .040                   | .225 | .113 | .005 - .010                   | .233 | .167 | .010 - .020                   | .239 | .068 | .008 - .016                   | .246 | .128 | .005 - .010                   |
| .213 | .130 | .025 - .040                   | .219 | .126 | .010 - .030                   | .225 | .125 | .015 - .032                   | .233 | .170 | .020 - .030                   | .239 | .094 | .005 - .010                   | .246 | .131 | .005 - .010                   |
| .213 | .154 | .005 - .010                   | .219 | .127 | .030 - .040                   | .225 | .129 | .030 - .050                   | .233 | .173 | .005 - .010                   | .239 | .131 | .032 - .050                   | .246 | .134 | .005 - .010                   |
| .213 | .160 | .010 - .025                   | .219 | .129 | .010 - .015                   | .225 | .135 | .005 - .015                   | .233 | .191 | .005 - .010                   | .239 | .141 | .015 - .030                   | .246 | .142 | .015 - .030                   |
| .213 | .162 | .020 - .030                   | .219 | .130 | .015 - .030                   | .225 | .142 | .005 - .015                   | .234 | .039 | .005 - .010                   | .239 | .142 | .015 - .030                   | .246 | .170 | .005 - .010                   |
| .214 | .050 | .005 - .010                   | .219 | .142 | .005 - .010                   | .225 | .144 | .015 - .030                   | .234 | .066 | .042 - .062                   | .239 | .148 | .005 - .010                   | .246 | .181 | .005 - .030                   |
| .214 | .062 | .015 - .030                   | .219 | .147 | .025 - .040                   | .225 | .147 | .025 - .040                   | .234 | .096 | .042 - .060                   | .239 | .161 | .030 - .050                   | .246 | .197 | .015 - .025                   |
| .214 | .089 | .010 - .020                   | .219 | .156 | .010 - .020                   | .225 | .150 | .005 - .010                   | .234 | .121 | .005 - .020                   | .239 | .163 | .030 - .040                   | .247 | .051 | .010 - .020                   |
| .214 | .098 | .010 - .020                   | .219 | .161 | .005 - .035                   | .225 | .164 | .005 - .010                   | .234 | .126 | .015 - .025                   | .239 | .181 | .005 - .010                   | .247 | .063 | .030 - .050                   |
| .214 | .100 | .015 - .025                   | .219 | .171 | .005 - .010                   | .226 | .051 | .005 - .010                   | .234 | .128 | .015 - .030                   | .239 | .190 | .005 - .015                   | .247 | .080 | .010 - .040                   |
| .214 | .109 | .020 - .030                   | .219 | .173 | .005 - .010                   | .226 | .087 | .005 - .010                   | .234 | .129 | .005 - .010                   | .240 | .024 | .005 - .010                   | .247 | .090 | .020 - .030                   |
| .214 | .126 | .005 - .010                   | .220 | .040 | .005 - .020                   | .226 | .098 | .015 - .050                   | .234 | .134 | .020 - .030                   | .240 | .072 | .005 - .010                   | .247 | .091 | .030 - .050                   |
| .214 | .163 | .010 - .020                   | .220 | .051 | .025 - .035                   | .226 | .108 | .020 - .030                   | .234 | .135 | .030 - .050                   | .240 | .090 | .020 - .030                   | .247 | .095 | .040 - .060                   |
| .214 | .166 | .005 - .010                   | .220 | .063 | .010 - .020                   | .226 | .114 | .025 - .040                   | .234 | .138 | .010 - .020                   | .240 | .102 | .010 - .020                   | .247 | .097 | .005 - .020                   |
| .214 | .169 | .010 - .015                   | .220 | .065 | .020 - .032                   | .226 | .129 | .005 - .030                   | .234 | .140 | .005 - .010                   | .240 | .105 | .010 - .020                   | .247 | .100 | .005 - .010                   |
| .214 | .180 | .005 - .010                   | .220 | .069 | .005 - .010                   | .226 | .175 | .005 - .010                   | .234 | .142 | .035 - .050                   | .240 | .108 | .025 - .040                   | .247 | .118 | .005 - .020                   |
| .215 | .034 | .010 - .030                   | .220 | .070 | .020 - .030                   | .226 | .193 | .005 - .010                   | .234 | .192 | .010 - .020                   | .240 | .109 | .005 - .010                   | .247 | .119 | .025 - .040                   |
| .215 | .063 | .005 - .010                   | .220 | .090 | .005 - .010                   | .227 | .050 | .010 - .020                   | .235 | .048 | .005 - .010                   | .240 | .125 | .025 - .060                   | .247 | .125 | .010 - .032                   |
| .215 | .073 | .030 - .040                   | .220 | .091 | .005 - .040                   | .227 | .127 | .005 - .010                   | .235 | .068 | .010 - .050                   | .240 | .131 | .005 - .010                   | .247 | .126 | .023 - .032                   |
| .215 | .088 | .010 - .015                   | .220 | .099 | .005 - .010                   | .227 | .153 | .020 - .032                   | .235 | .086 | .020 - .030                   | .240 | .135 | .005 - .030                   | .247 | .127 | .025 - .042                   |
| .215 | .090 | .042 - .062                   | .220 | .106 | .005 - .015                   | .228 | .051 | .020 - .030                   | .235 | .088 | .020 - .030                   | .240 | .136 | .005 - .010                   | .247 | .132 | .020 - .030                   |
| .215 | .091 | .010 - .025                   | .220 | .108 | .010 - .020                   | .228 | .091 | .005 - .010                   | .235 | .090 | .005 - .010                   | .240 | .139 | .005 - .010                   | .247 | .138 | .005 - .010                   |
| .215 | .100 | .010 - .050                   | .220 | .109 | .005 - .010                   | .228 | .096 | .010 - .020                   | .235 | .099 | .005 - .010                   | .240 | .151 | .005 - .010                   | .247 | .140 | .005 - .010                   |
| .215 | .104 | .010 - .020                   | .220 | .113 | .032 - .048                   | .228 | .106 | .020 - .035                   | .235 | .102 | .015 - .030                   | .240 | .160 | .015 - .040                   | .247 | .141 | .020 - .032                   |
| .215 | .106 | .005 - .015                   | .220 | .114 | .010 - .020                   | .228 | .118 | .010 - .050                   | .235 | .108 | .030 - .050                   | .240 | .188 | .005 - .010                   | .247 | .144 | .005 - .010                   |
| .215 | .112 | .020 - .040                   | .220 | .117 | .025 - .042                   | .228 | .121 | .010 - .020                   | .235 | .114 | .010 - .030                   | .241 | .103 | .005 - .010                   | .247 | .147 | .005 - .010                   |
| .215 | .123 | .015 - .035                   | .220 | .122 | .025 - .040                   | .228 | .129 | .020 - .030                   | .235 | .126 | .030 - .050                   | .241 | .119 | .020 - .035                   | .247 | .150 | .010 - .020                   |
| .215 | .127 | .005 - .012                   | .220 | .125 | .020 - .030                   | .228 | .131 | .015 - .030                   | .235 | .130 | .015 - .030                   | .241 | .128 | .015 - .030                   | .247 | .158 | .030 - .040                   |
| .215 | .137 | .010 - .015                   | .220 | .127 | .025 - .048                   | .228 | .148 | .005 - .010                   | .235 | .131 | .025 - .040                   | .241 | .148 | .005 - .010                   | .247 | .159 | .010 - .020                   |
| .215 | .138 | .020 - .030                   | .220 | .128 | .005 - .050                   | .228 | .167 | .005 - .010                   | .235 | .134 | .020 - .035                   | .241 | .162 | .005 - .010                   | .247 | .164 | .005 - .010                   |
| .215 | .144 | .030 - .050                   | .220 | .129 | .020 - .035                   | .229 | .096 | .010 - .020                   | .235 | .138 | .015 - .025                   | .241 | .180 | .005 - .010                   | .247 | .169 | .020 - .030                   |
| .215 | .162 | .005 - .010                   | .220 | .140 | .010 - .020                   | .229 | .139 | .015 - .025                   | .235 | .139 | .025 - .040                   | .242 | .072 | .005 - .010                   | .247 | .185 | .005 - .010                   |
| .215 | .164 | .005 - .010                   | .220 | .144 | .025 - .035                   | .229 | .149 | .005 - .010                   | .235 | .152 | .020 - .032                   | .242 | .100 | .005 - .010                   | .247 | .190 | .010 - .020                   |
| .215 | .166 | .005 - .010                   | .220 | .147 | .015 - .025                   | .229 | .166 | .010 - .020                   | .235 | .156 | .010 - .020                   | .242 | .118 | .010 - .020                   | .247 | .205 | .005 - .010                   |
| .215 | .168 | .010 - .020                   | .220 | .159 | .005 - .010                   | .230 | .038 | .020 - .030                   | .235 | .161 | .005 - .010                   | .242 | .128 | .005 - .010                   | .247 | .206 | .005 - .010                   |
| .215 | .170 | .005 - .010                   | .220 | .166 | .015 - .020                   | .230 | .050 | .020 - .030                   | .235 | .164 | .010 - .020                   | .242 | .129 | .015 - .025                   | .248 | .052 | .035 - .050                   |
| .216 | .054 | .015 - .032                   | .220 | .177 | .015 - .020                   | .230 | .073 | .015 - .030                   | .235 | .167 | .020 - .036                   | .242 | .145 | .010 - .015                   | .248 | .063 | .015 - .025                   |
| .216 | .055 | .005 - .010                   | .220 | .179 | .005 - .010                   | .230 | .094 | .042 - .062                   | .235 | .202 | .005 - .010                   | .242 | .146 | .005 - .01                    |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D.        | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D.   | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|-------------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|--------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .248        | .100 | .015 - .030                   | .250 | .132 | .032 - .052                   | .253 | .115 | .005 - .012                   | .263   | .061 | .005 - .010                   | .270 | .132 | .025 - .035                   | .276 | .114 | .040 - .060                   |
| .248        | .106 | .060 - .080                   | .250 | .134 | .005 - .010                   | .253 | .116 | .005 - .012                   | .263   | .091 | .025 - .040                   | .270 | .135 | .031 - .042                   | .276 | .122 | .008 - .016                   |
| .248        | .118 | .015 - .032                   | .250 | .135 | .030 - .048                   | .253 | .125 | .040 - .060                   | .263   | .129 | .010 - .020                   | .270 | .148 | .010 - .020                   | .276 | .126 | .020 - .030                   |
| .248        | .120 | .025 - .040                   | .250 | .136 | .005 - .010                   | .253 | .127 | .020 - .030                   | .263   | .158 | .030 - .050                   | .270 | .160 | .005 - .010                   | .276 | .133 | .005 - .010                   |
| .248        | .122 | .015 - .032                   | .250 | .140 | .005 - .060                   | .253 | .132 | .025 - .040                   | .263   | .191 | .005 - .010                   | .270 | .180 | .005 - .010                   | .276 | .141 | .040 - .060                   |
| .248        | .123 | .020 - .030                   | .250 | .146 | .010 - .020                   | .253 | .145 | .025 - .040                   | .263   | .193 | .005 - .010                   | .270 | .207 | .005 - .010                   | .276 | .142 | .005 - .010                   |
| .248        | .128 | .005 - .040                   | .250 | .147 | .005 - .050                   | .253 | .151 | .005 - .010                   | .263   | .195 | .005 - .010                   | .270 | .210 | .020 - .040                   | .276 | .143 | .015 - .030                   |
| .248        | .129 | .030 - .050                   | .250 | .150 | .005 - .015                   | .253 | .166 | .020 - .040                   | .263   | .199 | .010 - .025                   | .271 | .127 | .015 - .025                   | .276 | .146 | .005 - .015                   |
| .248        | .130 | .005 - .010                   | .250 | .153 | .010 - .020                   | .253 | .190 | .020 - .040                   | .264   | .108 | .025 - .040                   | .271 | .130 | .008 - .015                   | .276 | .153 | .020 - .035                   |
| .248        | .133 | .015 - .030                   | .250 | .154 | .015 - .025                   | .253 | .191 | .020 - .040                   | .264   | .139 | .015 - .025                   | .271 | .138 | .005 - .040                   | .276 | .159 | .030 - .050                   |
| .248        | .135 | .015 - .025                   | .250 | .157 | .025 - .040                   | .253 | .192 | .005 - .010                   | .264   | .147 | .005 - .010                   | .271 | .146 | .005 - .010                   | .276 | .161 | .005 - .015                   |
| .248        | .152 | .030 - .050                   | .250 | .158 | .015 - .030                   | .253 | .197 | .005 - .010                   | .264   | .162 | .025 - .040                   | .271 | .175 | .030 - .050                   | .276 | .162 | .010 - .020                   |
| .248        | .155 | .005 - .010                   | .250 | .159 | .020 - .036                   | .254 | .051 | .030 - .050                   | .264   | .168 | .015 - .025                   | .271 | .190 | .015 - .025                   | .276 | .167 | .005 - .010                   |
| .248        | .158 | .025 - .042                   | .250 | .161 | .005 - .010                   | .254 | .117 | .010 - .020                   | .264   | .174 | .050 - .060                   | .271 | .199 | .015 - .025                   | .276 | .190 | .020 - .040                   |
| .248        | .176 | .010 - .020                   | .250 | .162 | .032 - .042                   | .254 | .127 | .025 - .040                   | .264   | .240 | .005 - .010                   | .271 | .221 | .020 - .030                   | .276 | .192 | .015 - .040                   |
| .248        | .208 | .010 - .020                   | .250 | .164 | .010 - .020                   | .254 | .159 | .005 - .010                   | .265   | .093 | .060 - .080                   | .272 | .032 | .010 - .020                   | .276 | .196 | .005 - .010                   |
| .249        | .075 | .015 - .030                   | .250 | .165 | .010 - .020                   | .254 | .160 | .025 - .042                   | .265   | .101 | .020 - .040                   | .272 | .093 | .025 - .042                   | .276 | .200 | .010 - .020                   |
| .249        | .100 | .020 - .032                   | .250 | .166 | .005 - .012                   | .254 | .194 | .025 - .042                   | .265   | .115 | .040 - .050                   | .272 | .095 | .015 - .030                   | .276 | .209 | .010 - .020                   |
| .249        | .103 | .005 - .010                   | .250 | .167 | .010 - .045                   | .254 | .201 | .005 - .010                   | .265   | .122 | .020 - .040                   | .272 | .120 | .005 - .010                   | .277 | .039 | .030 - .040                   |
| .249        | .112 | .010 - .018                   | .250 | .172 | .005 - .010                   | .254 | .205 | .005 - .010                   | .265   | .125 | .005 - .010                   | .272 | .121 | .020 - .040                   | .277 | .088 | .005 - .010                   |
| .249        | .116 | .020 - .040                   | .250 | .173 | .025 - .040                   | .255 | .097 | .005 - .010                   | .265   | .126 | .020 - .040                   | .272 | .132 | .015 - .030                   | .277 | .092 | .010 - .020                   |
| .249        | .121 | .015 - .025                   | .250 | .175 | .005 - .010                   | .255 | .101 | .030 - .050                   | .265   | .129 | .005 - .010                   | .272 | .156 | .030 - .048                   | .277 | .108 | .005 - .010                   |
| .249        | .123 | .015 - .030                   | .250 | .176 | .025 - .040                   | .255 | .105 | .025 - .040                   | .265   | .141 | .005 - .010                   | .272 | .169 | .032 - .042                   | .277 | .126 | .005 - .010                   |
| .249        | .124 | .005 - .010                   | .250 | .183 | .020 - .040                   | .255 | .109 | .010 - .020                   | .265   | .143 | .040 - .062                   | .272 | .192 | .015 - .032                   | .277 | .127 | .005 - .008                   |
| .249        | .127 | .010 - .050                   | .250 | .186 | .010 - .020                   | .255 | .135 | .015 - .030                   | .265   | .153 | .005 - .010                   | .272 | .194 | .010 - .020                   | .277 | .129 | .050 - .070                   |
| .249        | .128 | .020 - .035                   | .250 | .189 | .010 - .020                   | .255 | .149 | .040 - .050                   | .265   | .160 | .005 - .010                   | .272 | .220 | .005 - .010                   | .277 | .132 | .015 - .025                   |
| .249        | .135 | .005 - .010                   | .250 | .190 | .010 - .020                   | .255 | .164 | .035 - .050                   | .265   | .161 | .010 - .030                   | .273 | .104 | .005 - .010                   | .277 | .140 | .020 - .030                   |
| .249        | .137 | .025 - .050                   | .250 | .191 | .010 - .020                   | .255 | .167 | .005 - .010                   | .265   | .166 | .010 - .015                   | .273 | .108 | .015 - .030                   | .277 | .143 | .005 - .010                   |
| .249        | .139 | .005 - .040                   | .250 | .192 | .025 - .030                   | .255 | .195 | .040 - .060                   | .265   | .183 | .025 - .040                   | .273 | .118 | .015 - .030                   | .277 | .146 | .050 - .070                   |
| .249        | .143 | .015 - .030                   | .251 | .036 | .010 - .020                   | .256 | .119 | .040 - .060                   | .265   | .189 | .005 - .010                   | .273 | .135 | .020 - .040                   | .277 | .161 | .015 - .030                   |
| .249        | .144 | .030 - .050                   | .251 | .057 | .005 - .012                   | .256 | .164 | .025 - .042                   | .266   | .082 | .015 - .030                   | .273 | .141 | .015 - .025                   | .277 | .163 | .015 - .025                   |
| .249        | .152 | .005 - .010                   | .251 | .059 | .005 - .010                   | .257 | .067 | .015 - .030                   | .266   | .090 | .005 - .010                   | .273 | .144 | .005 - .010                   | .277 | .166 | .005 - .008                   |
| .249        | .158 | .020 - .030                   | .251 | .063 | .025 - .040                   | .257 | .078 | .025 - .040                   | .266   | .106 | .005 - .010                   | .273 | .148 | .005 - .010                   | .277 | .170 | .015 - .030                   |
| .249        | .160 | .020 - .040                   | .251 | .074 | .025 - .050                   | .257 | .095 | .005 - .010                   | .266   | .110 | .010 - .020                   | .273 | .149 | .020 - .030                   | .277 | .195 | .005 - .010                   |
| .249        | .170 | .025 - .040                   | .251 | .076 | .005 - .010                   | .257 | .191 | .010 - .020                   | .266   | .121 | .020 - .040                   | .273 | .163 | .020 - .040                   | .277 | .201 | .010 - .020                   |
| .249        | .172 | .010 - .020                   | .251 | .093 | .005 - .010                   | .257 | .213 | .005 - .010                   | .266   | .123 | .031 - .048                   | .273 | .173 | .005 - .010                   | .278 | .058 | .010 - .020                   |
| .249        | .186 | .005 - .010                   | .251 | .101 | .025 - .040                   | .258 | .067 | .015 - .030                   | .266   | .131 | .036 - .060                   | .273 | .203 | .020 - .030                   | .278 | .087 | .005 - .010                   |
| .249        | .189 | .015 - .032                   | .251 | .108 | .020 - .040                   | .258 | .095 | .015 - .025                   | .266   | .134 | .025 - .040                   | .274 | .032 | .005 - .010                   | .278 | .103 | .005 - .010                   |
| .249        | .190 | .005 - .008                   | .251 | .113 | .030 - .050                   | .258 | .149 | .005 - .010                   | .266   | .168 | .025 - .040                   | .274 | .052 | .005 - .010                   | .278 | .135 | .040 - .062                   |
| .249        | .193 | .008 - .012                   | .251 | .115 | .040 - .060                   | .258 | .154 | .005 - .010                   | .266   | .171 | .020 - .035                   | .274 | .093 | .005 - .040                   | .278 | .141 | .010 - .020                   |
| <b>.250</b> |      |                               | .251 | .122 | .035 - .050                   | .258 | .163 | .015 - .030                   | .266   | .179 | .020 - .030                   | .274 | .095 | .005 - .010                   | .278 | .142 | .025 - .040                   |
|             |      |                               | .251 | .125 | .010 - .020                   | .258 | .169 | .020 - .030                   | .266   | .185 | .015 - .025                   | .274 | .121 | .005 - .010                   | .278 | .145 | .005 - .010                   |
|             |      |                               | .251 | .127 | .010 - .025                   | .258 | .177 | .005 - .015                   | .266   | .202 | .005 - .010                   | .274 | .127 | .030 - .060                   | .278 | .151 | .005 - .030                   |
|             |      |                               | .251 | .130 | .015 - .030                   | .259 | .116 | .005 - .010                   | .266   | .218 | .005 - .010                   | .274 | .132 | .025 - .035                   | .278 | .155 | .005 - .010                   |
|             |      |                               | .251 | .131 | .005 - .050                   | .259 | .160 | .005 - .010                   | .267   | .059 | .010 - .020                   | .274 | .170 | .030 - .050                   | .278 | .183 | .005 - .010                   |
| .250        | .027 | .005 - .010                   | .251 | .136 | .005 - .010                   | .259 | .213 | .005 - .010                   | .267   | .100 | .030 - .050                   | .274 | .172 | .040 - .060                   | .278 | .190 | .005 - .010                   |
| .250        | .039 | .005 - .025                   | .251 | .138 | .005 - .010                   | .260 | .065 | .010 - .020                   | .267   | .125 | .005 - .010                   | .274 | .174 | .035 - .050                   | .278 | .191 | .015 - .032                   |
| .250        | .044 | .005 - .015                   | .251 | .145 | .015 - .048                   | .260 | .089 | .010 - .020                   | .267   | .140 | .015 - .030                   | .274 | .175 | .040 - .050                   | .278 | .224 | .010 - .020                   |
| .250        | .052 | .005 - .012                   | .251 | .146 | .015 - .030                   | .260 | .108 | .015 - .030                   | .267   | .143 | .010 - .025                   | .274 | .191 | .005 - .020                   | .278 | .236 | .005 - .010                   |
| .250        | .063 | .005 - .010                   | .251 | .149 | .040 - .050                   | .260 | .113 | .015 - .030                   | .267   | .144 | .020 - .030                   | .274 | .211 | .005 - .010                   | .279 | .045 | .005 - .015                   |
| .250        | .072 | .005 - .012                   | .251 | .151 | .025 - .040                   | .260 | .120 | .020 - .060                   | .267   | .168 | .005 - .010                   | .274 | .237 | .005 - .010                   | .279 | .103 | .005 - .010                   |
| .250        | .077 | .012 - .025                   | .251 | .157 | .040 - .060                   | .260 | .121 | .007 - .015                   | .267   | .170 | .030 - .050                   | .275 | .071 | .010 - .020                   | .279 | .116 | .010 - .020                   |
| .250        | .082 | .005 - .010                   | .251 | .158 | .005 - .015                   | .260 | .128 | .040 - .060                   | .267   | .178 | .025 - .040                   | .275 | .079 | .010 - .020                   | .279 | .129 | .010 - .015                   |
| .250        | .083 | .015 - .020                   | .251 | .160 | .005 - .010                   | .260 | .129 | .025 - .040                   | .267   | .189 | .010 - .020                   | .275 | .081 | .020 - .040                   | .279 | .139 | .032 - .048                   |
| .250        | .085 | .005 - .030                   | .251 | .162 | .025 - .042                   | .260 | .144 | .020 - .040                   | .267   | .190 | .005 - .008                   | .275 | .089 | .030 - .050                   | .279 | .140 | .030 - .040                   |
| .250        | .091 | .020 - .030                   | .251 | .187 | .010 - .020                   | .260 | .148 | .005 - .012                   | .267   | .205 | .015 - .030                   | .275 | .091 | .020 - .040                   | .279 | .144 | .025 - .040                   |
| .250        | .093 | .062 - .083                   | .251 | .188 | .005 - .008                   | .260 | .158 | .005 - .020                   | .267   | .211 | .020 - .030                   | .275 | .096 | .005 - .010                   | .279 | .156 | .020 - .030                   |
| .250        | .094 | .005 - .025                   | .251 | .190 | .005 - .015                   | .260 | .163 | .020 - .040                   | .268   | .109 | .015 - .030                   | .275 | .098 | .030 - .050                   | .279 | .170 | .015 - .025                   |
| .250        | .095 | .007 - .040                   | .251 | .192 | .005 - .010                   | .260 | .167 | .005 - .010                   | .268   | .114 | .020 - .040                   | .275 | .115 | .005 - .010                   | .279 | .195 | .005 - .040                   |
| .250        | .097 | .030 - .080                   | .251 | .195 | .005 - .010                   | .260 | .170 | .040 - .060                   | .268   | .124 | .015 - .030                   | .275 | .118 | .020 - .040                   | .279 | .197 | .015 - .030                   |
| .250        | .098 | .010 - .025                   | .251 | .200 | .015 - .025                   | .260 | .173 | .020 - .040                   | .268   | .147 | .032 - .050                   | .275 | .122 | .020 - .040                   | .279 | .217 | .015 - .030                   |
| .250        | .099 | .032 - .050                   | .251 | .205 | .007 - .015                   | .260 | .175 | .005 - .010                   | .268   | .173 | .005 - .010                   | .275 | .126 | .010 - .020                   | .279 | .232 | .005 - .010                   |
| .250        | .100 | .025 - .040                   | .251 | .214 | .005 - .010                   | .260 | .176 | .020 - .040                   | .268   | .179 | .005 - .010                   | .275 | .135 | .005 - .010                   | .279 | .247 | .010 - .015                   |
| .250        | .102 | .005 - .060                   | .252 | .078 | .060 - .072                   | .260 | .188 | .005 - .015                   | .268   | .199 | .010 - .020                   | .275 | .143 | .010 - .020                   | .280 | .067 | .005 - .015                   |
| .250        | .105 | .005 - .035                   | .252 | .099 | .005 - .010                   | .260 | .190 | .010 - .020                   | .268   | .202 | .005 - .015                   | .275 | .144 | .040 - .050                   | .280 | .079 | .030 - .050                   |
| .250        | .106 | .030 - .050                   | .252 | .103 | .015 - .025                   | .260 | .205 | .010 - .020                   | .268   | .213 | .010 - .020                   | .275 | .163 | .015 - .025                   | .280 | .100 | .005 - .010                   |
| .250        | .108 | .005 - .010                   | .252 | .120 | .010 - .020                   | .261 | .104 | .050 - .070                   | .269   | .139 | .020 - .030                   | .275 | .166 | .020 - .030                   | .280 | .105 | .015 - .032                   |
| .250        | .110 | .005 - .030                   | .252 | .127 | .030 - .050                   | .261 | .110 | .005 - .010                   | .269   | .156 | .015 - .025                   | .275 | .170 | .032 - .048                   | .280 | .115 | .015 - .030                   |
| .250        | .116 | .020 - .040                   | .252 | .128 | .005 - .010                   | .261 | .111 | .030 - .050                   | .269</ |      |                               |      |      |                               |      |      |                               |

## BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .280 | .161 | .015 - .030                   | .285 | .192 | .020 - .035                   | .294 | .187 | .030 - .050                   | .300 | .162 | .025 - .040                   | .305 | .140 | .032 - .060                   | .310 | .076 | .020 - .040                   |
| .280 | .169 | .005 - .015                   | .285 | .194 | .005 - .010                   | .294 | .192 | .005 - .012                   | .300 | .166 | .005 - .010                   | .305 | .152 | .015 - .030                   | .310 | .088 | .015 - .025                   |
| .280 | .193 | .010 - .015                   | .285 | .204 | .010 - .020                   | .294 | .224 | .005 - .010                   | .300 | .167 | .030 - .042                   | .305 | .156 | .010 - .020                   | .310 | .090 | .012 - .025                   |
| .280 | .201 | .005 - .020                   | .285 | .207 | .020 - .030                   | .295 | .079 | .050 - .060                   | .300 | .169 | .015 - .030                   | .305 | .160 | .025 - .040                   | .310 | .093 | .025 - .040                   |
| .280 | .202 | .025 - .040                   | .285 | .239 | .010 - .015                   | .295 | .106 | .008 - .016                   | .300 | .175 | .025 - .040                   | .305 | .162 | .015 - .030                   | .310 | .095 | .025 - .035                   |
| .280 | .217 | .020 - .030                   | .286 | .125 | .032 - .048                   | .295 | .127 | .025 - .040                   | .300 | .176 | .005 - .010                   | .305 | .169 | .025 - .040                   | .310 | .096 | .005 - .010                   |
| .280 | .236 | .010 - .032                   | .286 | .150 | .032 - .050                   | .295 | .130 | .010 - .040                   | .300 | .177 | .010 - .020                   | .305 | .188 | .010 - .020                   | .310 | .102 | .015 - .030                   |
| .281 | .052 | .010 - .020                   | .286 | .163 | .005 - .010                   | .295 | .138 | .015 - .030                   | .300 | .180 | .015 - .025                   | .305 | .197 | .005 - .010                   | .310 | .104 | .020 - .040                   |
| .281 | .067 | .032 - .050                   | .286 | .170 | .010 - .020                   | .295 | .148 | .030 - .040                   | .300 | .182 | .005 - .010                   | .305 | .204 | .025 - .048                   | .310 | .106 | .025 - .050                   |
| .281 | .094 | .040 - .060                   | .286 | .186 | .010 - .020                   | .295 | .162 | .020 - .040                   | .300 | .185 | .010 - .020                   | .305 | .205 | .025 - .042                   | .310 | .116 | .030 - .040                   |
| .281 | .096 | .005 - .010                   | .286 | .188 | .005 - .010                   | .295 | .167 | .025 - .040                   | .300 | .192 | .005 - .010                   | .305 | .221 | .005 - .010                   | .310 | .119 | .025 - .050                   |
| .281 | .112 | .040 - .050                   | .286 | .195 | .005 - .010                   | .295 | .169 | .005 - .010                   | .300 | .192 | .030 - .050                   | .305 | .225 | .010 - .020                   | .310 | .120 | .030 - .060                   |
| .281 | .117 | .025 - .040                   | .286 | .211 | .005 - .010                   | .295 | .170 | .040 - .050                   | .300 | .200 | .005 - .010                   | .306 | .045 | .010 - .025                   | .310 | .122 | .025 - .035                   |
| .281 | .122 | .010 - .020                   | .287 | .118 | .005 - .010                   | .295 | .173 | .030 - .050                   | .300 | .203 | .010 - .020                   | .306 | .127 | .025 - .040                   | .310 | .124 | .005 - .010                   |
| .281 | .126 | .005 - .010                   | .287 | .183 | .005 - .010                   | .295 | .174 | .020 - .032                   | .300 | .216 | .016 - .025                   | .306 | .138 | .020 - .040                   | .310 | .127 | .020 - .075                   |
| .281 | .132 | .005 - .010                   | .287 | .195 | .006 - .012                   | .295 | .177 | .010 - .020                   | .300 | .220 | .015 - .025                   | .306 | .140 | .005 - .010                   | .310 | .130 | .030 - .050                   |
| .281 | .134 | .040 - .060                   | .287 | .196 | .005 - .020                   | .295 | .179 | .050 - .060                   | .300 | .230 | .010 - .020                   | .306 | .190 | .015 - .030                   | .310 | .132 | .015 - .030                   |
| .281 | .142 | .010 - .030                   | .288 | .128 | .030 - .050                   | .295 | .187 | .005 - .010                   | .300 | .248 | .015 - .030                   | .306 | .194 | .030 - .050                   | .310 | .134 | .015 - .030                   |
| .281 | .143 | .005 - .010                   | .288 | .131 | .025 - .040                   | .295 | .192 | .005 - .040                   | .300 | .260 | .005 - .012                   | .306 | .203 | .005 - .015                   | .310 | .140 | .015 - .025                   |
| .281 | .156 | .005 - .010                   | .288 | .197 | .015 - .030                   | .295 | .193 | .015 - .030                   | .301 | .109 | .025 - .040                   | .306 | .228 | .005 - .010                   | .310 | .147 | .005 - .010                   |
| .281 | .159 | .015 - .030                   | .289 | .037 | .020 - .030                   | .295 | .195 | .005 - .010                   | .301 | .127 | .015 - .025                   | .306 | .228 | .016 - .025                   | .310 | .152 | .015 - .025                   |
| .281 | .162 | .010 - .050                   | .289 | .046 | .005 - .010                   | .295 | .199 | .020 - .030                   | .301 | .128 | .010 - .020                   | .306 | .243 | .005 - .010                   | .310 | .155 | .030 - .042                   |
| .281 | .170 | .016 - .032                   | .289 | .084 | .005 - .010                   | .295 | .210 | .010 - .020                   | .301 | .130 | .015 - .030                   | .307 | .080 | .005 - .010                   | .310 | .158 | .050 - .070                   |
| .281 | .173 | .005 - .010                   | .289 | .090 | .075 - .090                   | .296 | .119 | .015 - .060                   | .301 | .132 | .005 - .010                   | .307 | .081 | .060 - .080                   | .310 | .161 | .005 - .010                   |
| .281 | .185 | .015 - .030                   | .289 | .091 | .060 - .075                   | .296 | .120 | .020 - .030                   | .301 | .142 | .060 - .080                   | .307 | .095 | .020 - .040                   | .310 | .162 | .030 - .040                   |
| .281 | .186 | .005 - .010                   | .289 | .123 | .005 - .010                   | .296 | .122 | .005 - .010                   | .301 | .144 | .020 - .040                   | .307 | .130 | .080 - .100                   | .310 | .171 | .010 - .020                   |
| .281 | .187 | .015 - .030                   | .289 | .126 | .005 - .030                   | .296 | .130 | .030 - .050                   | .301 | .146 | .005 - .010                   | .307 | .143 | .025 - .080                   | .310 | .174 | .010 - .020                   |
| .282 | .082 | .030 - .040                   | .289 | .175 | .025 - .040                   | .296 | .144 | .025 - .040                   | .301 | .152 | .020 - .030                   | .307 | .159 | .030 - .050                   | .310 | .188 | .030 - .050                   |
| .282 | .089 | .075 - .093                   | .289 | .189 | .040 - .050                   | .296 | .173 | .005 - .010                   | .301 | .161 | .025 - .040                   | .307 | .161 | .005 - .010                   | .310 | .189 | .010 - .020                   |
| .282 | .096 | .015 - .025                   | .289 | .192 | .010 - .020                   | .296 | .188 | .015 - .030                   | .301 | .165 | .005 - .015                   | .307 | .166 | .005 - .010                   | .310 | .190 | .012 - .025                   |
| .282 | .123 | .005 - .015                   | .289 | .193 | .040 - .060                   | .296 | .189 | .015 - .030                   | .301 | .167 | .040 - .060                   | .307 | .169 | .020 - .030                   | .310 | .191 | .005 - .010                   |
| .282 | .126 | .015 - .025                   | .289 | .200 | .005 - .010                   | .296 | .190 | .015 - .025                   | .301 | .168 | .040 - .060                   | .307 | .174 | .005 - .010                   | .310 | .193 | .025 - .040                   |
| .282 | .127 | .040 - .060                   | .290 | .081 | .020 - .040                   | .296 | .198 | .025 - .042                   | .301 | .185 | .020 - .030                   | .307 | .177 | .015 - .025                   | .310 | .195 | .005 - .010                   |
| .282 | .130 | .005 - .010                   | .290 | .091 | .030 - .050                   | .296 | .215 | .010 - .020                   | .301 | .192 | .005 - .020                   | .307 | .182 | .010 - .020                   | .310 | .199 | .030 - .050                   |
| .282 | .131 | .030 - .050                   | .290 | .103 | .005 - .010                   | .296 | .258 | .005 - .015                   | .301 | .203 | .015 - .030                   | .307 | .189 | .005 - .020                   | .310 | .201 | .032 - .050                   |
| .282 | .173 | .025 - .040                   | .290 | .126 | .005 - .030                   | .297 | .062 | .010 - .025                   | .301 | .215 | .005 - .010                   | .307 | .203 | .025 - .042                   | .310 | .213 | .030 - .050                   |
| .282 | .176 | .005 - .010                   | .290 | .128 | .015 - .030                   | .297 | .086 | .005 - .010                   | .301 | .225 | .005 - .050                   | .307 | .204 | .025 - .040                   | .310 | .214 | .010 - .020                   |
| .282 | .180 | .025 - .040                   | .290 | .130 | .030 - .050                   | .297 | .120 | .050 - .070                   | .301 | .245 | .005 - .010                   | .307 | .207 | .005 - .010                   | .310 | .232 | .005 - .010                   |
| .282 | .184 | .006 - .016                   | .290 | .137 | .010 - .020                   | .297 | .135 | .020 - .035                   | .301 | .252 | .010 - .020                   | .307 | .254 | .010 - .020                   | .310 | .235 | .005 - .010                   |
| .282 | .187 | .040 - .050                   | .290 | .139 | .005 - .010                   | .297 | .159 | .030 - .050                   | .301 | .255 | .010 - .016                   | .308 | .043 | .005 - .012                   | .310 | .242 | .010 - .040                   |
| .282 | .191 | .025 - .040                   | .290 | .151 | .032 - .042                   | .297 | .191 | .005 - .020                   | .301 | .268 | .005 - .010                   | .308 | .099 | .010 - .020                   | .310 | .250 | .005 - .020                   |
| .282 | .197 | .010 - .020                   | .290 | .170 | .010 - .020                   | .297 | .203 | .020 - .040                   | .302 | .125 | .070 - .090                   | .308 | .108 | .005 - .015                   | .310 | .254 | .015 - .030                   |
| .282 | .223 | .007 - .015                   | .290 | .199 | .015 - .030                   | .297 | .209 | .005 - .010                   | .302 | .130 | .050 - .070                   | .308 | .121 | .015 - .030                   | .310 | .255 | .005 - .020                   |
| .283 | .095 | .005 - .010                   | .290 | .201 | .030 - .040                   | .297 | .255 | .005 - .010                   | .302 | .131 | .040 - .060                   | .308 | .131 | .005 - .010                   | .310 | .256 | .010 - .020                   |
| .283 | .096 | .015 - .030                   | .290 | .209 | .025 - .040                   | .298 | .062 | .010 - .020                   | .302 | .141 | .005 - .010                   | .308 | .136 | .005 - .010                   | .310 | .257 | .005 - .030                   |
| .283 | .098 | .032 - .062                   | .291 | .027 | .005 - .010                   | .298 | .139 | .005 - .010                   | .302 | .151 | .005 - .010                   | .308 | .140 | .005 - .015                   | .310 | .258 | .005 - .010                   |
| .283 | .111 | .010 - .020                   | .291 | .032 | .010 - .020                   | .298 | .153 | .030 - .050                   | .302 | .167 | .035 - .050                   | .308 | .143 | .015 - .030                   | .310 | .260 | .005 - .010                   |
| .283 | .140 | .025 - .042                   | .291 | .078 | .015 - .030                   | .298 | .155 | .005 - .010                   | .302 | .168 | .015 - .025                   | .308 | .145 | .020 - .030                   | .311 | .068 | .005 - .010                   |
| .283 | .143 | .010 - .015                   | .291 | .125 | .040 - .060                   | .298 | .156 | .020 - .040                   | .302 | .172 | .015 - .025                   | .308 | .148 | .030 - .050                   | .311 | .103 | .005 - .010                   |
| .283 | .165 | .008 - .015                   | .291 | .159 | .040 - .060                   | .298 | .158 | .008 - .016                   | .302 | .190 | .005 - .040                   | .308 | .175 | .040 - .060                   | .311 | .118 | .050 - .075                   |
| .283 | .166 | .005 - .010                   | .291 | .176 | .020 - .040                   | .298 | .161 | .025 - .040                   | .302 | .198 | .005 - .010                   | .308 | .188 | .040 - .060                   | .311 | .125 | .005 - .010                   |
| .283 | .168 | .025 - .040                   | .291 | .184 | .008 - .015                   | .298 | .164 | .030 - .050                   | .302 | .198 | .015 - .030                   | .308 | .199 | .005 - .010                   | .311 | .126 | .030 - .050                   |
| .283 | .173 | .030 - .040                   | .291 | .190 | .025 - .050                   | .298 | .180 | .015 - .030                   | .302 | .205 | .030 - .050                   | .308 | .204 | .020 - .040                   | .311 | .127 | .012 - .025                   |
| .283 | .184 | .005 - .010                   | .291 | .195 | .005 - .010                   | .298 | .181 | .030 - .050                   | .302 | .252 | .005 - .015                   | .308 | .205 | .005 - .025                   | .311 | .128 | .060 - .080                   |
| .283 | .190 | .008 - .015                   | .291 | .232 | .005 - .010                   | .298 | .193 | .015 - .025                   | .303 | .114 | .005 - .010                   | .308 | .209 | .015 - .025                   | .311 | .129 | .025 - .048                   |
| .283 | .195 | .020 - .040                   | .291 | .244 | .015 - .025                   | .298 | .200 | .005 - .010                   | .303 | .128 | .005 - .010                   | .308 | .210 | .015 - .025                   | .311 | .130 | .005 - .025                   |
| .283 | .200 | .010 - .020                   | .291 | .250 | .005 - .010                   | .298 | .205 | .005 - .010                   | .303 | .171 | .020 - .040                   | .308 | .223 | .010 - .020                   | .311 | .137 | .030 - .050                   |
| .283 | .216 | .005 - .030                   | .292 | .114 | .040 - .060                   | .298 | .241 | .005 - .010                   | .303 | .181 | .030 - .050                   | .308 | .254 | .005 - .010                   | .311 | .142 | .040 - .070                   |
| .283 | .217 | .005 - .010                   | .292 | .145 | .025 - .040                   | .299 | .105 | .030 - .040                   | .303 | .191 | .025 - .040                   | .309 | .031 | .010 - .020                   | .311 | .147 | .080 - .090                   |
| .283 | .218 | .005 - .025                   | .292 | .146 | .005 - .010                   | .299 | .116 | .010 - .020                   | .303 | .197 | .030 - .050                   | .309 | .070 | .015 - .025                   | .311 | .155 | .015 - .050                   |
| .283 | .240 | .005 - .010                   | .292 | .148 | .020 - .040                   | .299 | .145 | .010 - .030                   | .303 | .198 | .005 - .010                   | .309 | .094 | .010 - .020                   | .311 | .159 | .005 - .025                   |
| .283 | .250 | .005 - .010                   | .292 | .149 | .030 - .040                   | .299 | .202 | .005 - .010                   | .303 | .200 | .005 - .010                   | .309 | .109 | .025 - .040                   | .311 | .160 | .010 - .020                   |
| .284 | .095 | .015 - .025                   | .292 | .165 | .050 - .060                   | .300 | .045 | .025 - .040                   | .303 | .220 | .030 - .050                   | .309 | .147 | .010 - .020                   | .311 | .166 | .040 - .062                   |
| .284 | .119 | .025 - .040                   | .292 | .171 | .005 - .010                   | .300 | .056 | .005 - .010                   | .303 | .225 | .005 - .010                   | .309 | .159 | .005 - .030                   | .311 | .167 | .005 - .015                   |
| .284 | .125 | .005 - .015                   | .292 | .192 | .010 - .015                   | .300 | .065 | .008 - .040                   | .303 | .234 | .005 - .010                   | .309 | .160 | .005 - .010                   | .311 | .177 | .005 - .010                   |
| .284 | .191 | .010 - .018                   | .292 | .193 | .020 - .030                   | .300 | .074 | .005 - .010                   | .303 | .240 | .020 - .030                   | .309 | .161 | .040 - .062                   | .311 | .183 | .042 - .062                   |
| .284 | .200 | .010 - .020                   | .292 | .197 | .040 - .050                   | .300 | .081 | .005 - .010                   | .303 | .251 | .010 - .020                   | .309 | .172 | .020 - .035                   | .311 | .187 | .025 - .042                   |
| .284 | .212 | .005 - .010                   | .292 | .236 | .005 - .010                   | .300 | .095 | .010 - .020                   | .304 | .083 | .025 - .040                   | .309 | .176 | .02                           |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .312 | .062 | .015 - .030                   | .313 | .140 | .020 - .060                   | .316 | .124 | .060 - .075                   | .323 | .130 | .025 - .042                   | .329 | .221 | .005 - .010                   | .336 | .197 | .005 - .010                   |
| .312 | .066 | .010 - .020                   | .313 | .147 | .030 - .050                   | .316 | .134 | .005 - .010                   | .323 | .160 | .005 - .025                   | .329 | .245 | .020 - .040                   | .336 | .218 | .005 - .010                   |
| .312 | .072 | .005 - .010                   | .313 | .151 | .005 - .010                   | .316 | .138 | .020 - .040                   | .323 | .166 | .020 - .030                   | .329 | .253 | .005 - .010                   | .336 | .230 | .010 - .020                   |
| .312 | .073 | .015 - .025                   | .313 | .156 | .040 - .050                   | .316 | .140 | .005 - .010                   | .323 | .171 | .015 - .030                   | .329 | .288 | .005 - .010                   | .336 | .257 | .020 - .040                   |
| .312 | .090 | .025 - .050                   | .313 | .157 | .005 - .010                   | .316 | .153 | .005 - .010                   | .323 | .180 | .042 - .090                   | .330 | .093 | .005 - .010                   | .336 | .270 | .005 - .010                   |
| .312 | .093 | .005 - .062                   | .313 | .158 | .015 - .030                   | .316 | .157 | .005 - .010                   | .323 | .196 | .005 - .010                   | .330 | .124 | .020 - .032                   | .336 | .275 | .005 - .010                   |
| .312 | .094 | .020 - .030                   | .313 | .160 | .006 - .030                   | .316 | .167 | .005 - .010                   | .323 | .200 | .020 - .032                   | .330 | .140 | .042 - .062                   | .336 | .306 | .005 - .010                   |
| .312 | .095 | .032 - .042                   | .313 | .162 | .005 - .010                   | .316 | .180 | .020 - .030                   | .323 | .211 | .020 - .030                   | .330 | .143 | .020 - .040                   | .337 | .129 | .005 - .012                   |
| .312 | .096 | .015 - .025                   | .313 | .170 | .040 - .070                   | .316 | .198 | .010 - .020                   | .323 | .213 | .005 - .010                   | .330 | .151 | .020 - .040                   | .337 | .165 | .015 - .025                   |
| .312 | .098 | .060 - .070                   | .313 | .173 | .025 - .050                   | .316 | .199 | .030 - .050                   | .323 | .223 | .005 - .010                   | .330 | .193 | .005 - .010                   | .337 | .182 | .005 - .010                   |
| .312 | .099 | .010 - .020                   | .313 | .179 | .005 - .025                   | .316 | .200 | .005 - .010                   | .324 | .035 | .005 - .010                   | .330 | .205 | .040 - .060                   | .337 | .252 | .020 - .030                   |
| .312 | .100 | .050 - .060                   | .313 | .185 | .005 - .010                   | .316 | .201 | .005 - .050                   | .324 | .099 | .005 - .010                   | .330 | .206 | .005 - .015                   | .337 | .253 | .005 - .010                   |
| .312 | .104 | .005 - .008                   | .313 | .187 | .005 - .010                   | .316 | .207 | .005 - .010                   | .324 | .126 | .020 - .040                   | .330 | .217 | .005 - .010                   | .337 | .277 | .015 - .030                   |
| .312 | .105 | .015 - .025                   | .313 | .190 | .010 - .015                   | .316 | .209 | .005 - .010                   | .324 | .145 | .010 - .020                   | .330 | .229 | .025 - .040                   | .337 | .285 | .015 - .030                   |
| .312 | .112 | .010 - .020                   | .313 | .200 | .010 - .020                   | .316 | .239 | .005 - .010                   | .324 | .162 | .060 - .080                   | .330 | .250 | .005 - .010                   | .338 | .115 | .005 - .010                   |
| .312 | .116 | .005 - .010                   | .313 | .206 | .030 - .050                   | .316 | .252 | .005 - .010                   | .324 | .165 | .060 - .080                   | .330 | .251 | .005 - .020                   | .338 | .168 | .072 - .090                   |
| .312 | .122 | .015 - .030                   | .313 | .207 | .020 - .040                   | .316 | .255 | .006 - .010                   | .324 | .190 | .005 - .010                   | .330 | .253 | .020 - .040                   | .338 | .170 | .010 - .030                   |
| .312 | .126 | .005 - .090                   | .313 | .208 | .005 - .010                   | .317 | .095 | .008 - .020                   | .324 | .200 | .010 - .020                   | .330 | .257 | .020 - .036                   | .338 | .201 | .050 - .060                   |
| .312 | .127 | .010 - .020                   | .313 | .224 | .020 - .040                   | .317 | .100 | .006 - .030                   | .324 | .204 | .040 - .060                   | .330 | .261 | .005 - .010                   | .338 | .238 | .005 - .010                   |
| .312 | .128 | .020 - .040                   | .313 | .230 | .005 - .015                   | .317 | .114 | .005 - .010                   | .324 | .206 | .040 - .060                   | .331 | .067 | .010 - .025                   | .338 | .251 | .015 - .030                   |
| .312 | .129 | .010 - .030                   | .313 | .232 | .005 - .015                   | .317 | .132 | .005 - .010                   | .324 | .207 | .020 - .030                   | .331 | .124 | .020 - .030                   | .338 | .253 | .010 - .020                   |
| .312 | .130 | .005 - .015                   | .313 | .242 | .005 - .010                   | .317 | .148 | .050 - .070                   | .324 | .242 | .025 - .042                   | .331 | .129 | .005 - .010                   | .339 | .150 | .010 - .020                   |
| .312 | .132 | .010 - .025                   | .313 | .253 | .020 - .030                   | .317 | .179 | .005 - .010                   | .324 | .254 | .005 - .010                   | .331 | .140 | .030 - .050                   | .339 | .151 | .005 - .010                   |
| .312 | .134 | .010 - .015                   | .313 | .255 | .015 - .025                   | .317 | .205 | .010 - .020                   | .325 | .118 | .005 - .010                   | .331 | .158 | .005 - .010                   | .339 | .157 | .005 - .010                   |
| .312 | .139 | .005 - .008                   | .314 | .039 | .010 - .020                   | .317 | .229 | .005 - .010                   | .325 | .125 | .015 - .025                   | .331 | .161 | .020 - .040                   | .339 | .176 | .020 - .040                   |
| .312 | .142 | .006 - .030                   | .314 | .043 | .005 - .010                   | .317 | .240 | .025 - .035                   | .325 | .130 | .015 - .025                   | .331 | .167 | .020 - .030                   | .339 | .206 | .005 - .010                   |
| .312 | .143 | .005 - .012                   | .314 | .060 | .005 - .010                   | .317 | .281 | .005 - .010                   | .325 | .134 | .005 - .010                   | .331 | .196 | .005 - .010                   | .339 | .223 | .005 - .010                   |
| .312 | .144 | .005 - .020                   | .314 | .088 | .015 - .035                   | .318 | .094 | .005 - .010                   | .325 | .140 | .040 - .060                   | .331 | .198 | .015 - .030                   | .340 | .085 | .015 - .030                   |
| .312 | .146 | .008 - .016                   | .314 | .103 | .025 - .045                   | .318 | .097 | .005 - .010                   | .325 | .142 | .008 - .018                   | .331 | .200 | .040 - .060                   | .340 | .150 | .015 - .025                   |
| .312 | .148 | .040 - .060                   | .314 | .111 | .010 - .025                   | .318 | .125 | .010 - .020                   | .325 | .164 | .015 - .030                   | .331 | .236 | .015 - .030                   | .340 | .158 | .020 - .040                   |
| .312 | .150 | .020 - .040                   | .314 | .114 | .032 - .050                   | .318 | .132 | .010 - .020                   | .325 | .169 | .005 - .010                   | .331 | .237 | .020 - .030                   | .340 | .164 | .030 - .060                   |
| .312 | .154 | .005 - .060                   | .314 | .122 | .025 - .048                   | .318 | .143 | .008 - .020                   | .325 | .200 | .005 - .050                   | .331 | .254 | .005 - .008                   | .340 | .189 | .012 - .020                   |
| .312 | .156 | .016 - .080                   | .314 | .128 | .005 - .015                   | .318 | .159 | .020 - .040                   | .325 | .235 | .005 - .010                   | .331 | .279 | .005 - .010                   | .340 | .190 | .005 - .010                   |
| .312 | .157 | .005 - .035                   | .314 | .139 | .040 - .060                   | .318 | .166 | .020 - .040                   | .325 | .236 | .025 - .040                   | .332 | .164 | .005 - .010                   | .340 | .191 | .025 - .050                   |
| .312 | .158 | .005 - .020                   | .314 | .147 | .015 - .030                   | .318 | .174 | .015 - .030                   | .325 | .244 | .015 - .025                   | .332 | .175 | .050 - .075                   | .340 | .194 | .005 - .010                   |
| .312 | .160 | .040 - .060                   | .314 | .148 | .025 - .062                   | .318 | .191 | .010 - .020                   | .325 | .254 | .015 - .025                   | .332 | .192 | .016 - .030                   | .340 | .196 | .020 - .040                   |
| .312 | .165 | .020 - .040                   | .314 | .152 | .035 - .050                   | .318 | .198 | .030 - .060                   | .325 | .256 | .005 - .010                   | .332 | .203 | .010 - .020                   | .340 | .197 | .005 - .035                   |
| .312 | .167 | .015 - .025                   | .314 | .158 | .060 - .080                   | .318 | .228 | .008 - .016                   | .326 | .138 | .005 - .010                   | .332 | .213 | .005 - .008                   | .340 | .204 | .036 - .050                   |
| .312 | .171 | .040 - .060                   | .314 | .161 | .040 - .060                   | .318 | .237 | .005 - .010                   | .326 | .150 | .030 - .050                   | .332 | .236 | .005 - .030                   | .340 | .207 | .030 - .050                   |
| .312 | .172 | .020 - .030                   | .314 | .162 | .040 - .060                   | .319 | .140 | .015 - .030                   | .326 | .180 | .005 - .010                   | .333 | .123 | .020 - .080                   | .340 | .210 | .030 - .050                   |
| .312 | .173 | .005 - .010                   | .314 | .176 | .030 - .050                   | .319 | .146 | .020 - .030                   | .326 | .181 | .005 - .010                   | .333 | .173 | .032 - .048                   | .340 | .212 | .020 - .040                   |
| .312 | .182 | .010 - .020                   | .314 | .189 | .015 - .032                   | .319 | .178 | .005 - .010                   | .326 | .189 | .050 - .070                   | .333 | .175 | .020 - .050                   | .340 | .222 | .025 - .062                   |
| .312 | .188 | .020 - .040                   | .314 | .219 | .030 - .050                   | .319 | .228 | .010 - .020                   | .326 | .196 | .005 - .010                   | .333 | .212 | .020 - .036                   | .340 | .233 | .050 - .060                   |
| .312 | .189 | .005 - .062                   | .314 | .220 | .015 - .030                   | .320 | .061 | .005 - .010                   | .326 | .256 | .005 - .010                   | .333 | .225 | .010 - .020                   | .340 | .240 | .030 - .050                   |
| .312 | .190 | .005 - .030                   | .314 | .225 | .015 - .025                   | .320 | .067 | .030 - .042                   | .327 | .113 | .025 - .042                   | .333 | .257 | .015 - .025                   | .340 | .257 | .005 - .020                   |
| .312 | .191 | .008 - .020                   | .314 | .230 | .005 - .010                   | .320 | .078 | .005 - .010                   | .327 | .120 | .025 - .040                   | .334 | .039 | .015 - .025                   | .340 | .283 | .015 - .025                   |
| .312 | .192 | .005 - .040                   | .314 | .236 | .005 - .010                   | .320 | .084 | .030 - .040                   | .327 | .130 | .030 - .050                   | .334 | .040 | .005 - .010                   | .341 | .052 | .025 - .040                   |
| .312 | .193 | .005 - .010                   | .314 | .242 | .010 - .020                   | .320 | .093 | .042 - .060                   | .327 | .190 | .030 - .050                   | .334 | .046 | .005 - .010                   | .341 | .061 | .005 - .010                   |
| .312 | .194 | .025 - .040                   | .314 | .256 | .010 - .020                   | .320 | .113 | .005 - .010                   | .327 | .194 | .010 - .020                   | .334 | .122 | .005 - .010                   | .341 | .090 | .060 - .080                   |
| .312 | .195 | .020 - .035                   | .315 | .025 | .006 - .010                   | .320 | .122 | .015 - .030                   | .327 | .200 | .005 - .010                   | .334 | .127 | .005 - .010                   | .341 | .093 | .020 - .040                   |
| .312 | .199 | .005 - .020                   | .315 | .030 | .005 - .015                   | .320 | .124 | .005 - .010                   | .327 | .200 | .015 - .030                   | .334 | .160 | .015 - .030                   | .341 | .120 | .005 - .010                   |
| .312 | .200 | .040 - .060                   | .315 | .068 | .010 - .020                   | .320 | .131 | .005 - .010                   | .327 | .217 | .030 - .050                   | .334 | .196 | .005 - .010                   | .341 | .131 | .070 - .090                   |
| .312 | .204 | .005 - .050                   | .315 | .087 | .020 - .040                   | .320 | .145 | .025 - .042                   | .327 | .250 | .050 - .060                   | .334 | .197 | .032 - .048                   | .341 | .141 | .080 - .090                   |
| .312 | .206 | .010 - .020                   | .315 | .092 | .045 - .065                   | .320 | .146 | .015 - .030                   | .327 | .258 | .010 - .025                   | .334 | .218 | .015 - .030                   | .341 | .158 | .025 - .040                   |
| .312 | .208 | .005 - .010                   | .315 | .095 | .032 - .062                   | .320 | .149 | .005 - .010                   | .327 | .262 | .005 - .010                   | .334 | .220 | .005 - .050                   | .341 | .161 | .015 - .035                   |
| .312 | .216 | .010 - .020                   | .315 | .097 | .005 - .030                   | .320 | .170 | .015 - .025                   | .328 | .105 | .005 - .010                   | .334 | .226 | .025 - .040                   | .341 | .164 | .010 - .025                   |
| .312 | .219 | .015 - .030                   | .315 | .124 | .050 - .060                   | .320 | .178 | .010 - .020                   | .328 | .162 | .040 - .060                   | .334 | .242 | .010 - .020                   | .341 | .202 | .015 - .030                   |
| .312 | .221 | .005 - .010                   | .315 | .127 | .050 - .070                   | .320 | .182 | .050 - .070                   | .328 | .175 | .030 - .050                   | .334 | .258 | .020 - .030                   | .341 | .281 | .025 - .035                   |
| .312 | .223 | .005 - .042                   | .315 | .129 | .030 - .050                   | .320 | .221 | .015 - .030                   | .328 | .177 | .005 - .010                   | .334 | .260 | .005 - .010                   | .342 | .092 | .005 - .020                   |
| .312 | .227 | .030 - .042                   | .315 | .138 | .060 - .080                   | .320 | .221 | .040 - .062                   | .328 | .179 | .015 - .030                   | .334 | .275 | .005 - .010                   | .342 | .118 | .032 - .048                   |
| .312 | .228 | .030 - .050                   | .315 | .140 | .020 - .040                   | .321 | .062 | .005 - .010                   | .328 | .192 | .030 - .050                   | .334 | .295 | .010 - .015                   | .342 | .145 | .005 - .008                   |
| .312 | .231 | .025 - .040                   | .315 | .147 | .020 - .030                   | .321 | .077 | .020 - .030                   | .328 | .197 | .025 - .040                   | .335 | .034 | .010 - .020                   | .342 | .156 | .005 - .010                   |
| .312 | .251 | .005 - .010                   | .315 | .157 | .005 - .015                   | .321 | .120 | .080 - .100                   | .328 | .200 | .005 - .015                   | .335 | .129 | .015 - .025                   | .342 | .162 | .030 - .050                   |
| .312 | .252 | .025 - .042                   | .315 | .160 | .005 - .010                   | .321 | .135 | .020 - .035                   | .328 | .214 | .010 - .032                   | .335 | .159 | .060 - .075                   | .342 | .164 | .015 - .030                   |
| .312 | .254 | .015 - .030                   | .315 | .162 | .020 - .030                   | .321 | .147 | .010 - .020                   | .328 | .219 | .030 - .050                   | .335 | .169 | .015 - .030                   | .342 | .193 | .005 - .050                   |
| .313 | .062 | .005 - .010                   | .315 | .163 | .005 - .010                   | .321 | .203 | .005 - .010                   | .328 | .222 | .010 - .025                   | .335 | .172 | .010 - .020                   | .342 | .198 | .015 - .030                   |
| .313 | .082 | .005 - .010                   | .315 | .167 | .020 - .040                   | .321 | .226 | .010 - .020                   | .328 | .225 | .005 - .040                   | .335 | .196 | .025 - .040                   | .342 | .201 | .025 - .040                   |
| .313 | .096 | .075 - .090                   | .315 | .170 | .020 - .040                   | .321 | .253 | .020 - .030                   | .328 | .245 | .007 - .016                   | .335 | .200 | .020 - .040                   |      |      |                               |

# BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .343 | .161 | .005 - .008                   | .348 | .266 | .015 - .030                   | .353 | .232 | .020 - .040                   | .359 | .190 | .020 - .040                   | .365 | .254 | .005 - .010                   | .370 | .146 | .025 - .048                   |
| .343 | .167 | .010 - .020                   | .349 | .123 | .010 - .020                   | .353 | .237 | .005 - .010                   | .359 | .195 | .030 - .050                   | .365 | .255 | .015 - .025                   | .370 | .148 | .005 - .010                   |
| .343 | .193 | .005 - .060                   | .349 | .171 | .015 - .030                   | .353 | .242 | .015 - .025                   | .359 | .204 | .010 - .025                   | .365 | .257 | .015 - .030                   | .370 | .158 | .010 - .020                   |
| .343 | .194 | .060 - .078                   | .349 | .176 | .010 - .015                   | .353 | .254 | .005 - .010                   | .359 | .210 | .025 - .042                   | .365 | .265 | .042 - .062                   | .370 | .159 | .035 - .060                   |
| .343 | .195 | .006 - .070                   | .349 | .191 | .035 - .050                   | .353 | .281 | .005 - .010                   | .359 | .221 | .025 - .040                   | .365 | .268 | .005 - .010                   | .370 | .160 | .070 - .080                   |
| .343 | .196 | .010 - .020                   | .349 | .192 | .015 - .030                   | .354 | .048 | .005 - .010                   | .359 | .240 | .005 - .010                   | .365 | .270 | .020 - .040                   | .370 | .171 | .005 - .020                   |
| .343 | .197 | .025 - .040                   | .349 | .197 | .020 - .030                   | .354 | .052 | .030 - .050                   | .359 | .257 | .010 - .020                   | .365 | .307 | .005 - .010                   | .370 | .173 | .020 - .040                   |
| .343 | .217 | .040 - .050                   | .349 | .220 | .015 - .030                   | .354 | .061 | .015 - .025                   | .359 | .258 | .020 - .040                   | .365 | .312 | .005 - .020                   | .370 | .180 | .020 - .030                   |
| .343 | .219 | .032 - .050                   | .349 | .252 | .015 - .030                   | .354 | .070 | .015 - .025                   | .359 | .260 | .031 - .042                   | .365 | .315 | .005 - .010                   | .370 | .189 | .020 - .040                   |
| .343 | .225 | .020 - .030                   | .349 | .285 | .020 - .030                   | .354 | .099 | .010 - .020                   | .359 | .267 | .020 - .032                   | .366 | .077 | .005 - .010                   | .370 | .191 | .005 - .010                   |
| .343 | .229 | .005 - .010                   | .349 | .290 | .005 - .010                   | .354 | .114 | .060 - .080                   | .359 | .284 | .010 - .020                   | .366 | .129 | .015 - .025                   | .370 | .196 | .010 - .020                   |
| .343 | .230 | .025 - .035                   | .349 | .297 | .005 - .010                   | .354 | .119 | .040 - .060                   | .359 | .293 | .005 - .015                   | .366 | .158 | .015 - .030                   | .370 | .199 | .015 - .025                   |
| .343 | .245 | .005 - .010                   | .350 | .060 | .005 - .010                   | .354 | .125 | .005 - .070                   | .360 | .038 | .005 - .010                   | .366 | .190 | .040 - .060                   | .370 | .202 | .060 - .080                   |
| .343 | .261 | .010 - .020                   | .350 | .089 | .005 - .010                   | .354 | .128 | .025 - .040                   | .360 | .080 | .005 - .010                   | .366 | .206 | .005 - .020                   | .370 | .205 | .005 - .010                   |
| .343 | .274 | .020 - .040                   | .350 | .090 | .005 - .010                   | .354 | .144 | .030 - .050                   | .360 | .095 | .005 - .010                   | .366 | .218 | .016 - .032                   | .370 | .206 | .025 - .040                   |
| .344 | .102 | .005 - .010                   | .350 | .121 | .010 - .020                   | .354 | .145 | .020 - .040                   | .360 | .102 | .015 - .030                   | .366 | .219 | .015 - .030                   | .370 | .211 | .060 - .080                   |
| .344 | .152 | .025 - .045                   | .350 | .122 | .005 - .010                   | .354 | .147 | .020 - .035                   | .360 | .115 | .030 - .040                   | .366 | .225 | .020 - .040                   | .370 | .212 | .040 - .050                   |
| .344 | .165 | .015 - .030                   | .350 | .125 | .090 - .110                   | .354 | .152 | .060 - .080                   | .360 | .126 | .005 - .010                   | .366 | .241 | .020 - .040                   | .370 | .218 | .040 - .060                   |
| .344 | .167 | .015 - .025                   | .350 | .154 | .005 - .010                   | .354 | .161 | .010 - .020                   | .360 | .136 | .005 - .020                   | .366 | .253 | .005 - .015                   | .370 | .220 | .015 - .030                   |
| .344 | .172 | .035 - .050                   | .350 | .160 | .020 - .040                   | .354 | .162 | .010 - .020                   | .360 | .164 | .020 - .032                   | .366 | .254 | .005 - .030                   | .370 | .252 | .005 - .010                   |
| .344 | .184 | .025 - .040                   | .350 | .167 | .015 - .030                   | .354 | .178 | .010 - .020                   | .360 | .171 | .025 - .040                   | .366 | .268 | .030 - .050                   | .370 | .254 | .020 - .040                   |
| .344 | .189 | .015 - .025                   | .350 | .168 | .030 - .050                   | .354 | .201 | .005 - .010                   | .360 | .175 | .005 - .020                   | .366 | .272 | .025 - .035                   | .370 | .256 | .015 - .030                   |
| .344 | .190 | .005 - .008                   | .350 | .171 | .005 - .010                   | .354 | .204 | .010 - .060                   | .360 | .177 | .050 - .070                   | .366 | .274 | .010 - .020                   | .370 | .261 | .005 - .010                   |
| .344 | .196 | .020 - .060                   | .350 | .178 | .060 - .080                   | .354 | .226 | .005 - .010                   | .360 | .185 | .005 - .010                   | .366 | .294 | .005 - .012                   | .370 | .269 | .040 - .060                   |
| .344 | .252 | .025 - .040                   | .350 | .181 | .025 - .040                   | .354 | .237 | .010 - .020                   | .360 | .186 | .040 - .060                   | .366 | .305 | .016 - .025                   | .370 | .300 | .020 - .030                   |
| .344 | .267 | .025 - .040                   | .350 | .194 | .005 - .010                   | .354 | .238 | .005 - .040                   | .360 | .188 | .015 - .030                   | .366 | .312 | .015 - .025                   | .370 | .330 | .005 - .010                   |
| .344 | .290 | .010 - .020                   | .350 | .195 | .060 - .080                   | .354 | .245 | .005 - .010                   | .360 | .190 | .030 - .050                   | .367 | .098 | .030 - .050                   | .371 | .099 | .020 - .040                   |
| .344 | .291 | .005 - .010                   | .350 | .203 | .032 - .042                   | .354 | .279 | .005 - .010                   | .360 | .192 | .060 - .090                   | .367 | .105 | .015 - .025                   | .371 | .129 | .050 - .070                   |
| .345 | .043 | .005 - .010                   | .350 | .213 | .020 - .030                   | .354 | .315 | .005 - .010                   | .360 | .193 | .005 - .015                   | .367 | .125 | .090 - .125                   | .371 | .130 | .050 - .075                   |
| .345 | .125 | .020 - .032                   | .350 | .223 | .010 - .020                   | .355 | .070 | .015 - .030                   | .360 | .203 | .030 - .042                   | .367 | .176 | .050 - .062                   | .371 | .131 | .020 - .030                   |
| .345 | .132 | .032 - .048                   | .350 | .231 | .015 - .030                   | .355 | .083 | .030 - .050                   | .360 | .207 | .050 - .062                   | .367 | .186 | .005 - .010                   | .371 | .150 | .005 - .010                   |
| .345 | .135 | .032 - .048                   | .350 | .245 | .040 - .050                   | .355 | .103 | .070 - .080                   | .360 | .230 | .010 - .020                   | .367 | .258 | .050 - .060                   | .371 | .176 | .005 - .010                   |
| .345 | .150 | .030 - .042                   | .350 | .252 | .005 - .020                   | .355 | .131 | .050 - .078                   | .360 | .245 | .005 - .010                   | .367 | .260 | .015 - .030                   | .371 | .184 | .010 - .020                   |
| .345 | .159 | .005 - .010                   | .350 | .253 | .005 - .010                   | .355 | .158 | .025 - .042                   | .360 | .260 | .025 - .042                   | .367 | .264 | .005 - .010                   | .371 | .195 | .050 - .070                   |
| .345 | .170 | .005 - .010                   | .350 | .255 | .025 - .040                   | .355 | .159 | .040 - .060                   | .360 | .277 | .005 - .010                   | .367 | .272 | .020 - .040                   | .371 | .201 | .040 - .060                   |
| .345 | .189 | .005 - .010                   | .350 | .262 | .005 - .010                   | .355 | .160 | .040 - .060                   | .360 | .312 | .015 - .025                   | .367 | .273 | .005 - .010                   | .371 | .206 | .060 - .083                   |
| .345 | .192 | .005 - .075                   | .350 | .276 | .025 - .040                   | .355 | .175 | .040 - .060                   | .361 | .215 | .030 - .050                   | .368 | .061 | .005 - .010                   | .371 | .222 | .030 - .050                   |
| .345 | .193 | .025 - .060                   | .350 | .291 | .020 - .045                   | .355 | .185 | .005 - .010                   | .361 | .243 | .025 - .040                   | .368 | .063 | .005 - .010                   | .371 | .233 | .005 - .010                   |
| .345 | .198 | .040 - .060                   | .351 | .064 | .005 - .010                   | .355 | .198 | .030 - .050                   | .361 | .281 | .005 - .010                   | .368 | .080 | .020 - .030                   | .371 | .245 | .050 - .075                   |
| .345 | .205 | .005 - .010                   | .351 | .091 | .030 - .050                   | .355 | .201 | .020 - .040                   | .361 | .296 | .005 - .010                   | .368 | .122 | .025 - .042                   | .371 | .250 | .005 - .032                   |
| .345 | .216 | .005 - .010                   | .351 | .094 | .005 - .010                   | .355 | .226 | .008 - .016                   | .362 | .121 | .005 - .010                   | .368 | .124 | .040 - .050                   | .371 | .252 | .035 - .050                   |
| .345 | .223 | .010 - .050                   | .351 | .097 | .005 - .010                   | .355 | .230 | .005 - .010                   | .362 | .143 | .015 - .030                   | .368 | .154 | .005 - .010                   | .371 | .253 | .015 - .030                   |
| .345 | .228 | .015 - .030                   | .351 | .130 | .005 - .020                   | .355 | .236 | .005 - .010                   | .362 | .220 | .005 - .010                   | .368 | .159 | .005 - .010                   | .371 | .255 | .005 - .012                   |
| .345 | .252 | .010 - .020                   | .351 | .145 | .005 - .010                   | .355 | .255 | .010 - .020                   | .362 | .221 | .010 - .020                   | .368 | .168 | .025 - .040                   | .371 | .256 | .005 - .010                   |
| .345 | .276 | .015 - .030                   | .351 | .166 | .008 - .015                   | .355 | .260 | .030 - .040                   | .362 | .235 | .040 - .060                   | .368 | .193 | .020 - .040                   | .371 | .260 | .005 - .020                   |
| .345 | .277 | .005 - .010                   | .351 | .171 | .005 - .015                   | .355 | .281 | .015 - .025                   | .362 | .247 | .015 - .030                   | .368 | .194 | .050 - .070                   | .371 | .262 | .040 - .050                   |
| .346 | .044 | .015 - .030                   | .351 | .184 | .005 - .010                   | .355 | .282 | .005 - .025                   | .362 | .257 | .030 - .050                   | .368 | .195 | .070 - .090                   | .371 | .269 | .005 - .010                   |
| .346 | .046 | .025 - .040                   | .351 | .200 | .025 - .050                   | .356 | .111 | .025 - .040                   | .362 | .267 | .025 - .040                   | .368 | .199 | .015 - .050                   | .371 | .281 | .020 - .030                   |
| .346 | .084 | .030 - .050                   | .351 | .201 | .020 - .030                   | .356 | .154 | .015 - .030                   | .362 | .283 | .005 - .010                   | .368 | .223 | .060 - .080                   | .371 | .283 | .010 - .020                   |
| .346 | .116 | .005 - .010                   | .351 | .208 | .030 - .060                   | .356 | .198 | .030 - .060                   | .363 | .152 | .005 - .010                   | .368 | .226 | .007 - .015                   | .371 | .314 | .005 - .010                   |
| .346 | .128 | .050 - .070                   | .351 | .222 | .005 - .010                   | .356 | .250 | .050 - .070                   | .363 | .180 | .050 - .070                   | .368 | .256 | .005 - .010                   | .372 | .060 | .010 - .020                   |
| .346 | .143 | .040 - .060                   | .351 | .230 | .040 - .060                   | .356 | .255 | .005 - .010                   | .363 | .191 | .008 - .016                   | .368 | .257 | .020 - .040                   | .372 | .071 | .020 - .040                   |
| .346 | .149 | .075 - .090                   | .351 | .241 | .020 - .040                   | .356 | .282 | .025 - .040                   | .363 | .192 | .020 - .040                   | .368 | .263 | .005 - .010                   | .372 | .083 | .040 - .060                   |
| .346 | .152 | .005 - .010                   | .351 | .252 | .010 - .020                   | .357 | .085 | .005 - .010                   | .363 | .254 | .010 - .040                   | .368 | .265 | .005 - .030                   | .372 | .097 | .040 - .060                   |
| .346 | .158 | .005 - .025                   | .351 | .268 | .020 - .030                   | .357 | .093 | .005 - .012                   | .363 | .255 | .010 - .020                   | .368 | .284 | .005 - .010                   | .372 | .099 | .020 - .040                   |
| .346 | .163 | .006 - .015                   | .351 | .309 | .010 - .020                   | .357 | .142 | .020 - .040                   | .363 | .259 | .010 - .020                   | .368 | .287 | .020 - .040                   | .372 | .106 | .025 - .040                   |
| .346 | .166 | .005 - .010                   | .352 | .031 | .010 - .020                   | .357 | .150 | .030 - .050                   | .363 | .286 | .025 - .036                   | .368 | .298 | .005 - .010                   | .372 | .124 | .005 - .010                   |
| .346 | .172 | .040 - .090                   | .352 | .090 | .010 - .015                   | .357 | .173 | .070 - .090                   | .363 | .314 | .005 - .010                   | .368 | .323 | .005 - .010                   | .372 | .153 | .025 - .042                   |
| .346 | .180 | .005 - .010                   | .352 | .129 | .020 - .030                   | .357 | .191 | .060 - .080                   | .364 | .120 | .020 - .040                   | .369 | .084 | .030 - .040                   | .372 | .158 | .025 - .048                   |
| .346 | .196 | .005 - .010                   | .352 | .167 | .030 - .050                   | .357 | .195 | .060 - .080                   | .364 | .151 | .090 - .110                   | .369 | .117 | .015 - .030                   | .372 | .162 | .020 - .040                   |
| .346 | .207 | .030 - .060                   | .352 | .168 | .008 - .020                   | .357 | .260 | .040 - .050                   | .364 | .181 | .010 - .020                   | .369 | .177 | .050 - .070                   | .372 | .164 | .015 - .030                   |
| .346 | .210 | .040 - .060                   | .352 | .184 | .015 - .030                   | .357 | .303 | .010 - .020                   | .364 | .205 | .015 - .030                   | .369 | .181 | .040 - .060                   | .372 | .174 | .025 - .040                   |
| .346 | .216 | .020 - .030                   | .352 | .191 | .035 - .050                   | .357 | .318 | .005 - .010                   | .364 | .210 | .005 - .015                   | .369 | .190 | .005 - .015                   | .372 | .177 | .060 - .080                   |
| .346 | .219 | .010 - .020                   | .352 | .236 | .030 - .050                   | .358 | .126 | .025 - .040                   | .364 | .258 | .015 - .030                   | .369 | .194 | .005 - .010                   | .372 | .179 | .015 - .030                   |
| .346 | .253 | .005 - .010                   | .352 | .240 | .040 - .060                   | .358 | .127 | .015 - .025                   | .365 | .046 | .010 - .020                   | .369 | .197 | .005 - .010                   | .372 | .180 | .015 - .030                   |
| .346 | .289 | .005 - .010                   | .352 | .254 | .005 - .010                   | .358 | .164 | .020 - .040                   | .365 | .062 | .005 - .010                   | .369 | .205 | .005 - .010                   | .372 | .196 | .062 - .080                   |
| .347 | .157 | .020 - .030                   | .352 | .255 | .030 - .050                   | .358 | .170 | .006 - .010                   | .365 | .098 | .020 - .040                   | .369 | .208 | .025 - .040                   | .372 | .199 | .005 - .016                   |
| .347 | .174 | .030 - .050                   | .352 | .263 | .010 - .020                   | .358 | .178 | .030 - .050                   | .365 | .146 | .050 - .070                   | .369 | .215 | .00                           |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .372 | .278 | .025 - .042                   | .375 | .121 | .010 - .020                   | .376 | .126 | .012 - .020                   | .377 | .276 | .010 - .020                   | .381 | .200 | .020 - .030                   | .389 | .223 | .012 - .020                   |
| .372 | .311 | .015 - .030                   | .375 | .123 | .030 - .075                   | .376 | .130 | .025 - .040                   | .377 | .315 | .010 - .020                   | .381 | .203 | .005 - .010                   | .389 | .227 | .005 - .010                   |
| .372 | .312 | .005 - .035                   | .375 | .125 | .010 - .070                   | .376 | .141 | .020 - .040                   | .378 | .061 | .005 - .010                   | .381 | .212 | .005 - .010                   | .389 | .276 | .020 - .030                   |
| .372 | .315 | .005 - .010                   | .375 | .126 | .010 - .020                   | .376 | .156 | .010 - .020                   | .378 | .062 | .005 - .010                   | .381 | .255 | .015 - .030                   | .390 | .038 | .015 - .030                   |
| .373 | .039 | .025 - .025                   | .375 | .129 | .005 - .036                   | .376 | .157 | .010 - .090                   | .378 | .064 | .015 - .025                   | .381 | .260 | .015 - .030                   | .390 | .039 | .005 - .010                   |
| .373 | .041 | .010 - .020                   | .375 | .132 | .080 - .090                   | .376 | .158 | .050 - .070                   | .378 | .127 | .005 - .010                   | .381 | .290 | .005 - .010                   | .390 | .077 | .010 - .020                   |
| .373 | .068 | .015 - .030                   | .375 | .133 | .050 - .062                   | .376 | .159 | .050 - .075                   | .378 | .130 | .010 - .020                   | .381 | .294 | .005 - .010                   | .390 | .087 | .020 - .030                   |
| .373 | .081 | .040 - .062                   | .375 | .135 | .005 - .010                   | .376 | .161 | .005 - .010                   | .378 | .160 | .010 - .020                   | .381 | .300 | .020 - .035                   | .390 | .129 | .015 - .030                   |
| .373 | .127 | .005 - .015                   | .375 | .143 | .075 - .090                   | .376 | .161 | .030 - .050                   | .378 | .164 | .010 - .030                   | .381 | .315 | .020 - .036                   | .390 | .145 | .015 - .080                   |
| .373 | .142 | .062 - .078                   | .375 | .144 | .005 - .040                   | .376 | .169 | .005 - .010                   | .378 | .171 | .032 - .050                   | .382 | .132 | .025 - .040                   | .390 | .157 | .005 - .010                   |
| .373 | .157 | .020 - .040                   | .375 | .145 | .025 - .040                   | .376 | .172 | .005 - .060                   | .378 | .178 | .005 - .010                   | .382 | .163 | .030 - .050                   | .390 | .162 | .020 - .030                   |
| .373 | .159 | .020 - .040                   | .375 | .147 | .030 - .050                   | .376 | .174 | .075 - .090                   | .378 | .200 | .010 - .020                   | .382 | .175 | .015 - .030                   | .390 | .169 | .025 - .050                   |
| .373 | .165 | .005 - .015                   | .375 | .148 | .030 - .050                   | .376 | .177 | .020 - .035                   | .378 | .202 | .015 - .030                   | .382 | .189 | .050 - .072                   | .390 | .181 | .030 - .050                   |
| .373 | .168 | .010 - .020                   | .375 | .150 | .020 - .105                   | .376 | .182 | .010 - .020                   | .378 | .244 | .005 - .010                   | .382 | .195 | .005 - .010                   | .390 | .185 | .005 - .010                   |
| .373 | .174 | .005 - .010                   | .375 | .152 | .080 - .100                   | .376 | .186 | .060 - .080                   | .378 | .251 | .020 - .030                   | .382 | .199 | .030 - .050                   | .390 | .195 | .020 - .050                   |
| .373 | .175 | .050 - .078                   | .375 | .153 | .005 - .050                   | .376 | .187 | .030 - .050                   | .378 | .252 | .010 - .060                   | .382 | .204 | .005 - .010                   | .390 | .198 | .015 - .030                   |
| .373 | .189 | .030 - .050                   | .375 | .156 | .005 - .012                   | .376 | .189 | .005 - .020                   | .378 | .255 | .015 - .025                   | .382 | .207 | .030 - .050                   | .390 | .201 | .070 - .090                   |
| .373 | .191 | .030 - .072                   | .375 | .158 | .005 - .010                   | .376 | .190 | .020 - .080                   | .378 | .258 | .020 - .030                   | .382 | .225 | .030 - .050                   | .390 | .217 | .015 - .030                   |
| .373 | .192 | .010 - .060                   | .375 | .160 | .010 - .020                   | .376 | .191 | .040 - .060                   | .378 | .260 | .005 - .010                   | .382 | .252 | .015 - .025                   | .390 | .235 | .050 - .080                   |
| .373 | .193 | .005 - .060                   | .375 | .161 | .020 - .040                   | .376 | .194 | .030 - .050                   | .378 | .269 | .008 - .016                   | .382 | .300 | .048 - .062                   | .390 | .236 | .005 - .080                   |
| .373 | .196 | .005 - .010                   | .375 | .162 | .006 - .100                   | .376 | .196 | .005 - .010                   | .378 | .289 | .012 - .025                   | .382 | .328 | .015 - .025                   | .390 | .241 | .040 - .075                   |
| .373 | .200 | .005 - .010                   | .375 | .163 | .005 - .060                   | .376 | .197 | .005 - .010                   | .378 | .292 | .005 - .010                   | .383 | .099 | .030 - .050                   | .390 | .256 | .005 - .010                   |
| .373 | .210 | .005 - .010                   | .375 | .165 | .042 - .062                   | .376 | .204 | .010 - .020                   | .379 | .143 | .050 - .070                   | .383 | .115 | .015 - .030                   | .390 | .257 | .015 - .030                   |
| .373 | .222 | .015 - .030                   | .375 | .169 | .015 - .050                   | .376 | .205 | .005 - .010                   | .379 | .162 | .015 - .035                   | .383 | .155 | .030 - .050                   | .390 | .258 | .005 - .010                   |
| .373 | .238 | .030 - .050                   | .375 | .172 | .005 - .050                   | .376 | .209 | .020 - .040                   | .379 | .163 | .020 - .035                   | .384 | .127 | .020 - .030                   | .390 | .260 | .005 - .020                   |
| .373 | .253 | .040 - .060                   | .375 | .173 | .020 - .030                   | .376 | .217 | .040 - .060                   | .379 | .164 | .040 - .070                   | .384 | .144 | .030 - .050                   | .390 | .262 | .040 - .060                   |
| .373 | .256 | .042 - .060                   | .375 | .175 | .005 - .012                   | .376 | .220 | .020 - .032                   | .379 | .173 | .005 - .010                   | .384 | .159 | .030 - .050                   | .390 | .266 | .025 - .040                   |
| .373 | .269 | .005 - .010                   | .375 | .177 | .060 - .075                   | .376 | .222 | .005 - .010                   | .379 | .198 | .005 - .010                   | .384 | .214 | .030 - .050                   | .390 | .284 | .005 - .010                   |
| .373 | .317 | .010 - .020                   | .375 | .180 | .060 - .080                   | .376 | .223 | .005 - .042                   | .379 | .200 | .005 - .010                   | .384 | .238 | .020 - .030                   | .390 | .306 | .005 - .010                   |
| .373 | .318 | .005 - .010                   | .375 | .184 | .005 - .010                   | .376 | .234 | .030 - .050                   | .379 | .221 | .005 - .010                   | .384 | .271 | .015 - .020                   | .390 | .314 | .025 - .040                   |
| .374 | .049 | .005 - .010                   | .375 | .188 | .005 - .030                   | .376 | .244 | .032 - .050                   | .379 | .250 | .005 - .010                   | .384 | .285 | .015 - .030                   | .391 | .062 | .015 - .030                   |
| .374 | .083 | .036 - .050                   | .375 | .189 | .080 - .104                   | .376 | .251 | .020 - .032                   | .379 | .252 | .005 - .010                   | .385 | .156 | .020 - .032                   | .391 | .105 | .005 - .010                   |
| .374 | .099 | .005 - .010                   | .375 | .190 | .080 - .104                   | .376 | .252 | .040 - .050                   | .379 | .257 | .040 - .062                   | .385 | .181 | .030 - .050                   | .391 | .132 | .120 - .140                   |
| .374 | .120 | .040 - .060                   | .375 | .191 | .040 - .090                   | .376 | .254 | .025 - .048                   | .379 | .297 | .030 - .042                   | .385 | .188 | .025 - .040                   | .391 | .163 | .040 - .060                   |
| .374 | .130 | .010 - .020                   | .375 | .192 | .005 - .090                   | .376 | .255 | .040 - .060                   | .380 | .093 | .015 - .030                   | .385 | .194 | .060 - .080                   | .391 | .177 | .040 - .060                   |
| .374 | .137 | .080 - .100                   | .375 | .193 | .005 - .015                   | .376 | .260 | .005 - .032                   | .380 | .095 | .015 - .030                   | .385 | .239 | .005 - .010                   | .391 | .197 | .015 - .030                   |
| .374 | .138 | .005 - .015                   | .375 | .194 | .040 - .060                   | .376 | .261 | .010 - .020                   | .380 | .096 | .060 - .080                   | .385 | .241 | .030 - .070                   | .391 | .226 | .010 - .020                   |
| .374 | .149 | .010 - .015                   | .375 | .195 | .005 - .042                   | .376 | .263 | .005 - .020                   | .380 | .097 | .040 - .060                   | .385 | .249 | .025 - .048                   | .391 | .242 | .005 - .010                   |
| .374 | .157 | .025 - .040                   | .375 | .196 | .005 - .060                   | .376 | .269 | .005 - .010                   | .380 | .116 | .005 - .010                   | .385 | .252 | .005 - .012                   | .391 | .271 | .020 - .040                   |
| .374 | .168 | .025 - .040                   | .375 | .200 | .040 - .060                   | .376 | .271 | .010 - .040                   | .380 | .126 | .030 - .050                   | .385 | .260 | .005 - .010                   | .391 | .285 | .020 - .035                   |
| .374 | .172 | .040 - .060                   | .375 | .202 | .010 - .032                   | .376 | .276 | .040 - .060                   | .380 | .148 | .025 - .040                   | .385 | .262 | .050 - .060                   | .391 | .306 | .005 - .010                   |
| .374 | .173 | .040 - .060                   | .375 | .203 | .015 - .060                   | .376 | .301 | .005 - .010                   | .380 | .149 | .080 - .100                   | .385 | .290 | .010 - .020                   | .391 | .307 | .010 - .020                   |
| .374 | .175 | .040 - .060                   | .375 | .204 | .060 - .080                   | .376 | .316 | .005 - .010                   | .380 | .162 | .040 - .060                   | .385 | .301 | .005 - .010                   | .391 | .314 | .015 - .020                   |
| .374 | .180 | .020 - .080                   | .375 | .205 | .008 - .015                   | .377 | .031 | .005 - .010                   | .380 | .173 | .005 - .010                   | .386 | .121 | .030 - .050                   | .391 | .348 | .005 - .010                   |
| .374 | .185 | .015 - .030                   | .375 | .209 | .025 - .062                   | .377 | .035 | .015 - .025                   | .380 | .175 | .015 - .090                   | .386 | .130 | .020 - .030                   | .392 | .129 | .025 - .040                   |
| .374 | .191 | .005 - .060                   | .375 | .211 | .010 - .020                   | .377 | .047 | .030 - .042                   | .380 | .180 | .005 - .010                   | .386 | .141 | .010 - .020                   | .392 | .190 | .005 - .010                   |
| .374 | .194 | .005 - .010                   | .375 | .213 | .015 - .025                   | .377 | .068 | .030 - .042                   | .380 | .186 | .015 - .040                   | .386 | .162 | .050 - .062                   | .392 | .207 | .015 - .030                   |
| .374 | .196 | .025 - .040                   | .375 | .218 | .060 - .080                   | .377 | .071 | .005 - .010                   | .380 | .190 | .005 - .010                   | .386 | .181 | .040 - .060                   | .392 | .219 | .005 - .010                   |
| .374 | .199 | .005 - .010                   | .375 | .220 | .005 - .010                   | .377 | .100 | .015 - .030                   | .380 | .191 | .020 - .040                   | .386 | .200 | .010 - .020                   | .392 | .280 | .035 - .050                   |
| .374 | .200 | .005 - .010                   | .375 | .223 | .050 - .070                   | .377 | .101 | .020 - .030                   | .380 | .192 | .005 - .010                   | .386 | .225 | .020 - .040                   | .392 | .328 | .005 - .010                   |
| .374 | .202 | .025 - .040                   | .375 | .225 | .050 - .070                   | .377 | .110 | .020 - .030                   | .380 | .194 | .005 - .010                   | .386 | .237 | .040 - .050                   | .392 | .337 | .005 - .010                   |
| .374 | .206 | .005 - .010                   | .375 | .226 | .015 - .030                   | .377 | .114 | .020 - .040                   | .380 | .195 | .005 - .025                   | .386 | .250 | .015 - .040                   | .393 | .042 | .005 - .010                   |
| .374 | .221 | .010 - .020                   | .375 | .235 | .010 - .020                   | .377 | .115 | .005 - .010                   | .380 | .204 | .012 - .025                   | .386 | .301 | .020 - .040                   | .393 | .103 | .010 - .020                   |
| .374 | .222 | .005 - .010                   | .375 | .237 | .005 - .075                   | .377 | .134 | .015 - .030                   | .380 | .215 | .030 - .050                   | .386 | .313 | .020 - .030                   | .393 | .111 | .025 - .040                   |
| .374 | .224 | .005 - .010                   | .375 | .238 | .005 - .030                   | .377 | .140 | .005 - .010                   | .380 | .226 | .005 - .010                   | .387 | .091 | .030 - .050                   | .393 | .120 | .005 - .010                   |
| .374 | .225 | .008 - .016                   | .375 | .245 | .050 - .060                   | .377 | .145 | .050 - .060                   | .380 | .242 | .015 - .030                   | .387 | .118 | .020 - .030                   | .393 | .158 | .005 - .020                   |
| .374 | .232 | .005 - .040                   | .375 | .248 | .010 - .020                   | .377 | .147 | .010 - .020                   | .380 | .255 | .005 - .010                   | .387 | .171 | .060 - .090                   | .393 | .196 | .040 - .050                   |
| .374 | .236 | .050 - .060                   | .375 | .250 | .005 - .060                   | .377 | .156 | .030 - .060                   | .380 | .262 | .005 - .010                   | .387 | .189 | .032 - .048                   | .393 | .201 | .030 - .050                   |
| .374 | .237 | .030 - .060                   | .375 | .252 | .005 - .015                   | .377 | .157 | .070 - .090                   | .380 | .264 | .025 - .040                   | .387 | .192 | .005 - .010                   | .393 | .209 | .005 - .010                   |
| .374 | .252 | .005 - .040                   | .375 | .253 | .005 - .025                   | .377 | .164 | .005 - .010                   | .380 | .276 | .005 - .010                   | .387 | .258 | .020 - .040                   | .393 | .214 | .005 - .010                   |
| .374 | .255 | .005 - .010                   | .375 | .254 | .005 - .040                   | .377 | .165 | .020 - .030                   | .380 | .277 | .010 - .020                   | .387 | .280 | .005 - .010                   | .393 | .217 | .030 - .050                   |
| .374 | .257 | .025 - .060                   | .375 | .255 | .020 - .030                   | .377 | .171 | .025 - .040                   | .380 | .280 | .030 - .040                   | .387 | .318 | .008 - .020                   | .393 | .230 | .025 - .040                   |
| .374 | .280 | .005 - .010                   | .375 | .257 | .025 - .040                   | .377 | .173 | .030 - .050                   | .380 | .285 | .032 - .050                   | .387 | .328 | .010 - .020                   | .393 | .237 | .005 - .010                   |
| .374 | .307 | .005 - .010                   | .375 | .258 | .010 - .020                   | .377 | .182 | .025 - .048                   | .381 | .094 | .005 - .010                   | .388 | .090 | .015 - .025                   | .393 | .239 | .005 - .010                   |
| .374 | .320 | .010 - .020                   | .375 | .267 | .020 - .030                   | .377 | .185 | .010 - .020                   | .381 | .099 | .025 - .040                   | .388 | .127 | .008 - .020                   | .393 | .240 | .005 - .050                   |
| .375 | .034 | .010 - .020                   | .375 | .274 | .010 - .020                   | .377 | .189 | .030 - .060                   | .381 | .114 | .005 - .010                   | .388 | .136 | .005 - .010                   | .393 | .256 | .020 - .040                   |
| .375 | .041 | .040 - .050                   | .375 | .280 | .030 - .042                   | .377 | .190 | .015 - .030                   | .381 | .116 | .005 - .010                   | .388 | .171 | .075 - .090                   | .393 | .277 | .005 - .010                   |
| .375 | .045 | .006 - .015                   | .375 | .281 | .005 - .040                   | .377 | .191 | .025 - .040                   | .381 | .124 | .005 - .012                   | .388 | .205 | .025 - .040</                 |      |      |                               |



## BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .394 | .168 | .050 - .075                   | .398 | .320 | .020 - .040                   | .402 | .300 | .015 - .030                   | .406 | .285 | .005 - .010                   | .413 | .379 | .010 - .020                   | .421 | .279 | .005 - .010                   |
| .394 | .183 | .010 - .020                   | .399 | .169 | .005 - .010                   | .402 | .359 | .005 - .010                   | .406 | .304 | .005 - .010                   | .414 | .081 | .030 - .050                   | .421 | .280 | .005 - .010                   |
| .394 | .196 | .050 - .075                   | .399 | .200 | .020 - .040                   | .403 | .144 | .005 - .010                   | .407 | .063 | .005 - .010                   | .414 | .162 | .030 - .050                   | .421 | .291 | .005 - .010                   |
| .394 | .203 | .005 - .010                   | .399 | .223 | .005 - .010                   | .403 | .189 | .025 - .036                   | .407 | .137 | .020 - .040                   | .414 | .166 | .005 - .010                   | .421 | .319 | .020 - .030                   |
| .394 | .207 | .050 - .075                   | .399 | .226 | .050 - .070                   | .403 | .192 | .020 - .040                   | .407 | .175 | .005 - .010                   | .414 | .212 | .080 - .100                   | .421 | .322 | .005 - .010                   |
| .394 | .208 | .070 - .090                   | .399 | .260 | .070 - .090                   | .403 | .193 | .016 - .025                   | .407 | .207 | .005 - .015                   | .414 | .236 | .070 - .080                   | .422 | .038 | .020 - .036                   |
| .394 | .237 | .005 - .010                   | .399 | .284 | .010 - .020                   | .403 | .203 | .005 - .010                   | .407 | .225 | .020 - .040                   | .414 | .252 | .005 - .060                   | .422 | .123 | .005 - .010                   |
| .394 | .239 | .025 - .040                   | .399 | .290 | .005 - .010                   | .403 | .263 | .030 - .050                   | .407 | .237 | .020 - .040                   | .414 | .261 | .005 - .010                   | .422 | .129 | .010 - .025                   |
| .394 | .240 | .005 - .025                   | .399 | .362 | .005 - .010                   | .404 | .100 | .005 - .010                   | .407 | .253 | .010 - .015                   | .414 | .277 | .035 - .045                   | .422 | .130 | .015 - .025                   |
| .394 | .243 | .015 - .030                   | .400 | .066 | .025 - .048                   | .404 | .128 | .005 - .010                   | .407 | .257 | .010 - .020                   | .414 | .282 | .020 - .030                   | .422 | .153 | .005 - .010                   |
| .394 | .251 | .005 - .080                   | .400 | .091 | .005 - .010                   | .404 | .173 | .060 - .080                   | .407 | .261 | .008 - .016                   | .414 | .315 | .010 - .020                   | .422 | .189 | .025 - .035                   |
| .394 | .255 | .045 - .064                   | .400 | .119 | .005 - .010                   | .404 | .180 | .060 - .080                   | .407 | .262 | .005 - .040                   | .415 | .092 | .040 - .060                   | .422 | .218 | .010 - .020                   |
| .394 | .260 | .040 - .060                   | .400 | .124 | .005 - .010                   | .404 | .189 | .025 - .040                   | .407 | .265 | .015 - .036                   | .415 | .179 | .040 - .070                   | .422 | .282 | .040 - .060                   |
| .394 | .319 | .005 - .010                   | .400 | .131 | .020 - .030                   | .404 | .190 | .025 - .040                   | .407 | .320 | .010 - .020                   | .415 | .192 | .070 - .090                   | .422 | .335 | .010 - .020                   |
| .395 | .099 | .030 - .050                   | .400 | .139 | .020 - .035                   | .404 | .195 | .010 - .020                   | .408 | .083 | .020 - .050                   | .415 | .243 | .008 - .020                   | .422 | .375 | .005 - .010                   |
| .395 | .165 | .015 - .030                   | .400 | .142 | .005 - .010                   | .404 | .197 | .005 - .010                   | .408 | .134 | .025 - .040                   | .415 | .250 | .042 - .080                   | .423 | .129 | .005 - .010                   |
| .395 | .172 | .020 - .035                   | .400 | .147 | .025 - .048                   | .404 | .210 | .030 - .050                   | .408 | .166 | .015 - .040                   | .415 | .253 | .005 - .010                   | .423 | .153 | .005 - .015                   |
| .395 | .174 | .015 - .030                   | .400 | .151 | .010 - .060                   | .404 | .218 | .005 - .010                   | .408 | .172 | .005 - .015                   | .415 | .265 | .050 - .070                   | .423 | .177 | .030 - .050                   |
| .395 | .175 | .090 - .105                   | .400 | .153 | .005 - .010                   | .404 | .220 | .025 - .040                   | .408 | .173 | .005 - .010                   | .415 | .281 | .050 - .072                   | .423 | .226 | .040 - .060                   |
| .395 | .186 | .070 - .090                   | .400 | .160 | .020 - .040                   | .404 | .224 | .005 - .010                   | .408 | .194 | .040 - .060                   | .415 | .285 | .015 - .025                   | .423 | .250 | .020 - .035                   |
| .395 | .191 | .025 - .093                   | .400 | .168 | .042 - .062                   | .404 | .246 | .005 - .010                   | .408 | .202 | .030 - .040                   | .415 | .313 | .010 - .020                   | .423 | .254 | .020 - .030                   |
| .395 | .195 | .005 - .010                   | .400 | .172 | .005 - .010                   | .404 | .252 | .005 - .010                   | .408 | .240 | .020 - .040                   | .415 | .324 | .025 - .035                   | .423 | .269 | .060 - .078                   |
| .395 | .200 | .005 - .010                   | .400 | .173 | .030 - .050                   | .404 | .260 | .015 - .025                   | .408 | .261 | .005 - .015                   | .416 | .121 | .005 - .010                   | .423 | .270 | .060 - .080                   |
| .395 | .209 | .050 - .070                   | .400 | .182 | .016 - .032                   | .404 | .265 | .015 - .030                   | .408 | .297 | .010 - .020                   | .416 | .128 | .040 - .060                   | .423 | .271 | .050 - .070                   |
| .395 | .210 | .025 - .040                   | .400 | .192 | .005 - .060                   | .404 | .280 | .060 - .080                   | .409 | .129 | .015 - .030                   | .416 | .160 | .005 - .010                   | .423 | .278 | .025 - .050                   |
| .395 | .219 | .010 - .020                   | .400 | .198 | .015 - .050                   | .404 | .313 | .005 - .012                   | .409 | .167 | .015 - .025                   | .416 | .180 | .020 - .030                   | .423 | .314 | .010 - .020                   |
| .395 | .220 | .015 - .035                   | .400 | .200 | .015 - .025                   | .404 | .320 | .005 - .020                   | .409 | .172 | .020 - .040                   | .416 | .205 | .020 - .080                   | .423 | .319 | .015 - .025                   |
| .395 | .225 | .010 - .020                   | .400 | .202 | .005 - .010                   | .405 | .099 | .005 - .010                   | .409 | .194 | .035 - .050                   | .416 | .218 | .010 - .020                   | .423 | .328 | .030 - .042                   |
| .395 | .236 | .040 - .060                   | .400 | .203 | .005 - .010                   | .405 | .107 | .005 - .010                   | .409 | .210 | .060 - .083                   | .416 | .241 | .008 - .020                   | .423 | .345 | .010 - .020                   |
| .395 | .243 | .005 - .015                   | .400 | .206 | .050 - .070                   | .405 | .108 | .030 - .050                   | .409 | .244 | .030 - .040                   | .416 | .251 | .025 - .040                   | .424 | .139 | .030 - .050                   |
| .395 | .246 | .015 - .030                   | .400 | .210 | .005 - .020                   | .405 | .137 | .005 - .010                   | .409 | .313 | .015 - .030                   | .416 | .256 | .020 - .040                   | .424 | .169 | .005 - .030                   |
| .395 | .248 | .060 - .075                   | .400 | .216 | .005 - .010                   | .405 | .156 | .040 - .060                   | .409 | .322 | .015 - .030                   | .416 | .260 | .025 - .040                   | .424 | .190 | .005 - .020                   |
| .395 | .251 | .020 - .030                   | .400 | .225 | .050 - .070                   | .405 | .162 | .015 - .025                   | .410 | .063 | .005 - .010                   | .417 | .251 | .048 - .062                   | .424 | .196 | .040 - .060                   |
| .395 | .277 | .040 - .050                   | .400 | .240 | .015 - .020                   | .405 | .168 | .005 - .010                   | .410 | .102 | .005 - .010                   | .417 | .276 | .005 - .010                   | .424 | .230 | .015 - .025                   |
| .395 | .280 | .040 - .060                   | .400 | .250 | .050 - .070                   | .405 | .175 | .040 - .060                   | .410 | .186 | .005 - .010                   | .417 | .356 | .010 - .020                   | .424 | .319 | .005 - .010                   |
| .395 | .284 | .005 - .048                   | .400 | .252 | .005 - .010                   | .405 | .184 | .005 - .010                   | .410 | .188 | .030 - .040                   | .418 | .149 | .050 - .070                   | .424 | .325 | .005 - .010                   |
| .395 | .294 | .036 - .050                   | .400 | .253 | .010 - .020                   | .405 | .201 | .005 - .010                   | .410 | .201 | .005 - .105                   | .418 | .190 | .025 - .050                   | .425 | .130 | .020 - .040                   |
| .395 | .322 | .005 - .010                   | .400 | .254 | .010 - .020                   | .405 | .202 | .020 - .072                   | .410 | .210 | .040 - .060                   | .418 | .206 | .010 - .015                   | .425 | .138 | .030 - .050                   |
| .395 | .338 | .005 - .010                   | .400 | .255 | .005 - .030                   | .405 | .204 | .050 - .060                   | .410 | .220 | .025 - .040                   | .418 | .251 | .030 - .040                   | .425 | .147 | .020 - .030                   |
| .396 | .055 | .010 - .020                   | .400 | .258 | .005 - .010                   | .405 | .222 | .050 - .070                   | .410 | .223 | .010 - .020                   | .418 | .257 | .025 - .040                   | .425 | .165 | .015 - .030                   |
| .396 | .151 | .040 - .060                   | .400 | .260 | .005 - .010                   | .405 | .243 | .010 - .015                   | .410 | .254 | .005 - .010                   | .418 | .289 | .020 - .030                   | .425 | .191 | .060 - .080                   |
| .396 | .194 | .010 - .015                   | .400 | .261 | .015 - .030                   | .405 | .250 | .020 - .030                   | .410 | .256 | .030 - .042                   | .418 | .315 | .035 - .050                   | .425 | .194 | .015 - .030                   |
| .396 | .203 | .020 - .040                   | .400 | .268 | .030 - .050                   | .405 | .252 | .030 - .050                   | .410 | .261 | .005 - .010                   | .419 | .125 | .050 - .072                   | .425 | .197 | .005 - .010                   |
| .396 | .221 | .005 - .015                   | .400 | .273 | .025 - .040                   | .405 | .253 | .025 - .040                   | .410 | .300 | .005 - .010                   | .419 | .148 | .062 - .090                   | .425 | .212 | .005 - .010                   |
| .396 | .259 | .030 - .050                   | .400 | .282 | .015 - .030                   | .405 | .257 | .005 - .040                   | .410 | .306 | .015 - .030                   | .419 | .173 | .080 - .104                   | .425 | .250 | .015 - .030                   |
| .396 | .260 | .030 - .050                   | .400 | .286 | .030 - .040                   | .405 | .261 | .010 - .020                   | .410 | .314 | .005 - .010                   | .419 | .224 | .040 - .060                   | .425 | .256 | .050 - .070                   |
| .396 | .277 | .020 - .040                   | .400 | .288 | .015 - .030                   | .405 | .276 | .025 - .048                   | .410 | .317 | .020 - .035                   | .419 | .260 | .010 - .020                   | .425 | .261 | .050 - .062                   |
| .396 | .278 | .020 - .040                   | .400 | .311 | .005 - .010                   | .405 | .279 | .050 - .060                   | .410 | .358 | .020 - .030                   | .419 | .296 | .020 - .040                   | .425 | .284 | .030 - .050                   |
| .396 | .285 | .025 - .042                   | .400 | .314 | .025 - .040                   | .405 | .303 | .015 - .025                   | .411 | .091 | .005 - .010                   | .419 | .303 | .005 - .010                   | .425 | .317 | .015 - .030                   |
| .396 | .318 | .005 - .010                   | .400 | .347 | .005 - .010                   | .406 | .094 | .005 - .010                   | .411 | .095 | .005 - .010                   | .419 | .313 | .020 - .040                   | .425 | .318 | .005 - .010                   |
| .396 | .333 | .005 - .030                   | .400 | .360 | .005 - .010                   | .406 | .120 | .032 - .048                   | .411 | .127 | .020 - .040                   | .419 | .329 | .005 - .025                   | .425 | .319 | .040 - .050                   |
| .396 | .338 | .005 - .008                   | .401 | .102 | .005 - .010                   | .406 | .124 | .020 - .040                   | .411 | .225 | .005 - .010                   | .419 | .345 | .005 - .010                   | .425 | .326 | .020 - .030                   |
| .397 | .025 | .005 - .010                   | .401 | .121 | .030 - .050                   | .406 | .127 | .025 - .040                   | .411 | .258 | .020 - .050                   | .420 | .036 | .005 - .010                   | .425 | .336 | .020 - .030                   |
| .397 | .032 | .005 - .010                   | .401 | .125 | .030 - .105                   | .406 | .128 | .015 - .030                   | .411 | .259 | .070 - .075                   | .420 | .095 | .005 - .010                   | .425 | .343 | .020 - .040                   |
| .397 | .105 | .008 - .016                   | .401 | .128 | .025 - .040                   | .406 | .140 | .025 - .042                   | .411 | .292 | .010 - .020                   | .420 | .129 | .020 - .030                   | .425 | .344 | .005 - .010                   |
| .397 | .109 | .005 - .015                   | .401 | .130 | .005 - .010                   | .406 | .155 | .050 - .075                   | .411 | .310 | .010 - .020                   | .420 | .170 | .015 - .030                   | .425 | .345 | .005 - .010                   |
| .397 | .153 | .025 - .040                   | .401 | .165 | .005 - .010                   | .406 | .161 | .050 - .075                   | .411 | .314 | .030 - .050                   | .420 | .179 | .005 - .010                   | .426 | .140 | .015 - .030                   |
| .397 | .176 | .005 - .010                   | .401 | .169 | .031 - .048                   | .406 | .170 | .010 - .025                   | .411 | .315 | .005 - .020                   | .420 | .193 | .005 - .010                   | .426 | .187 | .005 - .010                   |
| .397 | .183 | .010 - .020                   | .401 | .171 | .005 - .010                   | .406 | .171 | .048 - .072                   | .412 | .136 | .007 - .015                   | .420 | .204 | .030 - .050                   | .426 | .215 | .005 - .015                   |
| .397 | .196 | .010 - .015                   | .401 | .202 | .020 - .060                   | .406 | .189 | .012 - .020                   | .412 | .161 | .030 - .050                   | .420 | .234 | .005 - .010                   | .426 | .216 | .070 - .090                   |
| .397 | .212 | .005 - .015                   | .401 | .219 | .020 - .040                   | .406 | .190 | .005 - .010                   | .412 | .190 | .005 - .070                   | .420 | .238 | .020 - .030                   | .426 | .219 | .005 - .010                   |
| .397 | .231 | .005 - .010                   | .401 | .221 | .060 - .075                   | .406 | .201 | .050 - .070                   | .412 | .196 | .005 - .015                   | .420 | .241 | .005 - .010                   | .426 | .225 | .010 - .020                   |
| .397 | .250 | .005 - .010                   | .401 | .237 | .035 - .050                   | .406 | .203 | .005 - .010                   | .412 | .211 | .005 - .010                   | .420 | .251 | .030 - .040                   | .426 | .234 | .025 - .040                   |
| .397 | .255 | .070 - .090                   | .401 | .241 | .030 - .050                   | .406 | .204 | .030 - .050                   | .412 | .218 | .010 - .020                   | .420 | .254 | .006 - .012                   | .426 | .256 | .040 - .060                   |
| .397 | .267 | .020 - .040                   | .401 | .251 | .025 - .040                   | .406 | .209 | .030 - .050                   | .412 | .222 | .010 - .020                   | .420 | .258 | .005 - .010                   | .426 | .257 | .050 - .075                   |
| .397 | .280 | .040 - .050                   | .401 | .258 | .015 - .025                   | .406 | .218 | .025 - .040                   | .412 | .231 | .060 - .080                   | .420 | .279 | .005 - .016                   | .426 | .270 | .050 - .070                   |
| .397 | .298 | .015 - .030                   | .401 | .263 | .005 - .010                   | .406 | .220 | .025 - .042                   | .412 | .236 | .005 - .010                   | .420 | .280 | .010 - .025                   | .426 | .272 | .005 - .010                   |
| .397 | .315 | .032 - .042                   | .401 | .298 | .005 - .010                   | .406 | .221 | .010 - .020                   | .412 | .241 | .005 - .010                   | .420 | .311 | .00                           |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .427 | .325 | .015 - .030                   | .432 | .314 | .005 - .010                   | .435 | .254 | .005 - .008                   | .437 | .259 | .050 - .070                   | .439 | .165 | .025 - .040                   | .442 | .286 | .005 - .010                   |
| .427 | .347 | .005 - .010                   | .432 | .315 | .005 - .010                   | .435 | .257 | .025 - .040                   | .437 | .260 | .010 - .025                   | .439 | .173 | .030 - .050                   | .442 | .317 | .040 - .060                   |
| .428 | .034 | .016 - .025                   | .432 | .316 | .040 - .060                   | .435 | .261 | .025 - .045                   | .437 | .261 | .005 - .010                   | .439 | .174 | .005 - .050                   | .443 | .190 | .025 - .040                   |
| .428 | .101 | .010 - .020                   | .432 | .317 | .005 - .010                   | .435 | .267 | .010 - .020                   | .437 | .262 | .030 - .042                   | .439 | .185 | .090 - .105                   | .443 | .191 | .025 - .040                   |
| .428 | .132 | .005 - .010                   | .432 | .319 | .030 - .050                   | .435 | .268 | .010 - .020                   | .437 | .265 | .005 - .012                   | .439 | .189 | .010 - .075                   | .443 | .223 | .005 - .010                   |
| .428 | .143 | .050 - .070                   | .432 | .356 | .015 - .025                   | .435 | .284 | .040 - .072                   | .437 | .275 | .020 - .040                   | .439 | .190 | .060 - .080                   | .443 | .224 | .040 - .060                   |
| .428 | .179 | .090 - .105                   | .432 | .364 | .005 - .010                   | .435 | .290 | .025 - .050                   | .437 | .281 | .042 - .062                   | .439 | .192 | .005 - .010                   | .443 | .278 | .020 - .040                   |
| .428 | .187 | .005 - .010                   | .433 | .042 | .031 - .048                   | .435 | .296 | .005 - .010                   | .437 | .284 | .015 - .030                   | .439 | .203 | .040 - .090                   | .443 | .295 | .016 - .025                   |
| .428 | .213 | .020 - .040                   | .433 | .052 | .015 - .030                   | .435 | .305 | .005 - .010                   | .437 | .287 | .010 - .020                   | .439 | .207 | .040 - .060                   | .443 | .336 | .040 - .060                   |
| .428 | .220 | .040 - .060                   | .433 | .054 | .015 - .030                   | .435 | .321 | .030 - .050                   | .437 | .302 | .005 - .012                   | .439 | .251 | .060 - .080                   | .444 | .165 | .005 - .010                   |
| .428 | .241 | .005 - .010                   | .433 | .089 | .020 - .040                   | .435 | .327 | .030 - .050                   | .437 | .312 | .005 - .010                   | .439 | .252 | .060 - .080                   | .444 | .174 | .030 - .050                   |
| .428 | .299 | .005 - .010                   | .433 | .157 | .030 - .050                   | .435 | .380 | .010 - .020                   | .437 | .316 | .010 - .015                   | .439 | .253 | .010 - .025                   | .444 | .196 | .015 - .030                   |
| .428 | .311 | .025 - .040                   | .433 | .178 | .105 - .125                   | .436 | .187 | .005 - .010                   | .437 | .321 | .020 - .040                   | .439 | .260 | .025 - .040                   | .444 | .220 | .030 - .050                   |
| .428 | .316 | .025 - .040                   | .433 | .202 | .015 - .030                   | .436 | .188 | .070 - .090                   | .437 | .325 | .005 - .010                   | .439 | .264 | .060 - .075                   | .444 | .318 | .030 - .050                   |
| .428 | .318 | .010 - .020                   | .433 | .203 | .005 - .030                   | .436 | .201 | .005 - .010                   | .437 | .328 | .020 - .030                   | .439 | .276 | .005 - .010                   | .444 | .342 | .010 - .020                   |
| .429 | .135 | .005 - .010                   | .433 | .220 | .005 - .010                   | .436 | .226 | .010 - .025                   | .437 | .329 | .040 - .060                   | .439 | .282 | .005 - .010                   | .444 | .347 | .020 - .040                   |
| .429 | .161 | .020 - .040                   | .433 | .224 | .005 - .010                   | .436 | .241 | .025 - .035                   | .437 | .343 | .005 - .060                   | .439 | .313 | .040 - .060                   | .444 | .349 | .005 - .010                   |
| .429 | .189 | .010 - .020                   | .433 | .237 | .030 - .050                   | .436 | .251 | .080 - .100                   | .437 | .365 | .005 - .010                   | .439 | .315 | .005 - .010                   | .444 | .381 | .015 - .030                   |
| .429 | .199 | .005 - .010                   | .433 | .238 | .005 - .010                   | .436 | .253 | .030 - .050                   | .437 | .376 | .005 - .025                   | .439 | .317 | .040 - .060                   | .445 | .095 | .030 - .050                   |
| .429 | .257 | .010 - .020                   | .433 | .239 | .005 - .010                   | .436 | .254 | .010 - .020                   | .437 | .380 | .005 - .010                   | .439 | .321 | .040 - .060                   | .445 | .116 | .050 - .070                   |
| .429 | .260 | .015 - .060                   | .433 | .243 | .020 - .050                   | .436 | .256 | .005 - .010                   | .438 | .048 | .005 - .010                   | .440 | .024 | .005 - .010                   | .445 | .136 | .010 - .020                   |
| .430 | .111 | .005 - .010                   | .433 | .251 | .010 - .030                   | .436 | .263 | .005 - .010                   | .438 | .058 | .020 - .035                   | .440 | .052 | .025 - .040                   | .445 | .142 | .040 - .050                   |
| .430 | .115 | .010 - .020                   | .433 | .253 | .008 - .070                   | .436 | .279 | .010 - .025                   | .438 | .087 | .005 - .010                   | .440 | .090 | .035 - .050                   | .445 | .206 | .035 - .050                   |
| .430 | .120 | .005 - .012                   | .433 | .276 | .020 - .040                   | .436 | .282 | .025 - .075                   | .438 | .093 | .005 - .010                   | .440 | .105 | .005 - .010                   | .445 | .212 | .005 - .010                   |
| .430 | .128 | .032 - .042                   | .433 | .278 | .005 - .010                   | .436 | .283 | .010 - .020                   | .438 | .094 | .025 - .040                   | .440 | .127 | .010 - .020                   | .445 | .219 | .050 - .070                   |
| .430 | .130 | .030 - .050                   | .433 | .281 | .010 - .020                   | .436 | .287 | .005 - .015                   | .438 | .119 | .015 - .030                   | .440 | .129 | .030 - .050                   | .445 | .252 | .015 - .025                   |
| .430 | .159 | .020 - .040                   | .433 | .315 | .005 - .030                   | .436 | .314 | .005 - .010                   | .438 | .125 | .025 - .042                   | .440 | .140 | .025 - .040                   | .445 | .265 | .040 - .060                   |
| .430 | .161 | .010 - .020                   | .433 | .317 | .005 - .010                   | .436 | .316 | .010 - .042                   | .438 | .129 | .015 - .030                   | .440 | .158 | .030 - .050                   | .445 | .325 | .010 - .020                   |
| .430 | .175 | .015 - .030                   | .433 | .321 | .035 - .050                   | .436 | .318 | .005 - .010                   | .438 | .136 | .010 - .015                   | .440 | .168 | .040 - .060                   | .445 | .331 | .030 - .050                   |
| .430 | .180 | .020 - .040                   | .433 | .330 | .005 - .010                   | .436 | .334 | .015 - .030                   | .438 | .138 | .005 - .010                   | .440 | .170 | .025 - .050                   | .445 | .348 | .020 - .040                   |
| .430 | .185 | .020 - .040                   | .433 | .347 | .015 - .030                   | .436 | .375 | .015 - .030                   | .438 | .147 | .030 - .050                   | .440 | .173 | .005 - .010                   | .445 | .383 | .005 - .040                   |
| .430 | .187 | .005 - .010                   | .433 | .348 | .030 - .040                   | .436 | .378 | .005 - .010                   | .438 | .162 | .030 - .060                   | .440 | .190 | .100 - .125                   | .445 | .385 | .005 - .020                   |
| .430 | .189 | .030 - .050                   | .433 | .351 | .015 - .030                   | .436 | .397 | .005 - .010                   | .438 | .169 | .005 - .010                   | .440 | .195 | .035 - .050                   | .445 | .390 | .010 - .015                   |
| .430 | .190 | .020 - .040                   | .434 | .043 | .005 - .010                   | .437 | .039 | .005 - .010                   | .438 | .193 | .050 - .070                   | .440 | .202 | .070 - .090                   | .445 | .399 | .005 - .010                   |
| .430 | .191 | .020 - .080                   | .434 | .079 | .030 - .050                   | .437 | .096 | .015 - .025                   | .438 | .195 | .030 - .040                   | .440 | .210 | .010 - .020                   | .446 | .049 | .010 - .020                   |
| .430 | .200 | .070 - .090                   | .434 | .094 | .040 - .060                   | .437 | .120 | .040 - .060                   | .438 | .196 | .005 - .020                   | .440 | .211 | .005 - .010                   | .446 | .151 | .062 - .090                   |
| .430 | .206 | .080 - .100                   | .434 | .103 | .040 - .060                   | .437 | .125 | .005 - .015                   | .438 | .198 | .025 - .035                   | .440 | .217 | .070 - .090                   | .446 | .162 | .005 - .010                   |
| .430 | .215 | .032 - .042                   | .434 | .160 | .090 - .125                   | .437 | .126 | .025 - .050                   | .438 | .200 | .005 - .090                   | .440 | .218 | .005 - .020                   | .446 | .171 | .040 - .060                   |
| .430 | .220 | .015 - .035                   | .434 | .176 | .020 - .040                   | .437 | .127 | .015 - .060                   | .438 | .201 | .025 - .050                   | .440 | .228 | .015 - .040                   | .446 | .197 | .010 - .020                   |
| .430 | .230 | .005 - .010                   | .434 | .187 | .005 - .010                   | .437 | .128 | .030 - .050                   | .438 | .202 | .020 - .050                   | .440 | .237 | .050 - .075                   | .446 | .208 | .050 - .070                   |
| .430 | .250 | .090 - .110                   | .434 | .196 | .005 - .010                   | .437 | .129 | .010 - .042                   | .438 | .203 | .075 - .090                   | .440 | .245 | .005 - .010                   | .446 | .256 | .005 - .010                   |
| .430 | .258 | .020 - .040                   | .434 | .198 | .005 - .010                   | .437 | .130 | .025 - .042                   | .438 | .205 | .070 - .090                   | .440 | .250 | .005 - .010                   | .446 | .270 | .005 - .040                   |
| .430 | .265 | .005 - .080                   | .434 | .201 | .005 - .020                   | .437 | .133 | .050 - .062                   | .438 | .206 | .020 - .030                   | .440 | .252 | .010 - .025                   | .446 | .307 | .030 - .050                   |
| .430 | .279 | .005 - .010                   | .434 | .224 | .005 - .010                   | .437 | .141 | .048 - .072                   | .438 | .207 | .005 - .010                   | .440 | .253 | .005 - .010                   | .446 | .319 | .032 - .060                   |
| .430 | .285 | .020 - .030                   | .434 | .236 | .032 - .062                   | .437 | .142 | .040 - .060                   | .438 | .210 | .042 - .060                   | .440 | .260 | .010 - .070                   | .446 | .325 | .032 - .060                   |
| .430 | .300 | .010 - .020                   | .434 | .244 | .040 - .050                   | .437 | .143 | .040 - .060                   | .438 | .216 | .005 - .100                   | .440 | .265 | .005 - .010                   | .447 | .127 | .020 - .040                   |
| .430 | .308 | .010 - .020                   | .434 | .253 | .005 - .010                   | .437 | .144 | .025 - .035                   | .438 | .232 | .035 - .050                   | .440 | .275 | .020 - .045                   | .447 | .146 | .020 - .040                   |
| .430 | .314 | .030 - .050                   | .434 | .255 | .005 - .010                   | .437 | .147 | .020 - .040                   | .438 | .236 | .005 - .010                   | .440 | .283 | .040 - .062                   | .447 | .194 | .030 - .050                   |
| .430 | .339 | .005 - .010                   | .434 | .271 | .050 - .070                   | .437 | .150 | .010 - .020                   | .438 | .247 | .005 - .010                   | .440 | .291 | .020 - .040                   | .447 | .202 | .025 - .040                   |
| .430 | .343 | .015 - .030                   | .434 | .282 | .005 - .010                   | .437 | .157 | .015 - .030                   | .438 | .249 | .050 - .075                   | .440 | .304 | .030 - .050                   | .447 | .223 | .025 - .050                   |
| .430 | .364 | .005 - .010                   | .434 | .286 | .020 - .030                   | .437 | .158 | .005 - .010                   | .438 | .255 | .005 - .030                   | .440 | .314 | .040 - .060                   | .447 | .230 | .025 - .040                   |
| .430 | .372 | .005 - .020                   | .434 | .315 | .005 - .010                   | .437 | .166 | .010 - .050                   | .438 | .256 | .025 - .050                   | .440 | .316 | .020 - .050                   | .447 | .236 | .005 - .010                   |
| .430 | .376 | .005 - .010                   | .434 | .316 | .015 - .040                   | .437 | .169 | .008 - .016                   | .438 | .257 | .030 - .050                   | .440 | .328 | .040 - .060                   | .447 | .250 | .020 - .040                   |
| .430 | .379 | .015 - .020                   | .434 | .318 | .005 - .010                   | .437 | .171 | .030 - .050                   | .438 | .258 | .005 - .010                   | .440 | .355 | .015 - .025                   | .447 | .254 | .010 - .020                   |
| .431 | .040 | .005 - .010                   | .434 | .320 | .005 - .010                   | .437 | .183 | .050 - .062                   | .438 | .259 | .005 - .010                   | .440 | .381 | .010 - .020                   | .447 | .270 | .020 - .030                   |
| .431 | .126 | .035 - .050                   | .434 | .330 | .030 - .050                   | .437 | .191 | .010 - .104                   | .438 | .263 | .020 - .050                   | .440 | .390 | .005 - .010                   | .447 | .313 | .015 - .025                   |
| .431 | .127 | .025 - .040                   | .434 | .350 | .025 - .035                   | .437 | .194 | .020 - .104                   | .438 | .265 | .030 - .060                   | .441 | .042 | .010 - .020                   | .447 | .337 | .005 - .010                   |
| .431 | .157 | .025 - .040                   | .435 | .064 | .035 - .062                   | .437 | .197 | .040 - .125                   | .438 | .266 | .015 - .030                   | .441 | .093 | .005 - .020                   | .447 | .375 | .020 - .036                   |
| .431 | .158 | .005 - .010                   | .435 | .067 | .020 - .040                   | .437 | .198 | .005 - .010                   | .438 | .274 | .015 - .030                   | .441 | .143 | .005 - .020                   | .447 | .380 | .015 - .030                   |
| .431 | .195 | .005 - .010                   | .435 | .077 | .005 - .010                   | .437 | .199 | .015 - .032                   | .438 | .276 | .030 - .050                   | .441 | .151 | .030 - .050                   | .448 | .094 | .005 - .010                   |
| .431 | .197 | .020 - .030                   | .435 | .080 | .012 - .025                   | .437 | .204 | .020 - .030                   | .438 | .281 | .060 - .080                   | .441 | .168 | .030 - .050                   | .448 | .139 | .030 - .040                   |
| .431 | .235 | .005 - .012                   | .435 | .082 | .030 - .050                   | .437 | .205 | .020 - .035                   | .438 | .282 | .005 - .075                   | .441 | .172 | .062 - .083                   | .448 | .181 | .006 - .012                   |
| .431 | .238 | .030 - .060                   | .435 | .112 | .007 - .012                   | .437 | .215 | .020 - .040                   | .438 | .284 | .050 - .075                   | .441 | .190 | .005 - .010                   | .448 | .189 | .005 - .010                   |
| .431 | .259 | .005 - .030                   | .435 | .136 | .090 - .105                   | .437 | .217 | .060 - .080                   | .438 | .297 | .005 - .010                   | .441 | .198 | .005 - .030                   | .448 | .191 | .030 - .048                   |
| .431 | .294 | .015 - .025                   | .435 | .149 | .060 - .083                   | .437 | .218 | .015 - .062                   | .438 | .297 | .015 - .025                   | .441 | .224 | .050 - .075                   | .448 | .203 | .015 - .030                   |
| .432 | .080 | .005 - .010                   | .435 | .160 | .010 - .020                   | .437 | .219 | .008 - .016                   | .438 | .313 | .030 - .060                   | .441 | .242 | .020 - .030                   | .448 | .205 | .030 - .060                   |
| .432 | .117 | .030 - .050                   | .435 | .166 | .090 - .105                   | .437 | .220 | .040 - .060                   | .438 | .315 | .010 - .020                   | .441 | .254 | .020 - .040                   | .448 | .215 | .020 - .040                   |
| .432 | .118 | .015 - .030                   | .435 | .174 | .025 - .040                   | .437 | .222 | .005 - .010                   | .438 | .316 | .005 - .010                   | .441 | .255 | .005 - .010                   |      |      |                               |

**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .449 | .412 | .005 - .010                   | .455 | .195 | .015 - .030                   | .463 | .320 | .040 - .050                   | .468 | .287 | .005 - .010                   | .471 | .206 | .005 - .010                   | .474 | .317 | .005 - .015                   |
| .450 | .062 | .030 - .050                   | .455 | .235 | .020 - .030                   | .463 | .321 | .030 - .050                   | .468 | .312 | .050 - .070                   | .471 | .218 | .005 - .010                   | .474 | .320 | .030 - .050                   |
| .450 | .065 | .006 - .015                   | .455 | .257 | .020 - .032                   | .463 | .322 | .015 - .030                   | .468 | .320 | .005 - .010                   | .471 | .222 | .020 - .030                   | .474 | .381 | .005 - .012                   |
| .450 | .089 | .030 - .050                   | .455 | .261 | .007 - .016                   | .463 | .333 | .030 - .050                   | .468 | .321 | .005 - .072                   | .471 | .223 | .040 - .050                   | .474 | .396 | .015 - .025                   |
| .450 | .114 | .015 - .030                   | .455 | .265 | .015 - .030                   | .463 | .391 | .020 - .030                   | .468 | .390 | .015 - .030                   | .471 | .224 | .020 - .040                   | .475 | .113 | .005 - .010                   |
| .450 | .120 | .010 - .015                   | .455 | .266 | .040 - .060                   | .464 | .129 | .005 - .010                   | .468 | .400 | .020 - .040                   | .471 | .254 | .005 - .010                   | .475 | .147 | .020 - .040                   |
| .450 | .138 | .005 - .015                   | .455 | .302 | .015 - .030                   | .464 | .141 | .050 - .070                   | .468 | .405 | .005 - .010                   | .471 | .256 | .035 - .050                   | .475 | .175 | .020 - .030                   |
| .450 | .143 | .005 - .010                   | .455 | .353 | .010 - .020                   | .464 | .159 | .060 - .080                   | .469 | .100 | .020 - .040                   | .471 | .258 | .030 - .050                   | .475 | .192 | .005 - .010                   |
| .450 | .162 | .050 - .075                   | .455 | .383 | .025 - .040                   | .464 | .160 | .015 - .030                   | .469 | .149 | .080 - .104                   | .471 | .259 | .005 - .010                   | .475 | .192 | .060 - .080                   |
| .450 | .174 | .025 - .040                   | .456 | .074 | .005 - .010                   | .464 | .190 | .030 - .050                   | .469 | .184 | .005 - .010                   | .471 | .287 | .005 - .015                   | .475 | .196 | .005 - .010                   |
| .450 | .182 | .005 - .010                   | .456 | .153 | .025 - .040                   | .464 | .210 | .020 - .036                   | .469 | .192 | .005 - .030                   | .471 | .296 | .005 - .010                   | .475 | .214 | .050 - .070                   |
| .450 | .185 | .040 - .050                   | .456 | .158 | .020 - .040                   | .464 | .218 | .005 - .010                   | .469 | .206 | .075 - .100                   | .471 | .318 | .050 - .070                   | .475 | .227 | .020 - .030                   |
| .450 | .192 | .005 - .010                   | .456 | .189 | .030 - .040                   | .464 | .237 | .015 - .030                   | .469 | .228 | .010 - .020                   | .471 | .319 | .010 - .020                   | .475 | .241 | .040 - .060                   |
| .450 | .200 | .015 - .080                   | .456 | .190 | .025 - .062                   | .464 | .244 | .005 - .020                   | .469 | .254 | .030 - .050                   | .471 | .322 | .005 - .010                   | .475 | .259 | .010 - .030                   |
| .450 | .201 | .005 - .010                   | .456 | .194 | .040 - .062                   | .464 | .252 | .005 - .010                   | .469 | .263 | .030 - .050                   | .471 | .337 | .005 - .010                   | .475 | .279 | .005 - .010                   |
| .450 | .216 | .005 - .010                   | .456 | .221 | .005 - .010                   | .464 | .265 | .010 - .020                   | .469 | .269 | .015 - .025                   | .471 | .348 | .025 - .042                   | .475 | .286 | .005 - .010                   |
| .450 | .223 | .015 - .025                   | .456 | .235 | .005 - .010                   | .464 | .318 | .015 - .025                   | .469 | .281 | .005 - .020                   | .471 | .378 | .005 - .012                   | .475 | .306 | .005 - .010                   |
| .450 | .237 | .030 - .050                   | .456 | .257 | .020 - .030                   | .464 | .320 | .040 - .060                   | .469 | .320 | .004 - .008                   | .471 | .387 | .005 - .010                   | .475 | .324 | .020 - .040                   |
| .450 | .240 | .005 - .010                   | .456 | .261 | .005 - .010                   | .464 | .367 | .010 - .020                   | .469 | .321 | .005 - .010                   | .472 | .097 | .005 - .020                   | .475 | .334 | .040 - .060                   |
| .450 | .247 | .005 - .010                   | .456 | .356 | .010 - .020                   | .464 | .393 | .005 - .010                   | .469 | .322 | .010 - .020                   | .472 | .099 | .020 - .040                   | .475 | .347 | .020 - .040                   |
| .450 | .251 | .020 - .100                   | .456 | .360 | .010 - .020                   | .465 | .062 | .030 - .050                   | .469 | .325 | .020 - .035                   | .472 | .103 | .005 - .010                   | .475 | .360 | .005 - .010                   |
| .450 | .252 | .005 - .020                   | .456 | .378 | .005 - .010                   | .465 | .117 | .040 - .060                   | .469 | .343 | .005 - .010                   | .472 | .125 | .005 - .010                   | .475 | .368 | .015 - .040                   |
| .450 | .254 | .025 - .040                   | .456 | .390 | .010 - .020                   | .465 | .134 | .030 - .040                   | .469 | .349 | .010 - .020                   | .472 | .157 | .005 - .010                   | .475 | .378 | .005 - .010                   |
| .450 | .256 | .010 - .020                   | .457 | .252 | .050 - .075                   | .465 | .171 | .025 - .040                   | .469 | .379 | .020 - .030                   | .472 | .160 | .010 - .020                   | .475 | .380 | .010 - .020                   |
| .450 | .259 | .015 - .030                   | .457 | .254 | .005 - .010                   | .465 | .188 | .060 - .070                   | .469 | .384 | .010 - .020                   | .472 | .162 | .050 - .070                   | .475 | .397 | .020 - .030                   |
| .450 | .260 | .025 - .040                   | .457 | .255 | .030 - .050                   | .465 | .200 | .005 - .010                   | .470 | .042 | .015 - .025                   | .472 | .165 | .015 - .030                   | .475 | .400 | .020 - .040                   |
| .450 | .264 | .050 - .070                   | .457 | .311 | .030 - .040                   | .465 | .210 | .040 - .060                   | .470 | .044 | .020 - .030                   | .472 | .169 | .025 - .050                   | .475 | .411 | .010 - .020                   |
| .450 | .280 | .050 - .075                   | .457 | .313 | .050 - .060                   | .465 | .211 | .100 - .120                   | .470 | .057 | .005 - .010                   | .472 | .196 | .032 - .048                   | .475 | .424 | .015 - .040                   |
| .450 | .284 | .020 - .040                   | .457 | .363 | .005 - .010                   | .465 | .217 | .005 - .010                   | .470 | .094 | .005 - .015                   | .472 | .200 | .005 - .010                   | .476 | .144 | .032 - .060                   |
| .450 | .290 | .080 - .100                   | .457 | .407 | .015 - .025                   | .465 | .221 | .005 - .010                   | .470 | .116 | .035 - .050                   | .472 | .211 | .005 - .010                   | .476 | .163 | .015 - .030                   |
| .450 | .292 | .015 - .025                   | .458 | .172 | .062 - .090                   | .465 | .222 | .060 - .070                   | .470 | .118 | .025 - .042                   | .472 | .236 | .005 - .010                   | .476 | .169 | .070 - .080                   |
| .450 | .295 | .015 - .030                   | .458 | .250 | .040 - .062                   | .465 | .229 | .005 - .010                   | .470 | .119 | .010 - .025                   | .472 | .237 | .015 - .030                   | .476 | .181 | .030 - .040                   |
| .450 | .316 | .005 - .030                   | .459 | .172 | .050 - .075                   | .465 | .252 | .006 - .015                   | .470 | .138 | .015 - .025                   | .472 | .238 | .005 - .010                   | .476 | .190 | .015 - .030                   |
| .450 | .317 | .005 - .025                   | .459 | .173 | .005 - .050                   | .465 | .261 | .005 - .010                   | .470 | .143 | .012 - .050                   | .472 | .239 | .005 - .010                   | .476 | .210 | .105 - .125                   |
| .450 | .320 | .005 - .060                   | .459 | .194 | .040 - .050                   | .465 | .283 | .075 - .090                   | .470 | .149 | .005 - .010                   | .472 | .241 | .075 - .090                   | .476 | .240 | .010 - .025                   |
| .450 | .350 | .015 - .025                   | .459 | .290 | .060 - .080                   | .465 | .285 | .080 - .090                   | .470 | .150 | .060 - .090                   | .472 | .245 | .030 - .040                   | .476 | .289 | .010 - .030                   |
| .450 | .368 | .010 - .020                   | .459 | .312 | .040 - .060                   | .465 | .314 | .015 - .025                   | .470 | .158 | .050 - .070                   | .472 | .246 | .030 - .050                   | .476 | .314 | .010 - .020                   |
| .450 | .370 | .015 - .030                   | .459 | .337 | .040 - .060                   | .465 | .345 | .005 - .010                   | .470 | .159 | .050 - .070                   | .472 | .265 | .005 - .010                   | .476 | .324 | .025 - .040                   |
| .450 | .375 | .025 - .042                   | .459 | .347 | .020 - .030                   | .465 | .402 | .005 - .020                   | .470 | .176 | .060 - .080                   | .472 | .268 | .070 - .090                   | .476 | .376 | .010 - .020                   |
| .451 | .146 | .020 - .030                   | .459 | .350 | .020 - .030                   | .466 | .125 | .015 - .030                   | .470 | .187 | .110 - .130                   | .472 | .270 | .090 - .105                   | .476 | .404 | .005 - .010                   |
| .451 | .188 | .020 - .030                   | .460 | .040 | .010 - .020                   | .466 | .127 | .020 - .040                   | .470 | .200 | .005 - .010                   | .472 | .282 | .020 - .040                   | .477 | .132 | .030 - .040                   |
| .451 | .241 | .025 - .040                   | .460 | .143 | .020 - .040                   | .466 | .189 | .020 - .040                   | .470 | .210 | .035 - .050                   | .472 | .289 | .005 - .010                   | .477 | .140 | .005 - .010                   |
| .451 | .267 | .030 - .050                   | .460 | .159 | .005 - .010                   | .466 | .191 | .020 - .045                   | .470 | .218 | .010 - .040                   | .472 | .315 | .025 - .040                   | .477 | .168 | .005 - .010                   |
| .451 | .274 | .005 - .010                   | .460 | .194 | .005 - .010                   | .466 | .198 | .040 - .060                   | .470 | .225 | .030 - .050                   | .472 | .316 | .005 - .010                   | .477 | .178 | .005 - .010                   |
| .451 | .315 | .040 - .062                   | .460 | .244 | .020 - .040                   | .466 | .205 | .020 - .030                   | .470 | .228 | .010 - .020                   | .472 | .317 | .050 - .070                   | .477 | .201 | .020 - .030                   |
| .451 | .317 | .005 - .010                   | .460 | .279 | .005 - .010                   | .466 | .210 | .020 - .035                   | .470 | .239 | .005 - .010                   | .472 | .319 | .005 - .030                   | .477 | .266 | .005 - .010                   |
| .451 | .334 | .020 - .030                   | .460 | .301 | .005 - .010                   | .466 | .218 | .050 - .070                   | .470 | .255 | .047 - .085                   | .472 | .376 | .005 - .010                   | .477 | .302 | .025 - .040                   |
| .451 | .344 | .030 - .050                   | .460 | .306 | .005 - .010                   | .466 | .241 | .020 - .040                   | .470 | .259 | .060 - .080                   | .472 | .379 | .005 - .010                   | .477 | .390 | .010 - .020                   |
| .451 | .353 | .010 - .020                   | .460 | .313 | .020 - .030                   | .466 | .251 | .025 - .040                   | .470 | .265 | .032 - .048                   | .472 | .387 | .025 - .035                   | .478 | .170 | .010 - .020                   |
| .451 | .378 | .020 - .030                   | .460 | .319 | .020 - .040                   | .466 | .259 | .080 - .100                   | .470 | .271 | .010 - .020                   | .472 | .399 | .010 - .020                   | .478 | .222 | .025 - .040                   |
| .451 | .395 | .005 - .010                   | .460 | .378 | .030 - .042                   | .466 | .264 | .005 - .010                   | .470 | .276 | .050 - .075                   | .473 | .039 | .005 - .010                   | .478 | .253 | .005 - .010                   |
| .452 | .036 | .010 - .020                   | .460 | .380 | .005 - .015                   | .466 | .290 | .020 - .030                   | .470 | .279 | .005 - .010                   | .473 | .070 | .010 - .020                   | .478 | .254 | .015 - .030                   |
| .452 | .102 | .015 - .030                   | .461 | .091 | .005 - .010                   | .466 | .293 | .005 - .010                   | .470 | .280 | .010 - .020                   | .473 | .157 | .005 - .010                   | .478 | .255 | .090 - .105                   |
| .452 | .250 | .040 - .060                   | .461 | .215 | .045 - .060                   | .466 | .319 | .010 - .020                   | .470 | .290 | .015 - .030                   | .473 | .172 | .120 - .135                   | .478 | .311 | .005 - .010                   |
| .452 | .257 | .010 - .020                   | .461 | .334 | .005 - .010                   | .466 | .321 | .005 - .010                   | .470 | .312 | .020 - .030                   | .473 | .205 | .005 - .010                   | .478 | .315 | .050 - .070                   |
| .452 | .284 | .005 - .010                   | .461 | .355 | .015 - .025                   | .466 | .344 | .015 - .030                   | .470 | .316 | .005 - .010                   | .473 | .217 | .015 - .030                   | .478 | .316 | .025 - .040                   |
| .452 | .328 | .040 - .060                   | .462 | .062 | .030 - .050                   | .466 | .380 | .005 - .010                   | .470 | .317 | .005 - .010                   | .473 | .227 | .005 - .010                   | .478 | .322 | .005 - .010                   |
| .452 | .339 | .010 - .020                   | .462 | .090 | .025 - .042                   | .467 | .103 | .010 - .020                   | .470 | .319 | .015 - .030                   | .473 | .238 | .030 - .050                   | .478 | .325 | .050 - .070                   |
| .453 | .236 | .030 - .050                   | .462 | .100 | .060 - .080                   | .467 | .189 | .075 - .105                   | .470 | .324 | .020 - .040                   | .473 | .240 | .010 - .020                   | .478 | .343 | .005 - .010                   |
| .453 | .243 | .020 - .030                   | .462 | .158 | .040 - .060                   | .467 | .201 | .015 - .030                   | .470 | .330 | .020 - .030                   | .473 | .242 | .030 - .050                   | .478 | .375 | .050 - .062                   |
| .453 | .275 | .010 - .020                   | .462 | .165 | .005 - .010                   | .467 | .204 | .005 - .010                   | .470 | .338 | .005 - .010                   | .473 | .243 | .005 - .020                   | .479 | .127 | .005 - .010                   |
| .453 | .300 | .030 - .050                   | .462 | .203 | .010 - .030                   | .467 | .213 | .015 - .030                   | .470 | .340 | .005 - .012                   | .473 | .248 | .020 - .030                   | .479 | .160 | .050 - .075                   |
| .453 | .308 | .015 - .030                   | .462 | .288 | .005 - .010                   | .467 | .218 | .015 - .020                   | .470 | .341 | .050 - .075                   | .473 | .262 | .005 - .010                   | .479 | .178 | .005 - .010                   |
| .453 | .330 | .031 - .048                   | .462 | .318 | .070 - .080                   | .467 | .245 | .025 - .040                   | .470 | .346 | .010 - .020                   | .473 | .274 | .005 - .010                   | .479 | .210 | .025 - .036                   |
| .453 | .354 | .040 - .060                   | .462 | .324 | .005 - .010                   | .467 | .251 | .050 - .072                   | .470 | .350 | .006 - .015                   | .473 | .284 | .030 - .050                   | .479 | .219 | .020 - .040                   |
| .453 | .378 | .031 - .042                   | .462 | .336 | .050 - .060                   | .467 | .260 | .030 - .050                   | .470 | .360 | .005 - .010                   | .473 | .289 | .030 - .050                   | .479 | .294 | .005 - .010                   |
| .453 | .398 | .010 - .020                   | .462 | .377 | .015 - .025                   | .467 | .294 | .020 - .030                   | .470 | .369 | .005 - .010                   | .473 | .315 | .005 - .010                   | .479 | .377 | .015 - .030                   |
| .454 | .107 | .005 - .010                   | .463 | .073 | .015 - .030                   | .467 | .323 | .005 - .015                   | .470 | .373 | .020 - .035                   | .473 | .317 | .010 - .02                    |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .480 | .215 | .030 - .050                   | .485 | .320 | .010 - .040                   | .490 | .265 | .005 - .010                   | .494 | .204 | .005 - .010                   | .496 | .249 | .005 - .010                   | .498 | .262 | .032 - .104                   |
| .480 | .222 | .005 - .010                   | .485 | .328 | .032 - .050                   | .490 | .295 | .005 - .020                   | .494 | .211 | .005 - .010                   | .496 | .252 | .020 - .040                   | .498 | .265 | .050 - .075                   |
| .480 | .237 | .040 - .060                   | .485 | .336 | .010 - .020                   | .490 | .301 | .005 - .010                   | .494 | .224 | .005 - .010                   | .496 | .253 | .020 - .070                   | .498 | .269 | .050 - .070                   |
| .480 | .250 | .005 - .010                   | .485 | .347 | .020 - .030                   | .490 | .302 | .005 - .010                   | .494 | .240 | .100 - .125                   | .496 | .255 | .005 - .010                   | .498 | .300 | .020 - .030                   |
| .480 | .251 | .030 - .050                   | .485 | .350 | .020 - .030                   | .490 | .313 | .015 - .030                   | .494 | .241 | .005 - .010                   | .496 | .260 | .015 - .030                   | .498 | .302 | .025 - .040                   |
| .480 | .256 | .070 - .090                   | .485 | .354 | .010 - .020                   | .490 | .315 | .015 - .020                   | .494 | .261 | .010 - .020                   | .496 | .262 | .015 - .030                   | .498 | .315 | .005 - .010                   |
| .480 | .260 | .015 - .030                   | .485 | .376 | .015 - .025                   | .490 | .316 | .015 - .020                   | .494 | .262 | .025 - .040                   | .496 | .263 | .015 - .030                   | .498 | .321 | .010 - .020                   |
| .480 | .276 | .010 - .020                   | .485 | .385 | .015 - .030                   | .490 | .343 | .030 - .040                   | .494 | .265 | .010 - .060                   | .496 | .265 | .060 - .080                   | .498 | .323 | .020 - .040                   |
| .480 | .310 | .040 - .060                   | .485 | .386 | .015 - .025                   | .490 | .344 | .005 - .010                   | .494 | .273 | .005 - .010                   | .496 | .304 | .060 - .080                   | .498 | .328 | .060 - .075                   |
| .480 | .325 | .010 - .020                   | .485 | .402 | .030 - .050                   | .490 | .353 | .010 - .020                   | .494 | .274 | .005 - .010                   | .496 | .318 | .040 - .080                   | .498 | .337 | .015 - .030                   |
| .480 | .330 | .020 - .040                   | .485 | .411 | .020 - .040                   | .490 | .360 | .020 - .040                   | .494 | .278 | .010 - .020                   | .496 | .319 | .005 - .010                   | .498 | .339 | .020 - .035                   |
| .480 | .350 | .020 - .040                   | .485 | .412 | .020 - .040                   | .490 | .377 | .050 - .070                   | .494 | .280 | .005 - .010                   | .496 | .332 | .005 - .010                   | .498 | .341 | .050 - .070                   |
| .480 | .354 | .005 - .010                   | .485 | .431 | .005 - .010                   | .490 | .378 | .010 - .042                   | .494 | .282 | .005 - .010                   | .496 | .332 | .030 - .050                   | .498 | .344 | .015 - .025                   |
| .480 | .360 | .015 - .030                   | .486 | .062 | .030 - .050                   | .490 | .380 | .005 - .010                   | .494 | .314 | .015 - .050                   | .496 | .343 | .030 - .042                   | .498 | .377 | .005 - .010                   |
| .480 | .365 | .030 - .040                   | .486 | .128 | .015 - .030                   | .490 | .391 | .016 - .025                   | .494 | .321 | .010 - .020                   | .496 | .346 | .050 - .070                   | .498 | .380 | .010 - .015                   |
| .480 | .368 | .015 - .025                   | .486 | .220 | .025 - .040                   | .490 | .393 | .030 - .042                   | .494 | .322 | .050 - .070                   | .496 | .349 | .050 - .075                   | .498 | .392 | .005 - .042                   |
| .480 | .370 | .015 - .030                   | .486 | .224 | .040 - .060                   | .490 | .412 | .005 - .010                   | .494 | .323 | .005 - .078                   | .496 | .353 | .050 - .070                   | .498 | .399 | .015 - .025                   |
| .480 | .371 | .020 - .030                   | .486 | .230 | .030 - .050                   | .490 | .416 | .005 - .015                   | .494 | .325 | .025 - .035                   | .496 | .377 | .050 - .070                   | .498 | .408 | .005 - .010                   |
| .480 | .380 | .005 - .010                   | .486 | .260 | .010 - .020                   | .491 | .136 | .020 - .040                   | .494 | .348 | .030 - .050                   | .496 | .380 | .005 - .040                   | .498 | .426 | .005 - .010                   |
| .480 | .391 | .005 - .010                   | .486 | .315 | .015 - .030                   | .491 | .172 | .005 - .010                   | .494 | .367 | .005 - .010                   | .496 | .381 | .015 - .075                   | .499 | .065 | .015 - .025                   |
| .480 | .407 | .015 - .030                   | .486 | .327 | .005 - .050                   | .491 | .207 | .020 - .030                   | .494 | .370 | .008 - .015                   | .496 | .390 | .030 - .040                   | .499 | .072 | .050 - .075                   |
| .480 | .417 | .005 - .010                   | .486 | .355 | .005 - .010                   | .491 | .250 | .005 - .010                   | .494 | .373 | .005 - .010                   | .496 | .400 | .005 - .010                   | .499 | .090 | .040 - .060                   |
| .481 | .089 | .005 - .010                   | .486 | .404 | .010 - .020                   | .491 | .252 | .100 - .134                   | .494 | .380 | .005 - .010                   | .496 | .433 | .005 - .010                   | .499 | .094 | .042 - .062                   |
| .481 | .126 | .020 - .040                   | .487 | .042 | .025 - .042                   | .491 | .253 | .005 - .075                   | .494 | .399 | .025 - .040                   | .496 | .437 | .005 - .010                   | .499 | .118 | .060 - .080                   |
| .481 | .161 | .005 - .010                   | .487 | .071 | .010 - .020                   | .491 | .254 | .050 - .075                   | .494 | .420 | .008 - .015                   | .497 | .088 | .020 - .030                   | .499 | .123 | .050 - .060                   |
| .481 | .188 | .020 - .030                   | .487 | .120 | .005 - .010                   | .491 | .256 | .040 - .060                   | .495 | .034 | .015 - .025                   | .497 | .098 | .030 - .050                   | .499 | .125 | .005 - .010                   |
| .481 | .200 | .005 - .020                   | .487 | .225 | .010 - .032                   | .491 | .265 | .090 - .105                   | .495 | .040 | .005 - .010                   | .497 | .137 | .030 - .048                   | .499 | .138 | .005 - .010                   |
| .481 | .246 | .015 - .040                   | .487 | .233 | .040 - .060                   | .491 | .266 | .010 - .030                   | .495 | .063 | .020 - .035                   | .497 | .138 | .030 - .048                   | .499 | .142 | .030 - .050                   |
| .481 | .256 | .005 - .010                   | .487 | .256 | .025 - .040                   | .491 | .267 | .005 - .010                   | .495 | .064 | .005 - .010                   | .497 | .166 | .010 - .020                   | .499 | .170 | .020 - .030                   |
| .481 | .318 | .005 - .010                   | .487 | .257 | .010 - .020                   | .491 | .268 | .005 - .010                   | .495 | .073 | .040 - .062                   | .497 | .191 | .060 - .080                   | .499 | .175 | .050 - .072                   |
| .481 | .336 | .005 - .010                   | .487 | .270 | .090 - .110                   | .491 | .317 | .010 - .020                   | .495 | .136 | .030 - .050                   | .497 | .193 | .025 - .040                   | .499 | .189 | .010 - .020                   |
| .481 | .361 | .040 - .060                   | .487 | .272 | .005 - .010                   | .491 | .320 | .010 - .020                   | .495 | .143 | .100 - .125                   | .497 | .196 | .005 - .010                   | .499 | .190 | .020 - .030                   |
| .481 | .383 | .010 - .020                   | .487 | .286 | .015 - .030                   | .491 | .338 | .030 - .050                   | .495 | .158 | .030 - .060                   | .497 | .215 | .005 - .010                   | .499 | .192 | .005 - .030                   |
| .481 | .387 | .010 - .020                   | .487 | .321 | .040 - .060                   | .491 | .385 | .015 - .030                   | .495 | .162 | .048 - .075                   | .497 | .220 | .020 - .070                   | .499 | .193 | .005 - .075                   |
| .481 | .390 | .050 - .060                   | .487 | .327 | .030 - .040                   | .491 | .393 | .005 - .010                   | .495 | .170 | .005 - .010                   | .497 | .250 | .015 - .030                   | .499 | .194 | .005 - .010                   |
| .481 | .402 | .005 - .010                   | .487 | .336 | .025 - .040                   | .492 | .124 | .110 - .130                   | .495 | .184 | .070 - .090                   | .497 | .252 | .005 - .025                   | .499 | .201 | .050 - .075                   |
| .482 | .173 | .030 - .050                   | .487 | .337 | .020 - .040                   | .492 | .193 | .030 - .050                   | .495 | .190 | .010 - .020                   | .497 | .253 | .005 - .010                   | .499 | .203 | .080 - .100                   |
| .482 | .190 | .020 - .040                   | .487 | .355 | .005 - .020                   | .492 | .201 | .040 - .050                   | .495 | .191 | .020 - .030                   | .497 | .254 | .015 - .060                   | .499 | .215 | .010 - .020                   |
| .482 | .315 | .020 - .040                   | .487 | .364 | .005 - .010                   | .492 | .204 | .105 - .125                   | .495 | .195 | .005 - .010                   | .497 | .258 | .090 - .110                   | .499 | .229 | .005 - .010                   |
| .482 | .329 | .050 - .075                   | .487 | .399 | .005 - .010                   | .492 | .250 | .020 - .040                   | .495 | .200 | .030 - .050                   | .497 | .259 | .010 - .040                   | .499 | .239 | .030 - .040                   |
| .482 | .332 | .020 - .040                   | .487 | .402 | .005 - .010                   | .492 | .254 | .030 - .060                   | .495 | .203 | .050 - .070                   | .497 | .280 | .015 - .030                   | .499 | .240 | .048 - .070                   |
| .482 | .334 | .005 - .010                   | .488 | .031 | .005 - .010                   | .492 | .255 | .030 - .050                   | .495 | .210 | .025 - .040                   | .497 | .287 | .005 - .015                   | .499 | .243 | .005 - .010                   |
| .482 | .359 | .010 - .040                   | .488 | .054 | .025 - .040                   | .492 | .256 | .010 - .020                   | .495 | .215 | .010 - .020                   | .497 | .315 | .005 - .012                   | .499 | .246 | .005 - .010                   |
| .482 | .396 | .005 - .010                   | .488 | .096 | .060 - .090                   | .492 | .260 | .070 - .090                   | .495 | .223 | .050 - .070                   | .497 | .316 | .035 - .050                   | .499 | .250 | .080 - .100                   |
| .483 | .033 | .010 - .020                   | .488 | .118 | .080 - .104                   | .492 | .276 | .005 - .010                   | .495 | .225 | .075 - .090                   | .497 | .318 | .015 - .030                   | .499 | .254 | .035 - .060                   |
| .483 | .077 | .020 - .040                   | .488 | .137 | .005 - .010                   | .492 | .281 | .030 - .050                   | .495 | .236 | .010 - .020                   | .497 | .319 | .015 - .030                   | .499 | .257 | .005 - .010                   |
| .483 | .149 | .005 - .060                   | .488 | .193 | .050 - .070                   | .492 | .290 | .020 - .030                   | .495 | .252 | .040 - .060                   | .497 | .324 | .005 - .010                   | .499 | .258 | .015 - .030                   |
| .483 | .152 | .015 - .060                   | .488 | .281 | .032 - .062                   | .492 | .323 | .005 - .010                   | .495 | .268 | .080 - .100                   | .497 | .337 | .005 - .010                   | .499 | .259 | .030 - .050                   |
| .483 | .202 | .042 - .062                   | .488 | .315 | .005 - .010                   | .492 | .328 | .012 - .020                   | .495 | .282 | .042 - .072                   | .497 | .344 | .062 - .075                   | .499 | .264 | .010 - .020                   |
| .483 | .247 | .005 - .010                   | .488 | .365 | .010 - .020                   | .492 | .377 | .030 - .050                   | .495 | .285 | .015 - .040                   | .497 | .347 | .005 - .030                   | .499 | .265 | .025 - .040                   |
| .483 | .360 | .030 - .040                   | .488 | .400 | .005 - .010                   | .492 | .379 | .005 - .010                   | .495 | .286 | .015 - .040                   | .497 | .406 | .005 - .010                   | .499 | .281 | .080 - .100                   |
| .483 | .375 | .025 - .040                   | .489 | .180 | .030 - .050                   | .492 | .380 | .005 - .010                   | .495 | .298 | .025 - .045                   | .497 | .410 | .020 - .030                   | .499 | .313 | .005 - .010                   |
| .483 | .379 | .030 - .040                   | .489 | .189 | .025 - .040                   | .492 | .393 | .020 - .042                   | .495 | .310 | .010 - .030                   | .497 | .437 | .005 - .010                   | .499 | .318 | .050 - .070                   |
| .484 | .119 | .020 - .040                   | .489 | .192 | .020 - .030                   | .493 | .125 | .015 - .030                   | .495 | .312 | .005 - .010                   | .497 | .442 | .005 - .030                   | .499 | .323 | .010 - .060                   |
| .484 | .143 | .016 - .025                   | .489 | .205 | .030 - .060                   | .493 | .131 | .020 - .040                   | .495 | .315 | .040 - .060                   | .498 | .063 | .050 - .062                   | .499 | .326 | .030 - .050                   |
| .484 | .230 | .005 - .010                   | .489 | .206 | .040 - .060                   | .493 | .145 | .070 - .090                   | .495 | .322 | .020 - .040                   | .498 | .078 | .040 - .060                   | .499 | .329 | .005 - .010                   |
| .484 | .257 | .050 - .075                   | .489 | .230 | .005 - .010                   | .493 | .181 | .005 - .010                   | .495 | .325 | .020 - .030                   | .498 | .082 | .042 - .062                   | .499 | .373 | .005 - .010                   |
| .484 | .285 | .060 - .080                   | .489 | .296 | .010 - .020                   | .493 | .193 | .075 - .090                   | .495 | .327 | .080 - .100                   | .498 | .096 | .030 - .050                   | .499 | .377 | .050 - .060                   |
| .484 | .313 | .050 - .072                   | .489 | .303 | .010 - .020                   | .493 | .198 | .005 - .010                   | .495 | .329 | .010 - .030                   | .498 | .122 | .020 - .040                   | .499 | .381 | .005 - .060                   |
| .484 | .350 | .010 - .020                   | .489 | .304 | .020 - .040                   | .493 | .207 | .005 - .010                   | .495 | .337 | .060 - .080                   | .498 | .126 | .010 - .015                   | .499 | .394 | .005 - .010                   |
| .484 | .370 | .005 - .010                   | .489 | .315 | .005 - .010                   | .493 | .244 | .050 - .070                   | .495 | .347 | .035 - .050                   | .498 | .130 | .005 - .010                   | .499 | .409 | .025 - .042                   |
| .484 | .379 | .040 - .060                   | .489 | .320 | .040 - .060                   | .493 | .258 | .020 - .040                   | .495 | .361 | .050 - .065                   | .498 | .134 | .010 - .020                   |      |      |                               |
| .484 | .398 | .040 - .060                   | .489 | .333 | .020 - .030                   | .493 | .282 | .050 - .075                   | .495 | .363 | .040 - .060                   | .498 | .148 | .060 - .080                   |      |      |                               |
| .484 | .432 | .005 - .010                   | .489 | .338 | .035 - .050                   | .493 | .284 | .030 - .050                   | .495 | .381 | .010 - .020                   | .498 | .173 | .020 - .040                   |      |      |                               |
| .485 | .115 | .015 - .030                   | .489 | .382 | .005 - .010                   | .493 | .300 | .030 - .050                   | .495 | .401 | .010 - .025                   | .498 | .175 | .100 - .125                   |      |      |                               |
| .485 | .120 | .010 - .080                   | .489 | .431 | .005 - .010                   | .493 | .316 | .025 - .040                   | .495 | .440 | .005 - .008                   | .498 | .184 | .005 - .010                   |      |      |                               |
| .485 | .162 | .020 - .040                   | .490 | .126 | .070 - .090                   | .493 | .320 | .060 - .080                   | .496 | .041 | .030 - .042                   | .498 | .187 | .015 - .030                   |      |      |                               |
| .485 | .170 | .040 - .060                   | .490 | .127 | .025 - .040                   | .493 | .350 | .005 - .010                   | .496 | .085 | .005 - .010                   | .498 | .197 | .040 - .062                   |      |      |                               |
| .485 | .200 | .005 - .010                   | .490 | .155 | .040 - .060                   | .493 | .354 | .025 - .040                   |      |      |                               |      |      |                               |      |      |                               |

## BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .500 | .089 | .015 - .025                   | .500 | .263 | .005 - .120                   | .501 | .182 | .010 - .104                   | .504 | .230 | .005 - .010                   | .510 | .300 | .010 - .020                   | .515 | .388 | .020 - .040                   |
| .500 | .093 | .005 - .010                   | .500 | .264 | .005 - .010                   | .501 | .191 | .090 - .100                   | .504 | .249 | .040 - .060                   | .510 | .341 | .042 - .062                   | .515 | .390 | .010 - .040                   |
| .500 | .096 | .005 - .010                   | .500 | .265 | .005 - .104                   | .501 | .192 | .020 - .040                   | .504 | .258 | .030 - .050                   | .510 | .398 | .040 - .050                   | .515 | .391 | .050 - .060                   |
| .500 | .098 | .010 - .020                   | .500 | .266 | .005 - .025                   | .501 | .195 | .048 - .062                   | .504 | .269 | .005 - .010                   | .510 | .405 | .020 - .040                   | .515 | .394 | .005 - .008                   |
| .500 | .102 | .008 - .015                   | .500 | .266 | .040 - .060                   | .501 | .196 | .005 - .010                   | .504 | .283 | .010 - .020                   | .510 | .414 | .007 - .020                   | .515 | .397 | .005 - .010                   |
| .500 | .105 | .005 - .010                   | .500 | .268 | .005 - .020                   | .501 | .199 | .005 - .010                   | .504 | .321 | .030 - .050                   | .511 | .150 | .005 - .010                   | .515 | .420 | .020 - .032                   |
| .500 | .112 | .030 - .050                   | .500 | .269 | .020 - .036                   | .501 | .202 | .005 - .010                   | .504 | .343 | .070 - .090                   | .511 | .165 | .040 - .060                   | .516 | .156 | .030 - .050                   |
| .500 | .113 | .020 - .040                   | .500 | .270 | .005 - .090                   | .501 | .205 | .030 - .100                   | .504 | .361 | .005 - .010                   | .511 | .237 | .005 - .010                   | .516 | .195 | .008 - .015                   |
| .500 | .114 | .005 - .030                   | .500 | .275 | .005 - .010                   | .501 | .207 | .025 - .040                   | .504 | .362 | .005 - .010                   | .511 | .250 | .005 - .072                   | .516 | .239 | .005 - .010                   |
| .500 | .116 | .020 - .040                   | .500 | .276 | .060 - .080                   | .501 | .208 | .060 - .072                   | .504 | .379 | .020 - .030                   | .511 | .256 | .005 - .010                   | .516 | .246 | .005 - .020                   |
| .500 | .121 | .005 - .012                   | .500 | .280 | .042 - .078                   | .501 | .210 | .100 - .125                   | .504 | .382 | .005 - .010                   | .511 | .259 | .010 - .020                   | .516 | .315 | .005 - .010                   |
| .500 | .125 | .007 - .062                   | .500 | .281 | .005 - .040                   | .501 | .223 | .005 - .010                   | .504 | .390 | .030 - .050                   | .511 | .285 | .020 - .040                   | .516 | .320 | .005 - .010                   |
| .500 | .129 | .025 - .075                   | .500 | .283 | .030 - .104                   | .501 | .228 | .060 - .080                   | .505 | .090 | .015 - .030                   | .511 | .316 | .005 - .010                   | .516 | .387 | .020 - .040                   |
| .500 | .131 | .010 - .060                   | .500 | .286 | .030 - .050                   | .501 | .230 | .005 - .010                   | .505 | .101 | .050 - .070                   | .511 | .319 | .040 - .060                   | .516 | .388 | .005 - .010                   |
| .500 | .132 | .040 - .060                   | .500 | .288 | .010 - .020                   | .501 | .241 | .080 - .100                   | .505 | .129 | .050 - .070                   | .511 | .320 | .015 - .030                   | .516 | .438 | .020 - .032                   |
| .500 | .133 | .005 - .010                   | .500 | .289 | .015 - .030                   | .501 | .253 | .005 - .125                   | .505 | .149 | .010 - .075                   | .511 | .327 | .020 - .040                   | .516 | .445 | .005 - .010                   |
| .500 | .136 | .012 - .020                   | .500 | .291 | .025 - .040                   | .501 | .254 | .048 - .072                   | .505 | .167 | .025 - .040                   | .511 | .383 | .015 - .030                   | .517 | .331 | .030 - .050                   |
| .500 | .140 | .010 - .020                   | .500 | .292 | .005 - .010                   | .501 | .255 | .080 - .105                   | .505 | .194 | .005 - .010                   | .511 | .460 | .005 - .010                   | .517 | .340 | .015 - .030                   |
| .500 | .141 | .008 - .016                   | .500 | .295 | .025 - .040                   | .501 | .256 | .020 - .090                   | .505 | .250 | .020 - .030                   | .512 | .180 | .040 - .060                   | .517 | .341 | .040 - .060                   |
| .500 | .142 | .030 - .125                   | .500 | .296 | .010 - .025                   | .501 | .263 | .005 - .010                   | .505 | .254 | .010 - .020                   | .512 | .198 | .050 - .070                   | .517 | .346 | .005 - .070                   |
| .500 | .144 | .005 - .030                   | .500 | .298 | .005 - .025                   | .501 | .272 | .090 - .105                   | .505 | .295 | .080 - .090                   | .512 | .203 | .005 - .010                   | .517 | .402 | .005 - .010                   |
| .500 | .145 | .007 - .020                   | .500 | .299 | .030 - .050                   | .501 | .281 | .050 - .104                   | .505 | .300 | .010 - .020                   | .512 | .209 | .010 - .020                   | .517 | .417 | .005 - .010                   |
| .500 | .146 | .035 - .050                   | .500 | .300 | .005 - .010                   | .501 | .283 | .010 - .100                   | .505 | .301 | .005 - .030                   | .512 | .238 | .005 - .010                   | .517 | .438 | .005 - .010                   |
| .500 | .147 | .035 - .050                   | .500 | .302 | .060 - .070                   | .501 | .300 | .005 - .010                   | .505 | .324 | .050 - .070                   | .512 | .275 | .040 - .060                   | .517 | .441 | .020 - .030                   |
| .500 | .150 | .008 - .050                   | .500 | .304 | .005 - .010                   | .501 | .313 | .005 - .070                   | .505 | .335 | .025 - .040                   | .512 | .278 | .005 - .010                   | .518 | .175 | .008 - .016                   |
| .500 | .153 | .005 - .010                   | .500 | .305 | .020 - .030                   | .501 | .318 | .005 - .090                   | .505 | .341 | .025 - .075                   | .512 | .312 | .010 - .020                   | .518 | .214 | .015 - .030                   |
| .500 | .155 | .100 - .125                   | .500 | .309 | .005 - .025                   | .501 | .322 | .020 - .040                   | .505 | .355 | .025 - .040                   | .512 | .317 | .005 - .020                   | .518 | .253 | .005 - .010                   |
| .500 | .160 | .005 - .010                   | .500 | .312 | .015 - .030                   | .501 | .340 | .070 - .090                   | .505 | .386 | .020 - .030                   | .512 | .320 | .005 - .010                   | .518 | .256 | .040 - .060                   |
| .500 | .163 | .050 - .072                   | .500 | .313 | .008 - .015                   | .501 | .345 | .025 - .040                   | .505 | .390 | .030 - .050                   | .512 | .321 | .005 - .010                   | .518 | .338 | .005 - .010                   |
| .500 | .167 | .005 - .010                   | .500 | .314 | .005 - .010                   | .501 | .370 | .050 - .070                   | .505 | .396 | .005 - .010                   | .512 | .322 | .005 - .080                   | .518 | .375 | .050 - .070                   |
| .500 | .168 | .025 - .075                   | .500 | .315 | .015 - .104                   | .501 | .375 | .016 - .030                   | .505 | .399 | .020 - .040                   | .512 | .363 | .030 - .040                   | .518 | .438 | .005 - .010                   |
| .500 | .170 | .025 - .050                   | .500 | .316 | .010 - .050                   | .501 | .376 | .005 - .010                   | .505 | .401 | .030 - .050                   | .512 | .375 | .050 - .070                   | .518 | .440 | .020 - .030                   |
| .500 | .172 | .006 - .050                   | .500 | .317 | .005 - .090                   | .501 | .379 | .030 - .050                   | .505 | .457 | .005 - .010                   | .512 | .394 | .005 - .010                   | .518 | .447 | .010 - .020                   |
| .500 | .173 | .005 - .010                   | .500 | .318 | .010 - .020                   | .501 | .380 | .005 - .010                   | .506 | .053 | .005 - .010                   | .512 | .395 | .015 - .025                   | .519 | .081 | .015 - .025                   |
| .500 | .176 | .050 - .070                   | .500 | .319 | .025 - .050                   | .501 | .386 | .010 - .020                   | .506 | .206 | .005 - .010                   | .512 | .433 | .005 - .010                   | .519 | .103 | .005 - .010                   |
| .500 | .177 | .060 - .075                   | .500 | .320 | .015 - .025                   | .501 | .397 | .005 - .010                   | .506 | .220 | .040 - .060                   | .513 | .119 | .040 - .060                   | .519 | .170 | .050 - .070                   |
| .500 | .180 | .025 - .040                   | .500 | .321 | .005 - .010                   | .501 | .400 | .030 - .050                   | .506 | .221 | .040 - .060                   | .513 | .126 | .015 - .030                   | .519 | .290 | .030 - .040                   |
| .500 | .182 | .060 - .090                   | .500 | .323 | .005 - .010                   | .501 | .402 | .020 - .030                   | .506 | .257 | .005 - .010                   | .513 | .137 | .005 - .010                   | .519 | .339 | .005 - .010                   |
| .500 | .187 | .020 - .125                   | .500 | .327 | .020 - .080                   | .501 | .404 | .015 - .030                   | .506 | .258 | .040 - .060                   | .513 | .153 | .040 - .060                   | .519 | .377 | .005 - .010                   |
| .500 | .188 | .030 - .050                   | .500 | .328 | .048 - .070                   | .501 | .409 | .030 - .048                   | .506 | .266 | .005 - .010                   | .513 | .174 | .030 - .050                   | .519 | .397 | .005 - .010                   |
| .500 | .189 | .005 - .125                   | .500 | .332 | .080 - .100                   | .501 | .413 | .015 - .025                   | .506 | .275 | .005 - .010                   | .513 | .197 | .015 - .030                   | .520 | .120 | .010 - .020                   |
| .500 | .190 | .090 - .104                   | .500 | .334 | .010 - .020                   | .502 | .124 | .060 - .083                   | .507 | .107 | .005 - .010                   | .513 | .237 | .070 - .090                   | .520 | .194 | .050 - .060                   |
| .500 | .191 | .005 - .010                   | .500 | .336 | .030 - .050                   | .502 | .130 | .005 - .010                   | .507 | .125 | .030 - .040                   | .513 | .240 | .030 - .050                   | .520 | .208 | .015 - .020                   |
| .500 | .194 | .062 - .090                   | .500 | .338 | .005 - .070                   | .502 | .131 | .025 - .040                   | .507 | .145 | .005 - .010                   | .513 | .268 | .005 - .012                   | .520 | .224 | .005 - .010                   |
| .500 | .195 | .005 - .010                   | .500 | .344 | .040 - .060                   | .502 | .142 | .005 - .010                   | .507 | .221 | .010 - .020                   | .513 | .287 | .050 - .070                   | .520 | .311 | .020 - .035                   |
| .500 | .196 | .010 - .125                   | .500 | .348 | .015 - .030                   | .502 | .161 | .012 - .025                   | .507 | .232 | .060 - .078                   | .513 | .313 | .080 - .090                   | .520 | .324 | .005 - .010                   |
| .500 | .197 | .005 - .135                   | .500 | .350 | .040 - .060                   | .502 | .183 | .080 - .104                   | .507 | .253 | .050 - .075                   | .513 | .360 | .005 - .010                   | .520 | .328 | .020 - .040                   |
| .500 | .199 | .035 - .050                   | .500 | .352 | .006 - .012                   | .502 | .185 | .032 - .062                   | .507 | .265 | .060 - .070                   | .513 | .373 | .015 - .030                   | .520 | .333 | .005 - .010                   |
| .500 | .200 | .040 - .075                   | .500 | .356 | .005 - .010                   | .502 | .188 | .062 - .090                   | .507 | .319 | .005 - .010                   | .513 | .383 | .005 - .010                   | .520 | .346 | .020 - .030                   |
| .500 | .201 | .010 - .020                   | .500 | .360 | .015 - .040                   | .502 | .189 | .030 - .050                   | .507 | .360 | .005 - .010                   | .513 | .396 | .040 - .060                   | .520 | .380 | .005 - .010                   |
| .500 | .202 | .060 - .125                   | .500 | .361 | .050 - .060                   | .502 | .190 | .062 - .100                   | .507 | .368 | .005 - .030                   | .513 | .440 | .005 - .010                   | .520 | .392 | .005 - .010                   |
| .500 | .203 | .012 - .020                   | .500 | .368 | .020 - .040                   | .502 | .192 | .030 - .050                   | .507 | .375 | .010 - .020                   | .513 | .455 | .010 - .020                   | .520 | .430 | .010 - .020                   |
| .500 | .204 | .015 - .075                   | .500 | .370 | .005 - .010                   | .502 | .193 | .005 - .010                   | .507 | .446 | .020 - .030                   | .514 | .100 | .020 - .040                   | .520 | .440 | .005 - .010                   |
| .500 | .205 | .005 - .050                   | .500 | .373 | .008 - .015                   | .502 | .194 | .060 - .080                   | .508 | .201 | .020 - .030                   | .514 | .151 | .020 - .040                   | .520 | .455 | .005 - .010                   |
| .500 | .209 | .050 - .070                   | .500 | .375 | .040 - .075                   | .502 | .196 | .040 - .060                   | .508 | .223 | .050 - .070                   | .514 | .194 | .070 - .090                   | .520 | .480 | .010 - .020                   |
| .500 | .210 | .010 - .025                   | .500 | .376 | .015 - .030                   | .502 | .245 | .025 - .036                   | .508 | .269 | .010 - .020                   | .514 | .200 | .020 - .040                   | .521 | .145 | .075 - .090                   |
| .500 | .217 | .040 - .060                   | .500 | .377 | .005 - .060                   | .502 | .257 | .040 - .050                   | .508 | .280 | .020 - .040                   | .514 | .203 | .005 - .010                   | .521 | .239 | .040 - .050                   |
| .500 | .218 | .005 - .090                   | .500 | .378 | .005 - .060                   | .502 | .262 | .040 - .060                   | .508 | .285 | .015 - .025                   | .514 | .210 | .040 - .060                   | .521 | .325 | .010 - .020                   |
| .500 | .220 | .062 - .105                   | .500 | .383 | .030 - .050                   | .502 | .263 | .030 - .050                   | .508 | .314 | .005 - .010                   | .514 | .339 | .010 - .020                   | .521 | .340 | .072 - .090                   |
| .500 | .221 | .020 - .125                   | .500 | .385 | .040 - .050                   | .502 | .303 | .075 - .100                   | .508 | .329 | .050 - .075                   | .514 | .392 | .005 - .010                   | .521 | .380 | .025 - .040                   |
| .500 | .222 | .010 - .020                   | .500 | .388 | .020 - .036                   | .502 | .315 | .005 - .040                   | .508 | .336 | .005 - .010                   | .514 | .431 | .030 - .040                   | .521 | .440 | .005 - .010                   |
| .500 | .226 | .025 - .040                   | .500 | .390 | .005 - .060                   | .502 | .329 | .020 - .030                   | .508 | .355 | .040 - .060                   | .514 | .454 | .020 - .030                   | .522 | .251 | .042 - .072                   |
| .500 | .230 | .032 - .048                   | .500 | .396 | .005 - .030                   | .502 | .378 | .025 - .040                   | .508 | .366 | .005 - .010                   | .515 | .149 | .005 - .010                   | .522 | .265 | .005 - .010                   |
| .500 | .231 | .005 - .010                   | .500 | .402 | .005 - .015                   | .502 | .386 | .005 - .010                   | .508 | .405 | .005 - .010                   | .515 | .163 | .030 - .050                   | .522 | .279 | .005 - .010                   |
| .500 | .233 | .100 - .125                   | .500 | .412 | .005 - .010                   | .503 | .131 | .005 - .120                   | .508 | .405 | .030 - .050                   | .515 | .191 | .050 - .070                   | .522 | .290 | .040 - .050                   |
| .500 | .234 | .100 - .120                   | .500 | .415 | .012 - .016                   | .503 | .142 | .030 - .060                   | .508 | .430 | .030 - .040                   | .515 | .206 | .080 - .104                   | .522 | .353 | .015 - .025                   |
| .500 | .235 | .005 - .010                   | .500 | .441 | .010 - .020                   | .503 | .153 | .040 - .050                   | .509 | .031 | .030 - .050                   | .515 | .218 | .005 - .010                   | .522 | .413 | .030 - .050                   |
| .500 | .237 | .008 - .125                   | .500 | .446 | .005 - .010                   | .503 | .157 | .050 - .062                   | .509 | .064 | .030 - .050                   | .515 | .227 | .03                           |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .524 | .396 | .005 - .010                   | .530 | .375 | .005 - .010                   | .535 | .338 | .025 - .040                   | .542 | .178 | .030 - .050                   | .550 | .120 | .005 - .060                   | .551 | .418 | .036 - .060                   |
| .524 | .409 | .010 - .020                   | .530 | .377 | .005 - .010                   | .535 | .343 | .008 - .015                   | .542 | .303 | .060 - .080                   | .550 | .140 | .020 - .040                   | .551 | .443 | .010 - .025                   |
| .524 | .441 | .005 - .010                   | .530 | .385 | .050 - .060                   | .535 | .357 | .005 - .010                   | .542 | .380 | .040 - .060                   | .550 | .158 | .005 - .010                   | .551 | .461 | .005 - .010                   |
| .524 | .463 | .025 - .040                   | .530 | .388 | .010 - .020                   | .535 | .378 | .012 - .025                   | .542 | .395 | .005 - .010                   | .550 | .159 | .090 - .100                   | .551 | .472 | .005 - .030                   |
| .525 | .068 | .015 - .032                   | .530 | .393 | .005 - .010                   | .535 | .379 | .010 - .020                   | .542 | .437 | .010 - .020                   | .550 | .173 | .015 - .030                   | .552 | .093 | .025 - .040                   |
| .525 | .156 | .090 - .105                   | .530 | .397 | .025 - .035                   | .535 | .384 | .010 - .020                   | .542 | .440 | .020 - .040                   | .550 | .190 | .020 - .030                   | .552 | .094 | .005 - .008                   |
| .525 | .187 | .015 - .030                   | .530 | .403 | .005 - .010                   | .535 | .445 | .005 - .010                   | .542 | .453 | .005 - .010                   | .550 | .193 | .005 - .060                   | .552 | .129 | .031 - .048                   |
| .525 | .201 | .060 - .080                   | .530 | .417 | .005 - .010                   | .536 | .105 | .030 - .050                   | .543 | .198 | .040 - .060                   | .550 | .197 | .005 - .010                   | .552 | .160 | .020 - .040                   |
| .525 | .252 | .005 - .010                   | .530 | .441 | .005 - .010                   | .536 | .191 | .075 - .090                   | .543 | .316 | .020 - .040                   | .550 | .208 | .048 - .062                   | .552 | .202 | .015 - .030                   |
| .525 | .258 | .060 - .080                   | .530 | .450 | .015 - .030                   | .536 | .242 | .005 - .010                   | .543 | .333 | .005 - .010                   | .550 | .240 | .010 - .020                   | .552 | .212 | .060 - .080                   |
| .525 | .308 | .005 - .010                   | .530 | .468 | .005 - .030                   | .536 | .259 | .100 - .125                   | .543 | .346 | .030 - .050                   | .550 | .245 | .020 - .040                   | .552 | .220 | .005 - .010                   |
| .525 | .346 | .060 - .080                   | .530 | .490 | .005 - .010                   | .536 | .264 | .010 - .020                   | .543 | .377 | .015 - .025                   | .550 | .250 | .040 - .100                   | .552 | .237 | .005 - .020                   |
| .525 | .357 | .005 - .010                   | .531 | .143 | .015 - .050                   | .536 | .264 | .030 - .050                   | .543 | .433 | .005 - .010                   | .550 | .255 | .020 - .032                   | .552 | .238 | .005 - .010                   |
| .525 | .358 | .070 - .080                   | .531 | .158 | .032 - .048                   | .536 | .276 | .005 - .010                   | .543 | .441 | .005 - .010                   | .550 | .259 | .005 - .040                   | .552 | .240 | .010 - .020                   |
| .525 | .375 | .005 - .010                   | .531 | .180 | .050 - .075                   | .536 | .324 | .025 - .040                   | .544 | .189 | .005 - .010                   | .550 | .266 | .010 - .020                   | .552 | .276 | .030 - .040                   |
| .525 | .378 | .030 - .050                   | .531 | .191 | .012 - .020                   | .536 | .346 | .010 - .015                   | .544 | .206 | .020 - .040                   | .550 | .271 | .005 - .010                   | .552 | .286 | .010 - .020                   |
| .525 | .390 | .060 - .080                   | .531 | .200 | .015 - .030                   | .537 | .104 | .016 - .025                   | .544 | .226 | .010 - .020                   | .550 | .282 | .035 - .125                   | .552 | .305 | .025 - .060                   |
| .525 | .401 | .020 - .040                   | .531 | .202 | .015 - .030                   | .537 | .243 | .105 - .125                   | .544 | .227 | .020 - .040                   | .550 | .300 | .042 - .062                   | .552 | .319 | .005 - .010                   |
| .525 | .428 | .005 - .015                   | .531 | .206 | .005 - .030                   | .537 | .283 | .105 - .125                   | .544 | .311 | .030 - .040                   | .550 | .304 | .030 - .060                   | .552 | .320 | .090 - .110                   |
| .526 | .195 | .030 - .050                   | .531 | .213 | .005 - .010                   | .537 | .370 | .040 - .060                   | .544 | .324 | .005 - .010                   | .550 | .315 | .005 - .048                   | .552 | .321 | .005 - .010                   |
| .526 | .203 | .030 - .050                   | .531 | .230 | .105 - .125                   | .537 | .375 | .005 - .010                   | .544 | .325 | .020 - .040                   | .550 | .316 | .005 - .030                   | .552 | .387 | .040 - .060                   |
| .526 | .256 | .030 - .050                   | .531 | .254 | .060 - .083                   | .537 | .394 | .010 - .020                   | .544 | .385 | .005 - .010                   | .550 | .317 | .015 - .030                   | .552 | .395 | .005 - .015                   |
| .526 | .270 | .010 - .020                   | .531 | .257 | .010 - .060                   | .537 | .409 | .025 - .040                   | .544 | .421 | .005 - .010                   | .550 | .319 | .005 - .010                   | .552 | .396 | .050 - .075                   |
| .526 | .357 | .005 - .010                   | .531 | .264 | .030 - .050                   | .538 | .210 | .030 - .060                   | .544 | .449 | .015 - .030                   | .550 | .322 | .030 - .050                   | .552 | .397 | .005 - .010                   |
| .526 | .437 | .015 - .030                   | .531 | .271 | .025 - .035                   | .538 | .219 | .005 - .010                   | .544 | .463 | .005 - .010                   | .550 | .323 | .008 - .020                   | .552 | .398 | .005 - .010                   |
| .527 | .129 | .015 - .025                   | .531 | .295 | .015 - .030                   | .538 | .257 | .015 - .030                   | .544 | .502 | .010 - .020                   | .550 | .332 | .005 - .010                   | .552 | .400 | .025 - .040                   |
| .527 | .145 | .005 - .010                   | .531 | .317 | .010 - .060                   | .538 | .309 | .010 - .020                   | .545 | .100 | .042 - .060                   | .550 | .344 | .060 - .083                   | .552 | .401 | .010 - .015                   |
| .527 | .346 | .040 - .060                   | .531 | .330 | .040 - .060                   | .538 | .340 | .030 - .050                   | .545 | .187 | .005 - .010                   | .550 | .351 | .005 - .010                   | .552 | .425 | .040 - .050                   |
| .527 | .348 | .032 - .050                   | .531 | .335 | .090 - .120                   | .538 | .342 | .040 - .060                   | .545 | .244 | .005 - .060                   | .550 | .357 | .040 - .062                   | .552 | .434 | .015 - .030                   |
| .527 | .369 | .005 - .010                   | .531 | .340 | .050 - .070                   | .538 | .385 | .050 - .075                   | .545 | .260 | .050 - .070                   | .550 | .375 | .005 - .020                   | .552 | .438 | .005 - .010                   |
| .527 | .393 | .030 - .050                   | .531 | .346 | .042 - .062                   | .538 | .440 | .005 - .010                   | .545 | .313 | .005 - .010                   | .550 | .380 | .005 - .020                   | .552 | .478 | .005 - .010                   |
| .527 | .437 | .010 - .020                   | .531 | .348 | .050 - .072                   | .538 | .457 | .005 - .010                   | .545 | .319 | .015 - .050                   | .550 | .381 | .040 - .060                   | .553 | .176 | .010 - .020                   |
| .527 | .443 | .020 - .040                   | .531 | .350 | .040 - .062                   | .539 | .195 | .025 - .050                   | .545 | .346 | .042 - .062                   | .550 | .390 | .070 - .090                   | .553 | .212 | .060 - .080                   |
| .528 | .128 | .010 - .020                   | .531 | .386 | .010 - .020                   | .539 | .252 | .060 - .080                   | .545 | .378 | .040 - .060                   | .550 | .398 | .005 - .010                   | .553 | .229 | .005 - .010                   |
| .528 | .152 | .005 - .012                   | .531 | .406 | .050 - .060                   | .539 | .278 | .015 - .030                   | .545 | .382 | .040 - .062                   | .550 | .400 | .050 - .070                   | .553 | .237 | .005 - .010                   |
| .528 | .201 | .010 - .020                   | .531 | .438 | .005 - .010                   | .539 | .318 | .005 - .010                   | .545 | .385 | .005 - .010                   | .550 | .404 | .020 - .040                   | .553 | .242 | .040 - .060                   |
| .528 | .209 | .010 - .020                   | .531 | .463 | .015 - .030                   | .539 | .366 | .005 - .010                   | .545 | .409 | .010 - .020                   | .550 | .408 | .040 - .060                   | .553 | .320 | .005 - .010                   |
| .528 | .236 | .040 - .060                   | .532 | .073 | .010 - .020                   | .539 | .367 | .025 - .040                   | .545 | .410 | .020 - .030                   | .550 | .409 | .060 - .075                   | .553 | .396 | .015 - .030                   |
| .528 | .254 | .005 - .010                   | .532 | .166 | .100 - .125                   | .539 | .380 | .025 - .042                   | .545 | .442 | .005 - .010                   | .550 | .415 | .005 - .010                   | .554 | .154 | .015 - .030                   |
| .528 | .265 | .030 - .060                   | .532 | .201 | .005 - .010                   | .539 | .399 | .005 - .030                   | .545 | .445 | .005 - .010                   | .550 | .421 | .020 - .040                   | .554 | .240 | .005 - .010                   |
| .528 | .268 | .040 - .060                   | .532 | .207 | .062 - .090                   | .539 | .420 | .005 - .010                   | .546 | .217 | .005 - .010                   | .550 | .427 | .025 - .042                   | .554 | .249 | .030 - .050                   |
| .528 | .308 | .005 - .010                   | .532 | .250 | .005 - .015                   | .539 | .425 | .005 - .010                   | .546 | .259 | .005 - .010                   | .550 | .429 | .035 - .050                   | .554 | .258 | .025 - .035                   |
| .528 | .360 | .025 - .040                   | .532 | .329 | .040 - .075                   | .539 | .447 | .005 - .010                   | .546 | .271 | .010 - .020                   | .550 | .479 | .005 - .010                   | .554 | .318 | .090 - .110                   |
| .528 | .410 | .040 - .060                   | .532 | .381 | .030 - .050                   | .539 | .469 | .007 - .015                   | .546 | .305 | .005 - .010                   | .550 | .487 | .010 - .020                   | .554 | .330 | .005 - .010                   |
| .528 | .439 | .010 - .020                   | .532 | .395 | .005 - .010                   | .540 | .162 | .032 - .062                   | .546 | .375 | .030 - .050                   | .550 | .498 | .005 - .010                   | .554 | .370 | .005 - .020                   |
| .528 | .453 | .005 - .010                   | .532 | .451 | .005 - .010                   | .540 | .186 | .060 - .070                   | .546 | .378 | .015 - .030                   | .551 | .081 | .005 - .010                   | .554 | .379 | .010 - .020                   |
| .529 | .132 | .005 - .010                   | .532 | .468 | .020 - .040                   | .540 | .220 | .020 - .040                   | .546 | .410 | .020 - .030                   | .551 | .095 | .012 - .020                   | .554 | .405 | .030 - .048                   |
| .529 | .175 | .015 - .030                   | .532 | .490 | .012 - .020                   | .540 | .229 | .030 - .050                   | .546 | .435 | .020 - .040                   | .551 | .141 | .005 - .010                   | .554 | .440 | .020 - .040                   |
| .529 | .234 | .070 - .090                   | .533 | .067 | .010 - .020                   | .540 | .262 | .010 - .020                   | .547 | .144 | .005 - .010                   | .551 | .161 | .005 - .010                   | .554 | .468 | .010 - .025                   |
| .529 | .280 | .015 - .030                   | .533 | .201 | .010 - .020                   | .540 | .280 | .030 - .060                   | .547 | .160 | .010 - .015                   | .551 | .166 | .030 - .105                   | .555 | .125 | .030 - .050                   |
| .529 | .313 | .030 - .048                   | .533 | .224 | .040 - .060                   | .540 | .282 | .042 - .062                   | .547 | .214 | .005 - .010                   | .551 | .172 | .080 - .100                   | .555 | .131 | .060 - .080                   |
| .529 | .331 | .020 - .040                   | .533 | .236 | .005 - .010                   | .540 | .284 | .015 - .030                   | .547 | .256 | .005 - .010                   | .551 | .201 | .005 - .010                   | .555 | .154 | .020 - .040                   |
| .529 | .375 | .050 - .075                   | .533 | .240 | .050 - .070                   | .540 | .320 | .005 - .010                   | .547 | .258 | .005 - .010                   | .551 | .220 | .015 - .025                   | .555 | .173 | .105 - .135                   |
| .529 | .385 | .005 - .010                   | .533 | .266 | .090 - .105                   | .540 | .321 | .010 - .020                   | .547 | .293 | .060 - .070                   | .551 | .225 | .070 - .090                   | .555 | .250 | .010 - .020                   |
| .529 | .439 | .015 - .030                   | .533 | .274 | .005 - .010                   | .540 | .333 | .015 - .025                   | .547 | .296 | .010 - .130                   | .551 | .236 | .005 - .010                   | .555 | .253 | .080 - .104                   |
| .530 | .066 | .035 - .060                   | .533 | .367 | .070 - .090                   | .540 | .347 | .078 - .104                   | .547 | .312 | .005 - .010                   | .551 | .238 | .005 - .020                   | .555 | .265 | .020 - .040                   |
| .530 | .090 | .010 - .020                   | .533 | .389 | .020 - .030                   | .540 | .348 | .015 - .030                   | .547 | .317 | .050 - .070                   | .551 | .240 | .005 - .050                   | .555 | .308 | .005 - .010                   |
| .530 | .099 | .015 - .030                   | .533 | .411 | .010 - .025                   | .540 | .388 | .050 - .070                   | .547 | .320 | .030 - .050                   | .551 | .246 | .060 - .080                   | .555 | .318 | .005 - .010                   |
| .530 | .130 | .040 - .060                   | .534 | .039 | .015 - .030                   | .540 | .391 | .030 - .050                   | .547 | .365 | .005 - .010                   | .551 | .253 | .005 - .010                   | .555 | .320 | .060 - .080                   |
| .530 | .153 | .080 - .104                   | .534 | .131 | .030 - .050                   | .540 | .392 | .010 - .020                   | .547 | .405 | .005 - .020                   | .551 | .264 | .070 - .090                   | .555 | .328 | .050 - .078                   |
| .530 | .180 | .005 - .010                   | .534 | .186 | .070 - .090                   | .540 | .395 | .005 - .010                   | .548 | .095 | .040 - .060                   | .551 | .278 | .005 - .010                   | .555 | .356 | .050 - .060                   |
| .530 | .191 | .005 - .010                   | .534 | .193 | .015 - .030                   | .540 | .399 | .025 - .040                   | .548 | .170 | .050 - .070                   | .551 | .284 | .030 - .050                   | .555 | .360 | .050 - .070                   |
| .530 | .206 | .100 - .125                   | .534 | .207 | .030 - .050                   | .540 | .408 | .015 - .025                   | .548 | .211 | .015 - .030                   | .551 | .294 | .012 - .025                   | .555 | .438 | .005 - .010                   |
| .530 | .219 | .030 - .050                   | .534 | .220 | .005 - .010                   | .540 | .409 | .005 - .010                   | .548 | .303 | .005 - .016                   | .551 | .300 | .020 - .040                   | .555 | .440 | .005 - .010                   |
| .530 | .222 | .020 - .035                   | .534 | .284 | .060 - .083                   | .540 | .413 | .040 - .050                   | .548 | .325 | .060 - .080                   | .551 | .315 | .005 - .010                   | .555 | .443 | .015 - .030                   |
| .530 | .253 | .005 - .010                   | .534 | .361 | .062 - .080                   | .540 | .420 | .015 - .030                   | .548 | .329 | .025 - .040                   | .551 | .316 | .005 - .050                   | .555 | .445 | .005 - .010                   |
| .530 | .254 | .015 - .030                   | .534 | .394 | .030 - .050                   | .540 | .446 | .005 - .010                   | .548 | .397 | .005 - .010                   | .551 | .317 | .005 - .010                   | .555 | .475 | .030 - .045                   |
| .530 | .255 | .015 - .030                   | .534 | .441 | .030 - .042                   | .541 | .152 | .060 - .090                   | .548 | .401 | .050 - .070                   | .551 | .318 | .050 - .070</                 |      |      |                               |

**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .557 | .242 | .010 - .020                   | .560 | .375 | .050 - .070                   | .562 | .281 | .032 - .050                   | .564 | .214 | .030 - .050                   | .569 | .447 | .020 - .040                   | .577 | .199 | .060 - .090                   |
| .557 | .262 | .010 - .020                   | .560 | .377 | .005 - .015                   | .562 | .282 | .080 - .100                   | .564 | .252 | .075 - .090                   | .569 | .470 | .015 - .025                   | .577 | .253 | .050 - .070                   |
| .557 | .276 | .005 - .010                   | .560 | .379 | .020 - .040                   | .562 | .285 | .050 - .070                   | .564 | .253 | .040 - .060                   | .569 | .472 | .012 - .020                   | .577 | .290 | .050 - .070                   |
| .557 | .317 | .020 - .060                   | .560 | .380 | .005 - .010                   | .562 | .289 | .050 - .070                   | .564 | .256 | .020 - .040                   | .569 | .474 | .005 - .010                   | .577 | .325 | .042 - .062                   |
| .557 | .380 | .040 - .060                   | .560 | .381 | .015 - .060                   | .562 | .290 | .025 - .040                   | .564 | .283 | .005 - .020                   | .569 | .481 | .030 - .050                   | .577 | .328 | .090 - .120                   |
| .557 | .387 | .025 - .040                   | .560 | .384 | .005 - .010                   | .562 | .297 | .010 - .020                   | .564 | .286 | .015 - .030                   | .570 | .170 | .080 - .090                   | .577 | .353 | .025 - .040                   |
| .557 | .396 | .050 - .070                   | .560 | .390 | .030 - .060                   | .562 | .304 | .020 - .030                   | .564 | .311 | .025 - .040                   | .570 | .193 | .015 - .030                   | .577 | .376 | .010 - .025                   |
| .557 | .421 | .010 - .020                   | .560 | .392 | .035 - .060                   | .562 | .309 | .005 - .010                   | .564 | .337 | .010 - .020                   | .570 | .206 | .105 - .125                   | .578 | .173 | .025 - .042                   |
| .557 | .446 | .020 - .040                   | .560 | .401 | .005 - .010                   | .562 | .313 | .010 - .020                   | .564 | .352 | .005 - .010                   | .570 | .232 | .025 - .042                   | .578 | .203 | .005 - .060                   |
| .558 | .288 | .005 - .010                   | .560 | .410 | .005 - .010                   | .562 | .314 | .080 - .104                   | .564 | .384 | .005 - .010                   | .570 | .233 | .050 - .075                   | .578 | .239 | .080 - .090                   |
| .558 | .327 | .050 - .070                   | .560 | .420 | .005 - .010                   | .562 | .315 | .020 - .070                   | .564 | .386 | .030 - .048                   | .570 | .236 | .025 - .042                   | .578 | .257 | .050 - .075                   |
| .558 | .331 | .020 - .050                   | .560 | .421 | .030 - .050                   | .562 | .318 | .005 - .075                   | .564 | .392 | .050 - .072                   | .570 | .277 | .005 - .010                   | .578 | .266 | .020 - .060                   |
| .558 | .360 | .005 - .012                   | .560 | .426 | .020 - .040                   | .562 | .320 | .005 - .060                   | .564 | .445 | .005 - .010                   | .570 | .278 | .030 - .050                   | .578 | .355 | .005 - .010                   |
| .558 | .361 | .036 - .060                   | .560 | .459 | .005 - .015                   | .562 | .326 | .005 - .030                   | .564 | .500 | .020 - .040                   | .570 | .282 | .025 - .042                   | .578 | .400 | .005 - .010                   |
| .558 | .414 | .030 - .050                   | .560 | .485 | .020 - .032                   | .562 | .328 | .050 - .070                   | .564 | .504 | .005 - .010                   | .570 | .316 | .010 - .020                   | .578 | .407 | .050 - .070                   |
| .558 | .486 | .005 - .030                   | .560 | .500 | .020 - .032                   | .562 | .329 | .025 - .040                   | .564 | .507 | .005 - .010                   | .570 | .318 | .015 - .030                   | .578 | .468 | .010 - .020                   |
| .559 | .032 | .020 - .030                   | .561 | .105 | .015 - .030                   | .562 | .331 | .080 - .100                   | .565 | .066 | .005 - .010                   | .570 | .325 | .020 - .040                   | .578 | .526 | .010 - .020                   |
| .559 | .060 | .015 - .025                   | .561 | .127 | .020 - .040                   | .562 | .332 | .020 - .040                   | .565 | .093 | .080 - .090                   | .570 | .369 | .005 - .010                   | .579 | .138 | .031 - .042                   |
| .559 | .128 | .005 - .010                   | .561 | .161 | .005 - .010                   | .562 | .343 | .005 - .050                   | .565 | .120 | .015 - .030                   | .570 | .377 | .005 - .010                   | .579 | .174 | .020 - .040                   |
| .559 | .135 | .005 - .010                   | .561 | .166 | .060 - .083                   | .562 | .344 | .060 - .080                   | .565 | .174 | .025 - .040                   | .570 | .380 | .010 - .020                   | .579 | .188 | .020 - .040                   |
| .559 | .145 | .015 - .030                   | .561 | .173 | .005 - .010                   | .562 | .370 | .020 - .040                   | .565 | .186 | .010 - .015                   | .570 | .433 | .010 - .020                   | .579 | .265 | .050 - .075                   |
| .559 | .209 | .060 - .080                   | .561 | .174 | .075 - .090                   | .562 | .374 | .005 - .010                   | .565 | .236 | .083 - .105                   | .570 | .445 | .025 - .040                   | .579 | .318 | .060 - .070                   |
| .559 | .216 | .020 - .040                   | .561 | .175 | .015 - .030                   | .562 | .375 | .050 - .070                   | .565 | .240 | .050 - .080                   | .570 | .461 | .030 - .050                   | .579 | .342 | .090 - .104                   |
| .559 | .225 | .005 - .010                   | .561 | .189 | .015 - .025                   | .562 | .376 | .005 - .062                   | .565 | .280 | .105 - .125                   | .570 | .515 | .005 - .010                   | .579 | .374 | .020 - .030                   |
| .559 | .259 | .010 - .040                   | .561 | .190 | .005 - .060                   | .562 | .381 | .040 - .060                   | .565 | .310 | .030 - .040                   | .571 | .206 | .105 - .125                   | .579 | .378 | .020 - .030                   |
| .559 | .285 | .005 - .010                   | .561 | .192 | .020 - .040                   | .562 | .382 | .040 - .060                   | .565 | .315 | .005 - .015                   | .571 | .256 | .030 - .050                   | .579 | .400 | .050 - .070                   |
| .559 | .311 | .005 - .010                   | .561 | .200 | .080 - .105                   | .562 | .383 | .030 - .050                   | .565 | .316 | .060 - .080                   | .571 | .257 | .070 - .090                   | .579 | .407 | .005 - .010                   |
| .559 | .322 | .080 - .104                   | .561 | .202 | .030 - .060                   | .562 | .385 | .015 - .070                   | .565 | .353 | .050 - .072                   | .571 | .283 | .070 - .090                   | .579 | .437 | .025 - .040                   |
| .559 | .347 | .025 - .042                   | .561 | .208 | .030 - .050                   | .562 | .386 | .020 - .060                   | .565 | .396 | .005 - .010                   | .571 | .319 | .050 - .070                   | .579 | .502 | .005 - .010                   |
| .559 | .349 | .075 - .090                   | .561 | .255 | .020 - .040                   | .562 | .387 | .005 - .010                   | .565 | .453 | .025 - .035                   | .571 | .373 | .020 - .035                   | .580 | .096 | .025 - .040                   |
| .559 | .379 | .030 - .050                   | .561 | .290 | .005 - .010                   | .562 | .388 | .005 - .015                   | .566 | .151 | .040 - .060                   | .571 | .400 | .020 - .040                   | .580 | .196 | .005 - .010                   |
| .559 | .388 | .060 - .080                   | .561 | .298 | .060 - .083                   | .562 | .391 | .075 - .090                   | .566 | .201 | .005 - .010                   | .572 | .256 | .005 - .008                   | .580 | .197 | .090 - .120                   |
| .559 | .391 | .030 - .050                   | .561 | .310 | .040 - .060                   | .562 | .392 | .005 - .010                   | .566 | .203 | .005 - .010                   | .572 | .470 | .030 - .040                   | .580 | .213 | .050 - .075                   |
| .559 | .454 | .020 - .040                   | .561 | .314 | .036 - .060                   | .562 | .396 | .025 - .040                   | .566 | .266 | .005 - .010                   | .573 | .129 | .050 - .070                   | .580 | .218 | .093 - .125                   |
| .559 | .471 | .005 - .030                   | .561 | .320 | .090 - .110                   | .562 | .420 | .020 - .070                   | .566 | .270 | .005 - .010                   | .573 | .130 | .050 - .070                   | .580 | .250 | .030 - .040                   |
| .559 | .480 | .005 - .010                   | .561 | .331 | .100 - .115                   | .562 | .437 | .015 - .075                   | .566 | .299 | .050 - .075                   | .573 | .205 | .050 - .070                   | .580 | .251 | .050 - .070                   |
| .559 | .507 | .005 - .010                   | .561 | .359 | .005 - .010                   | .562 | .439 | .010 - .025                   | .566 | .321 | .005 - .010                   | .573 | .266 | .025 - .040                   | .580 | .255 | .050 - .070                   |
| .560 | .113 | .015 - .030                   | .561 | .360 | .015 - .025                   | .562 | .440 | .020 - .040                   | .566 | .322 | .005 - .010                   | .573 | .384 | .020 - .040                   | .580 | .257 | .020 - .070                   |
| .560 | .118 | .016 - .030                   | .561 | .367 | .005 - .010                   | .562 | .500 | .005 - .010                   | .566 | .328 | .010 - .015                   | .573 | .394 | .040 - .060                   | .580 | .258 | .080 - .104                   |
| .560 | .120 | .075 - .104                   | .561 | .377 | .020 - .030                   | .562 | .505 | .020 - .030                   | .566 | .330 | .040 - .060                   | .573 | .395 | .025 - .045                   | .580 | .260 | .005 - .010                   |
| .560 | .128 | .015 - .030                   | .561 | .381 | .075 - .093                   | .563 | .101 | .025 - .040                   | .566 | .334 | .005 - .060                   | .573 | .402 | .050 - .060                   | .580 | .283 | .005 - .010                   |
| .560 | .131 | .060 - .083                   | .561 | .397 | .020 - .032                   | .563 | .116 | .060 - .080                   | .566 | .342 | .093 - .104                   | .573 | .474 | .030 - .050                   | .580 | .324 | .025 - .035                   |
| .560 | .135 | .050 - .070                   | .561 | .407 | .005 - .010                   | .563 | .145 | .005 - .010                   | .566 | .378 | .060 - .090                   | .573 | .525 | .015 - .025                   | .580 | .330 | .080 - .104                   |
| .560 | .149 | .005 - .020                   | .561 | .421 | .005 - .010                   | .563 | .176 | .025 - .040                   | .566 | .446 | .040 - .060                   | .574 | .199 | .025 - .042                   | .580 | .346 | .042 - .062                   |
| .560 | .161 | .040 - .062                   | .561 | .435 | .010 - .020                   | .563 | .186 | .100 - .125                   | .566 | .447 | .040 - .060                   | .574 | .296 | .015 - .030                   | .580 | .377 | .090 - .105                   |
| .560 | .172 | .005 - .010                   | .561 | .440 | .035 - .060                   | .563 | .191 | .020 - .030                   | .566 | .448 | .010 - .020                   | .574 | .297 | .090 - .105                   | .580 | .379 | .005 - .010                   |
| .560 | .180 | .005 - .015                   | .561 | .459 | .010 - .020                   | .563 | .194 | .100 - .125                   | .566 | .450 | .015 - .030                   | .574 | .298 | .005 - .010                   | .580 | .380 | .010 - .020                   |
| .560 | .190 | .030 - .050                   | .562 | .090 | .005 - .010                   | .563 | .197 | .030 - .050                   | .566 | .505 | .015 - .025                   | .574 | .300 | .032 - .062                   | .580 | .390 | .005 - .010                   |
| .560 | .192 | .008 - .016                   | .562 | .130 | .005 - .010                   | .563 | .218 | .005 - .125                   | .566 | .507 | .005 - .010                   | .574 | .397 | .005 - .010                   | .580 | .398 | .005 - .010                   |
| .560 | .194 | .032 - .048                   | .562 | .134 | .030 - .050                   | .563 | .247 | .020 - .030                   | .567 | .190 | .010 - .020                   | .574 | .406 | .020 - .030                   | .580 | .416 | .042 - .062                   |
| .560 | .196 | .015 - .025                   | .562 | .146 | .032 - .050                   | .563 | .253 | .005 - .015                   | .567 | .227 | .007 - .012                   | .574 | .482 | .070 - .090                   | .580 | .417 | .005 - .010                   |
| .560 | .200 | .005 - .010                   | .562 | .148 | .040 - .060                   | .563 | .259 | .030 - .050                   | .567 | .234 | .010 - .020                   | .575 | .151 | .040 - .062                   | .580 | .431 | .005 - .010                   |
| .560 | .202 | .032 - .050                   | .562 | .152 | .035 - .050                   | .563 | .277 | .020 - .040                   | .567 | .260 | .040 - .060                   | .575 | .180 | .010 - .020                   | .580 | .432 | .010 - .032                   |
| .560 | .203 | .012 - .020                   | .562 | .158 | .036 - .075                   | .563 | .285 | .100 - .125                   | .567 | .263 | .030 - .050                   | .575 | .186 | .070 - .090                   | .580 | .444 | .025 - .040                   |
| .560 | .206 | .005 - .010                   | .562 | .165 | .008 - .015                   | .563 | .313 | .005 - .042                   | .567 | .301 | .040 - .060                   | .575 | .189 | .080 - .100                   | .580 | .450 | .025 - .040                   |
| .560 | .207 | .030 - .050                   | .562 | .166 | .050 - .070                   | .563 | .317 | .010 - .040                   | .567 | .336 | .090 - .104                   | .575 | .199 | .060 - .080                   | .580 | .481 | .010 - .030                   |
| .560 | .225 | .006 - .010                   | .562 | .169 | .005 - .010                   | .563 | .318 | .005 - .010                   | .567 | .379 | .015 - .025                   | .575 | .200 | .025 - .042                   | .580 | .516 | .020 - .030                   |
| .560 | .226 | .015 - .025                   | .562 | .191 | .040 - .060                   | .563 | .320 | .015 - .030                   | .567 | .408 | .040 - .060                   | .575 | .251 | .010 - .020                   | .581 | .197 | .090 - .125                   |
| .560 | .228 | .060 - .083                   | .562 | .193 | .040 - .060                   | .563 | .321 | .072 - .090                   | .567 | .409 | .030 - .050                   | .575 | .258 | .005 - .030                   | .581 | .223 | .050 - .070                   |
| .560 | .246 | .040 - .060                   | .562 | .194 | .060 - .080                   | .563 | .350 | .015 - .025                   | .567 | .417 | .050 - .060                   | .575 | .260 | .075 - .090                   | .581 | .437 | .030 - .050                   |
| .560 | .254 | .100 - .120                   | .562 | .195 | .050 - .070                   | .563 | .359 | .025 - .040                   | .567 | .504 | .020 - .030                   | .575 | .276 | .005 - .010                   | .582 | .063 | .020 - .040                   |
| .560 | .258 | .060 - .080                   | .562 | .202 | .030 - .050                   | .563 | .373 | .015 - .030                   | .568 | .109 | .040 - .060                   | .575 | .287 | .005 - .010                   | .582 | .180 | .030 - .050                   |
| .560 | .259 | .048 - .060                   | .562 | .204 | .075 - .090                   | .563 | .376 | .072 - .090                   | .568 | .138 | .005 - .010                   | .575 | .312 | .100 - .125                   | .582 | .220 | .015 - .030                   |
| .560 | .262 | .005 - .010                   | .562 | .205 | .020 - .040                   | .563 | .377 | .010 - .020                   | .568 | .210 | .042 - .072                   | .575 | .320 | .020 - .040                   | .582 | .286 | .020 - .040                   |
| .560 | .263 | .010 - .050                   | .562 | .207 | .005 - .010                   | .563 | .379 | .015 - .060                   | .568 | .224 | .005 - .010                   | .575 | .322 | .010 - .020                   | .582 | .400 | .015 - .030                   |
| .560 | .273 | .010 - .020                   | .562 | .218 | .048 - .072                   | .563 | .380 | .015 - .090                   | .568 | .239 | .005 - .010                   | .575 | .335 | .016 - .025                   | .583 | .259 | .005 - .010                   |
| .560 | .280 | .040 - .060                   | .562 | .222 | .010 - .070                   | .563 | .381 | .010 - .020                   | .568 | .255 | .050 - .070                   | .575 | .346 | .005 - .030                   | .583 | .344 | .070 - .090                   |
| .560 | .286 | .005 - .010                   | .562 | .233 | .005 - .015                   | .563 | .385 | .020 - .030                   | .568 | .305 | .005 - .010                   | .575 | .360 | .025 - .04                    |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .585 | .290 | .090 - .105                   | .590 | .379 | .025 - .040                   | .594 | .405 | .005 - .010                   | .600 | .156 | .025 - .040                   | .604 | .252 | .005 - .010                   | .610 | .395 | .015 - .030                   |
| .585 | .327 | .050 - .070                   | .590 | .386 | .005 - .010                   | .594 | .423 | .025 - .040                   | .600 | .157 | .025 - .040                   | .604 | .255 | .005 - .010                   | .610 | .409 | .005 - .010                   |
| .585 | .328 | .070 - .090                   | .590 | .390 | .032 - .062                   | .594 | .452 | .040 - .060                   | .600 | .168 | .070 - .090                   | .604 | .307 | .005 - .010                   | .610 | .438 | .050 - .070                   |
| .585 | .364 | .060 - .080                   | .590 | .396 | .005 - .012                   | .594 | .506 | .015 - .025                   | .600 | .176 | .005 - .010                   | .604 | .308 | .010 - .030                   | .610 | .460 | .040 - .060                   |
| .585 | .366 | .040 - .050                   | .590 | .397 | .005 - .050                   | .595 | .144 | .008 - .016                   | .600 | .200 | .005 - .010                   | .604 | .340 | .040 - .060                   | .610 | .461 | .060 - .075                   |
| .585 | .372 | .025 - .040                   | .590 | .401 | .005 - .010                   | .595 | .186 | .070 - .090                   | .600 | .203 | .020 - .040                   | .604 | .347 | .031 - .042                   | .610 | .472 | .050 - .075                   |
| .585 | .377 | .005 - .010                   | .590 | .410 | .040 - .060                   | .595 | .193 | .075 - .090                   | .600 | .203 | .100 - .120                   | .604 | .381 | .025 - .040                   | .610 | .476 | .040 - .060                   |
| .585 | .380 | .005 - .010                   | .590 | .426 | .070 - .080                   | .595 | .195 | .010 - .020                   | .600 | .207 | .015 - .030                   | .604 | .384 | .015 - .030                   | .610 | .550 | .005 - .010                   |
| .585 | .390 | .020 - .040                   | .590 | .430 | .005 - .060                   | .595 | .251 | .010 - .020                   | .600 | .209 | .040 - .060                   | .604 | .407 | .005 - .030                   | .611 | .089 | .040 - .060                   |
| .585 | .397 | .005 - .010                   | .590 | .439 | .005 - .010                   | .595 | .253 | .020 - .030                   | .600 | .210 | .075 - .090                   | .604 | .439 | .030 - .050                   | .611 | .192 | .020 - .030                   |
| .585 | .405 | .050 - .070                   | .590 | .471 | .015 - .025                   | .595 | .256 | .015 - .030                   | .600 | .215 | .005 - .010                   | .604 | .502 | .010 - .020                   | .611 | .243 | .062 - .090                   |
| .586 | .132 | .010 - .020                   | .590 | .480 | .005 - .020                   | .595 | .320 | .010 - .020                   | .600 | .217 | .050 - .075                   | .604 | .508 | .015 - .030                   | .611 | .250 | .062 - .090                   |
| .586 | .327 | .015 - .030                   | .590 | .498 | .025 - .040                   | .595 | .353 | .025 - .040                   | .600 | .236 | .005 - .010                   | .605 | .163 | .015 - .030                   | .611 | .259 | .040 - .060                   |
| .586 | .415 | .005 - .010                   | .590 | .523 | .005 - .008                   | .595 | .359 | .005 - .010                   | .600 | .237 | .040 - .060                   | .605 | .190 | .020 - .040                   | .611 | .261 | .005 - .010                   |
| .586 | .433 | .040 - .060                   | .591 | .079 | .020 - .030                   | .595 | .413 | .050 - .070                   | .600 | .241 | .005 - .030                   | .605 | .313 | .015 - .030                   | .611 | .265 | .105 - .125                   |
| .586 | .447 | .005 - .010                   | .591 | .115 | .020 - .040                   | .595 | .430 | .040 - .060                   | .600 | .252 | .005 - .010                   | .605 | .317 | .075 - .090                   | .611 | .273 | .005 - .010                   |
| .586 | .477 | .005 - .010                   | .591 | .161 | .050 - .070                   | .595 | .436 | .005 - .010                   | .600 | .253 | .005 - .060                   | .605 | .359 | .025 - .040                   | .611 | .278 | .005 - .010                   |
| .586 | .484 | .005 - .010                   | .591 | .200 | .040 - .060                   | .595 | .437 | .040 - .060                   | .600 | .254 | .015 - .030                   | .605 | .388 | .070 - .090                   | .611 | .315 | .050 - .010                   |
| .586 | .500 | .030 - .040                   | .591 | .216 | .050 - .070                   | .595 | .495 | .030 - .050                   | .600 | .255 | .005 - .010                   | .605 | .416 | .005 - .010                   | .611 | .347 | .005 - .010                   |
| .586 | .525 | .005 - .010                   | .591 | .217 | .015 - .025                   | .595 | .515 | .005 - .010                   | .600 | .265 | .010 - .020                   | .605 | .453 | .005 - .060                   | .611 | .350 | .030 - .050                   |
| .586 | .544 | .010 - .020                   | .591 | .240 | .075 - .090                   | .596 | .099 | .030 - .050                   | .600 | .266 | .005 - .010                   | .605 | .566 | .005 - .010                   | .611 | .352 | .005 - .010                   |
| .587 | .195 | .032 - .050                   | .591 | .277 | .005 - .010                   | .596 | .129 | .025 - .040                   | .600 | .267 | .005 - .010                   | .606 | .198 | .040 - .050                   | .611 | .379 | .025 - .040                   |
| .587 | .231 | .005 - .010                   | .591 | .289 | .080 - .105                   | .596 | .207 | .050 - .070                   | .600 | .269 | .025 - .040                   | .606 | .203 | .005 - .010                   | .611 | .405 | .060 - .083                   |
| .587 | .231 | .015 - .025                   | .591 | .296 | .050 - .070                   | .596 | .401 | .020 - .040                   | .600 | .270 | .005 - .010                   | .606 | .285 | .060 - .083                   | .611 | .406 | .080 - .090                   |
| .587 | .345 | .030 - .050                   | .591 | .316 | .010 - .020                   | .596 | .409 | .010 - .020                   | .600 | .282 | .005 - .010                   | .606 | .303 | .005 - .010                   | .611 | .460 | .025 - .040                   |
| .587 | .373 | .005 - .010                   | .591 | .318 | .010 - .020                   | .596 | .443 | .050 - .075                   | .600 | .285 | .005 - .010                   | .606 | .312 | .075 - .100                   | .611 | .480 | .040 - .070                   |
| .587 | .400 | .050 - .070                   | .591 | .321 | .015 - .030                   | .596 | .485 | .005 - .040                   | .600 | .285 | .020 - .040                   | .606 | .380 | .040 - .060                   | .611 | .515 | .020 - .040                   |
| .587 | .411 | .040 - .060                   | .591 | .324 | .040 - .060                   | .596 | .503 | .020 - .040                   | .600 | .296 | .015 - .105                   | .606 | .389 | .050 - .075                   | .612 | .194 | .100 - .125                   |
| .587 | .437 | .010 - .020                   | .591 | .326 | .005 - .010                   | .596 | .510 | .025 - .040                   | .600 | .300 | .005 - .010                   | .606 | .400 | .020 - .030                   | .612 | .198 | .008 - .020                   |
| .587 | .461 | .005 - .010                   | .591 | .435 | .050 - .070                   | .597 | .130 | .005 - .015                   | .600 | .322 | .030 - .080                   | .606 | .440 | .010 - .020                   | .612 | .214 | .030 - .050                   |
| .588 | .245 | .015 - .030                   | .591 | .440 | .040 - .050                   | .597 | .251 | .062 - .078                   | .600 | .330 | .080 - .090                   | .606 | .462 | .020 - .040                   | .612 | .288 | .010 - .020                   |
| .588 | .250 | .005 - .010                   | .591 | .511 | .010 - .020                   | .597 | .305 | .025 - .040                   | .600 | .346 | .005 - .010                   | .606 | .480 | .040 - .060                   | .612 | .433 | .040 - .060                   |
| .588 | .260 | .040 - .060                   | .592 | .147 | .005 - .010                   | .597 | .388 | .005 - .015                   | .600 | .361 | .015 - .030                   | .606 | .505 | .015 - .030                   | .612 | .440 | .042 - .062                   |
| .588 | .282 | .030 - .040                   | .592 | .221 | .005 - .010                   | .597 | .406 | .025 - .040                   | .600 | .370 | .040 - .060                   | .607 | .247 | .020 - .040                   | .612 | .444 | .010 - .030                   |
| .588 | .300 | .005 - .020                   | .592 | .236 | .005 - .010                   | .597 | .452 | .016 - .040                   | .600 | .380 | .015 - .090                   | .607 | .251 | .030 - .050                   | .612 | .467 | .005 - .010                   |
| .588 | .386 | .010 - .020                   | .592 | .258 | .030 - .050                   | .597 | .470 | .015 - .030                   | .600 | .383 | .010 - .020                   | .607 | .333 | .005 - .010                   | .612 | .510 | .040 - .050                   |
| .588 | .406 | .040 - .060                   | .592 | .315 | .010 - .015                   | .597 | .512 | .020 - .030                   | .600 | .386 | .010 - .020                   | .607 | .388 | .080 - .105                   | .612 | .520 | .005 - .010                   |
| .588 | .417 | .040 - .060                   | .592 | .317 | .005 - .010                   | .597 | .513 | .020 - .030                   | .600 | .401 | .010 - .020                   | .607 | .461 | .005 - .010                   | .613 | .040 | .020 - .030                   |
| .589 | .178 | .060 - .080                   | .592 | .322 | .005 - .010                   | .598 | .159 | .015 - .030                   | .600 | .406 | .020 - .030                   | .607 | .531 | .005 - .010                   | .613 | .278 | .050 - .070                   |
| .589 | .232 | .070 - .090                   | .592 | .330 | .040 - .062                   | .598 | .180 | .005 - .010                   | .600 | .408 | .040 - .060                   | .608 | .204 | .010 - .020                   | .613 | .331 | .050 - .070                   |
| .589 | .311 | .030 - .050                   | .592 | .332 | .005 - .010                   | .598 | .215 | .032 - .062                   | .600 | .413 | .010 - .020                   | .608 | .249 | .030 - .050                   | .613 | .350 | .050 - .070                   |
| .589 | .314 | .005 - .015                   | .592 | .389 | .005 - .010                   | .598 | .264 | .010 - .020                   | .600 | .421 | .005 - .010                   | .608 | .252 | .015 - .040                   | .613 | .377 | .015 - .030                   |
| .589 | .341 | .040 - .062                   | .592 | .394 | .040 - .060                   | .598 | .271 | .025 - .040                   | .600 | .434 | .005 - .010                   | .608 | .253 | .020 - .040                   | .613 | .391 | .025 - .040                   |
| .589 | .348 | .040 - .060                   | .592 | .396 | .040 - .060                   | .598 | .304 | .025 - .040                   | .600 | .438 | .005 - .010                   | .608 | .254 | .020 - .040                   | .613 | .402 | .005 - .010                   |
| .589 | .376 | .015 - .030                   | .592 | .397 | .020 - .040                   | .598 | .313 | .005 - .020                   | .600 | .440 | .010 - .020                   | .608 | .283 | .020 - .040                   | .613 | .451 | .030 - .050                   |
| .589 | .410 | .062 - .078                   | .592 | .453 | .020 - .042                   | .598 | .321 | .010 - .020                   | .600 | .442 | .030 - .050                   | .608 | .293 | .040 - .060                   | .613 | .472 | .005 - .010                   |
| .589 | .444 | .040 - .060                   | .592 | .472 | .040 - .060                   | .598 | .340 | .005 - .010                   | .600 | .450 | .040 - .060                   | .608 | .350 | .020 - .032                   | .613 | .521 | .020 - .042                   |
| .589 | .446 | .020 - .030                   | .592 | .497 | .005 - .010                   | .598 | .387 | .025 - .040                   | .600 | .460 | .030 - .050                   | .608 | .392 | .030 - .050                   | .614 | .065 | .005 - .010                   |
| .589 | .455 | .030 - .050                   | .593 | .082 | .032 - .062                   | .598 | .412 | .031 - .048                   | .600 | .498 | .005 - .010                   | .608 | .397 | .005 - .020                   | .614 | .094 | .040 - .060                   |
| .590 | .066 | .005 - .010                   | .593 | .096 | .005 - .010                   | .598 | .442 | .025 - .040                   | .600 | .503 | .005 - .010                   | .608 | .505 | .015 - .030                   | .614 | .198 | .050 - .090                   |
| .590 | .115 | .032 - .062                   | .593 | .129 | .005 - .012                   | .598 | .494 | .040 - .060                   | .600 | .505 | .020 - .030                   | .608 | .509 | .010 - .025                   | .614 | .199 | .060 - .078                   |
| .590 | .118 | .015 - .030                   | .593 | .190 | .032 - .060                   | .598 | .504 | .005 - .010                   | .600 | .517 | .005 - .010                   | .608 | .518 | .020 - .040                   | .614 | .200 | .060 - .083                   |
| .590 | .145 | .005 - .010                   | .593 | .195 | .015 - .030                   | .598 | .506 | .040 - .050                   | .600 | .550 | .005 - .010                   | .609 | .128 | .030 - .050                   | .614 | .207 | .020 - .040                   |
| .590 | .147 | .005 - .020                   | .593 | .196 | .015 - .040                   | .598 | .511 | .005 - .015                   | .601 | .159 | .080 - .100                   | .609 | .274 | .005 - .010                   | .614 | .268 | .005 - .010                   |
| .590 | .199 | .060 - .080                   | .593 | .261 | .005 - .010                   | .598 | .527 | .005 - .010                   | .601 | .165 | .005 - .010                   | .609 | .297 | .020 - .032                   | .614 | .330 | .015 - .030                   |
| .590 | .201 | .005 - .010                   | .593 | .265 | .025 - .042                   | .599 | .128 | .060 - .080                   | .601 | .227 | .005 - .030                   | .609 | .400 | .040 - .060                   | .614 | .354 | .050 - .070                   |
| .590 | .202 | .030 - .050                   | .593 | .301 | .050 - .070                   | .599 | .149 | .025 - .042                   | .601 | .228 | .005 - .010                   | .609 | .487 | .030 - .060                   | .614 | .373 | .050 - .070                   |
| .590 | .209 | .125 - .156                   | .593 | .311 | .020 - .050                   | .599 | .189 | .010 - .020                   | .601 | .257 | .030 - .050                   | .609 | .506 | .020 - .030                   | .614 | .388 | .015 - .030                   |
| .590 | .237 | .005 - .010                   | .593 | .318 | .005 - .010                   | .599 | .201 | .075 - .090                   | .601 | .313 | .020 - .040                   | .609 | .546 | .015 - .025                   | .614 | .402 | .010 - .020                   |
| .590 | .238 | .005 - .010                   | .593 | .392 | .075 - .095                   | .599 | .254 | .080 - .090                   | .601 | .315 | .040 - .060                   | .609 | .551 | .015 - .025                   | .614 | .434 | .030 - .050                   |
| .590 | .250 | .070 - .090                   | .593 | .399 | .010 - .020                   | .599 | .257 | .050 - .070                   | .601 | .357 | .060 - .080                   | .610 | .094 | .060 - .080                   | .614 | .456 | .030 - .050                   |
| .590 | .290 | .040 - .060                   | .593 | .407 | .100 - .120                   | .599 | .378 | .030 - .050                   | .601 | .376 | .005 - .020                   | .610 | .100 | .040 - .060                   | .614 | .479 | .005 - .010                   |
| .590 | .292 | .010 - .020                   | .593 | .410 | .005 - .010                   | .599 | .383 | .030 - .050                   | .601 | .377 | .010 - .020                   | .610 | .191 | .040 - .060                   | .614 | .482 | .008 - .020                   |
| .590 | .295 | .005 - .010                   | .593 | .437 | .005 - .010                   | .599 | .400 | .035 - .050                   | .601 | .378 | .005 - .010                   | .610 | .204 | .010 - .030                   | .614 | .534 | .005 - .010                   |
| .590 | .314 | .060 - .080                   | .593 | .453 | .005 - .010                   | .599 | .401 | .005 - .010                   | .601 | .391 | .025 - .040                   | .610 | .206 | .104 - .125                   | .614 | .540 | .005 - .010                   |
| .590 | .316 | .005 - .010                   | .593 | .464 | .015 - .030                   | .599 | .408 | .005 - .060                   | .601 | .401 | .040 - .060                   | .610 | .209 | .104 - .125                   | .615 | .030 | .005 - .010                   |
| .590 | .317 | .040 - .090                   | .593 | .468 | .020 - .040                   | .599 | .413 | .025 - .040                   | .601 | .428 | .010 - .020                   | .610 | .248 | .020 - .032                   | .615 | .041 | .015 - .030                   |
| .590 | .318 | .030 - .050                   | .593 | .472 | .005 - .010                   | .599 | .415 | .005 - .010                   | .601 | .438 | .005 - .010                   | .610 | .250 | .020 - .040                   |      |      |                               |



**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D.   | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|--------|------|-------------------------------|------|------|-------------------------------|
| .615 | .341 | .050 - .070                   | .619 | .306 | .025 - .040                   | .621 | .254 | .010 - .020                   | .623 | .126 | .040 - .100                   | .624   | .440 | .010 - .020                   | .625 | .301 | .005 - .010                   |
| .615 | .352 | .005 - .012                   | .619 | .324 | .020 - .030                   | .621 | .283 | .015 - .025                   | .623 | .136 | .080 - .104                   | .624   | .442 | .006 - .012                   | .625 | .302 | .050 - .070                   |
| .615 | .359 | .005 - .010                   | .619 | .326 | .020 - .040                   | .621 | .288 | .050 - .075                   | .623 | .137 | .030 - .060                   | .624   | .445 | .050 - .070                   | .625 | .311 | .042 - .062                   |
| .615 | .377 | .070 - .090                   | .619 | .329 | .070 - .090                   | .621 | .336 | .050 - .070                   | .623 | .148 | .030 - .050                   | .624   | .448 | .005 - .015                   | .625 | .312 | .005 - .125                   |
| .615 | .386 | .060 - .080                   | .619 | .353 | .050 - .070                   | .621 | .363 | .050 - .070                   | .623 | .156 | .020 - .035                   | .624   | .452 | .031 - .048                   | .625 | .314 | .005 - .030                   |
| .615 | .387 | .005 - .010                   | .619 | .360 | .005 - .010                   | .621 | .368 | .030 - .050                   | .623 | .176 | .050 - .070                   | .624   | .485 | .040 - .060                   | .625 | .315 | .025 - .040                   |
| .615 | .395 | .020 - .040                   | .619 | .377 | .020 - .035                   | .621 | .376 | .010 - .020                   | .623 | .179 | .050 - .090                   | .624   | .500 | .005 - .010                   | .625 | .316 | .040 - .060                   |
| .615 | .408 | .090 - .105                   | .619 | .381 | .105 - .135                   | .621 | .378 | .010 - .020                   | .623 | .190 | .010 - .125                   | .624   | .515 | .020 - .030                   | .625 | .317 | .060 - .070                   |
| .615 | .420 | .010 - .020                   | .619 | .431 | .005 - .010                   | .621 | .379 | .025 - .040                   | .623 | .191 | .030 - .060                   | .624   | .533 | .005 - .010                   | .625 | .318 | .005 - .125                   |
| .615 | .441 | .005 - .010                   | .619 | .440 | .005 - .040                   | .621 | .380 | .090 - .105                   | .623 | .202 | .050 - .090                   | .624   | .564 | .005 - .010                   | .625 | .319 | .020 - .040                   |
| .615 | .448 | .030 - .040                   | .619 | .449 | .030 - .040                   | .621 | .381 | .005 - .010                   | .623 | .220 | .050 - .090                   | .625   | .063 | .005 - .010                   | .625 | .320 | .010 - .050                   |
| .615 | .460 | .020 - .040                   | .619 | .460 | .080 - .100                   | .621 | .410 | .005 - .010                   | .623 | .240 | .050 - .090                   | .625   | .067 | .008 - .016                   | .625 | .321 | .015 - .070                   |
| .615 | .478 | .030 - .040                   | .619 | .481 | .005 - .020                   | .621 | .437 | .025 - .036                   | .623 | .247 | .020 - .035                   | .625   | .087 | .005 - .010                   | .625 | .322 | .045 - .075                   |
| .615 | .492 | .020 - .040                   | .619 | .500 | .005 - .020                   | .621 | .438 | .032 - .042                   | .623 | .250 | .005 - .010                   | .625   | .096 | .005 - .010                   | .625 | .323 | .060 - .075                   |
| .615 | .510 | .025 - .040                   | .619 | .508 | .005 - .010                   | .621 | .442 | .005 - .048                   | .623 | .254 | .080 - .100                   | .625   | .102 | .020 - .040                   | .625 | .324 | .005 - .010                   |
| .615 | .511 | .005 - .010                   | .619 | .540 | .005 - .010                   | .621 | .471 | .008 - .016                   | .623 | .265 | .005 - .075                   | .625   | .115 | .005 - .010                   | .625 | .327 | .070 - .080                   |
| .615 | .520 | .025 - .035                   | .619 | .549 | .015 - .020                   | .621 | .500 | .015 - .025                   | .623 | .268 | .010 - .015                   | .625   | .127 | .010 - .020                   | .625 | .328 | .005 - .125                   |
| .615 | .536 | .010 - .020                   | .620 | .041 | .040 - .060                   | .621 | .504 | .020 - .030                   | .623 | .281 | .012 - .075                   | .625   | .128 | .030 - .062                   | .625 | .329 | .020 - .030                   |
| .615 | .537 | .020 - .040                   | .620 | .076 | .010 - .020                   | .621 | .505 | .005 - .030                   | .623 | .304 | .075 - .105                   | .625   | .129 | .020 - .040                   | .625 | .330 | .025 - .040                   |
| .615 | .540 | .010 - .025                   | .620 | .126 | .015 - .030                   | .621 | .506 | .040 - .060                   | .623 | .317 | .050 - .075                   | .625   | .130 | .012 - .020                   | .625 | .331 | .005 - .010                   |
| .615 | .551 | .030 - .040                   | .620 | .132 | .005 - .010                   | .621 | .507 | .015 - .030                   | .623 | .320 | .005 - .030                   | .625   | .136 | .080 - .104                   | .625 | .336 | .090 - .120                   |
| .616 | .044 | .015 - .025                   | .620 | .168 | .050 - .072                   | .621 | .533 | .015 - .030                   | .623 | .326 | .040 - .060                   | .625   | .139 | .025 - .105                   | .625 | .343 | .005 - .134                   |
| .616 | .160 | .015 - .030                   | .620 | .184 | .050 - .075                   | .622 | .061 | .005 - .010                   | .623 | .328 | .010 - .025                   | .625   | .145 | .020 - .032                   | .625 | .348 | .080 - .104                   |
| .616 | .167 | .020 - .032                   | .620 | .191 | .025 - .040                   | .622 | .147 | .060 - .080                   | .623 | .330 | .050 - .090                   | .625   | .151 | .005 - .010                   | .625 | .349 | .083 - .104                   |
| .616 | .192 | .070 - .090                   | .620 | .198 | .050 - .070                   | .622 | .159 | .048 - .075                   | .623 | .375 | .010 - .020                   | .625   | .157 | .100 - .125                   | .625 | .356 | .042 - .062                   |
| .616 | .251 | .005 - .010                   | .620 | .200 | .005 - .010                   | .622 | .166 | .005 - .010                   | .623 | .390 | .050 - .070                   | .625   | .158 | .005 - .010                   | .625 | .372 | .030 - .050                   |
| .616 | .256 | .020 - .032                   | .620 | .201 | .030 - .050                   | .622 | .174 | .008 - .016                   | .623 | .404 | .005 - .010                   | .625   | .160 | .075 - .104                   | .625 | .375 | .005 - .120                   |
| .616 | .259 | .005 - .010                   | .620 | .214 | .050 - .070                   | .622 | .175 | .007 - .015                   | .623 | .405 | .030 - .050                   | .625   | .166 | .025 - .042                   | .625 | .376 | .005 - .010                   |
| .616 | .268 | .015 - .030                   | .620 | .250 | .010 - .035                   | .622 | .180 | .016 - .025                   | .623 | .424 | .005 - .010                   | .625   | .171 | .005 - .010                   | .625 | .377 | .005 - .010                   |
| .616 | .323 | .010 - .020                   | .620 | .252 | .020 - .040                   | .622 | .190 | .020 - .040                   | .623 | .460 | .050 - .075                   | .625   | .171 | .015 - .125                   | .625 | .378 | .015 - .080                   |
| .616 | .328 | .025 - .040                   | .620 | .254 | .010 - .020                   | .622 | .191 | .005 - .010                   | .623 | .465 | .012 - .020                   | .625   | .187 | .025 - .050                   | .625 | .379 | .005 - .010                   |
| .616 | .377 | .050 - .090                   | .620 | .255 | .015 - .020                   | .622 | .196 | .030 - .048                   | .623 | .474 | .008 - .016                   | .625   | .188 | .005 - .010                   | .625 | .380 | .025 - .060                   |
| .616 | .384 | .005 - .010                   | .620 | .257 | .040 - .060                   | .622 | .205 | .030 - .050                   | .623 | .492 | .005 - .010                   | .625   | .189 | .005 - .060                   | .625 | .381 | .100 - .125                   |
| .616 | .386 | .062 - .080                   | .620 | .260 | .005 - .010                   | .622 | .206 | .030 - .060                   | .623 | .500 | .005 - .012                   | .625   | .190 | .060 - .090                   | .625 | .382 | .030 - .120                   |
| .616 | .410 | .005 - .013                   | .620 | .268 | .005 - .010                   | .622 | .214 | .015 - .030                   | .623 | .501 | .010 - .020                   | .625   | .191 | .025 - .042                   | .625 | .384 | .015 - .030                   |
| .616 | .412 | .020 - .040                   | .620 | .279 | .005 - .010                   | .622 | .220 | .010 - .020                   | .623 | .504 | .050 - .062                   | .625   | .192 | .050 - .070                   | .625 | .385 | .005 - .010                   |
| .616 | .456 | .040 - .050                   | .620 | .281 | .040 - .060                   | .622 | .230 | .060 - .090                   | .623 | .505 | .005 - .010                   | .625   | .193 | .100 - .125                   | .625 | .386 | .032 - .048                   |
| .616 | .478 | .030 - .040                   | .620 | .320 | .105 - .125                   | .622 | .250 | .005 - .015                   | .623 | .515 | .005 - .010                   | .625   | .195 | .090 - .125                   | .625 | .390 | .015 - .062                   |
| .616 | .480 | .040 - .060                   | .620 | .322 | .040 - .060                   | .622 | .251 | .005 - .010                   | .623 | .531 | .010 - .020                   | .625   | .196 | .020 - .040                   | .625 | .392 | .020 - .042                   |
| .616 | .505 | .005 - .010                   | .620 | .334 | .050 - .070                   | .622 | .258 | .025 - .040                   | .623 | .532 | .005 - .010                   | .625   | .200 | .030 - .040                   | .625 | .393 | .010 - .020                   |
| .616 | .524 | .030 - .040                   | .620 | .346 | .016 - .025                   | .622 | .261 | .036 - .050                   | .624 | .087 | .010 - .020                   | .625   | .201 | .005 - .010                   | .625 | .394 | .020 - .040                   |
| .617 | .310 | .005 - .010                   | .620 | .348 | .050 - .070                   | .622 | .284 | .010 - .042                   | .624 | .094 | .010 - .090                   | .625   | .202 | .050 - .075                   | .625 | .396 | .020 - .030                   |
| .617 | .318 | .015 - .025                   | .620 | .350 | .025 - .062                   | .622 | .300 | .020 - .040                   | .624 | .108 | .005 - .010                   | .625   | .205 | .050 - .090                   | .625 | .397 | .090 - .120                   |
| .617 | .351 | .005 - .010                   | .620 | .370 | .015 - .025                   | .622 | .302 | .050 - .070                   | .624 | .109 | .005 - .010                   | .625   | .207 | .005 - .015                   | .625 | .398 | .005 - .010                   |
| .617 | .359 | .025 - .040                   | .620 | .378 | .020 - .035                   | .622 | .314 | .075 - .125                   | .624 | .128 | .025 - .040                   | .625   | .208 | .005 - .010                   | .625 | .399 | .050 - .075                   |
| .617 | .362 | .005 - .010                   | .620 | .380 | .080 - .100                   | .622 | .315 | .100 - .125                   | .624 | .156 | .050 - .070                   | .625   | .210 | .100 - .125                   | .625 | .400 | .025 - .040                   |
| .617 | .385 | .005 - .010                   | .620 | .381 | .015 - .025                   | .622 | .317 | .040 - .080                   | .624 | .168 | .060 - .080                   | .625   | .211 | .040 - .060                   | .625 | .401 | .070 - .090                   |
| .617 | .448 | .065 - .080                   | .620 | .384 | .100 - .125                   | .622 | .320 | .025 - .070                   | .624 | .173 | .020 - .050                   | .625   | .220 | .005 - .010                   | .625 | .402 | .005 - .015                   |
| .617 | .496 | .010 - .020                   | .620 | .390 | .100 - .125                   | .622 | .325 | .007 - .025                   | .624 | .177 | .010 - .020                   | .625   | .222 | .050 - .070                   | .625 | .406 | .060 - .075                   |
| .617 | .514 | .005 - .010                   | .620 | .394 | .010 - .020                   | .622 | .343 | .005 - .010                   | .624 | .178 | .015 - .030                   | .625   | .223 | .005 - .010                   | .625 | .415 | .005 - .012                   |
| .617 | .560 | .005 - .010                   | .620 | .406 | .005 - .060                   | .622 | .374 | .005 - .010                   | .624 | .196 | .032 - .042                   | .625   | .225 | .015 - .020                   | .625 | .425 | .020 - .035                   |
| .618 | .120 | .015 - .030                   | .620 | .408 | .030 - .050                   | .622 | .376 | .015 - .025                   | .624 | .204 | .005 - .010                   | .625   | .226 | .032 - .042                   | .625 | .437 | .040 - .060                   |
| .618 | .124 | .040 - .060                   | .620 | .409 | .030 - .050                   | .622 | .377 | .025 - .105                   | .624 | .220 | .005 - .010                   | .625   | .230 | .075 - .090                   | .625 | .440 | .005 - .105                   |
| .618 | .164 | .030 - .050                   | .620 | .410 | .080 - .105                   | .622 | .378 | .015 - .030                   | .624 | .249 | .050 - .070                   | .625   | .231 | .005 - .010                   | .625 | .441 | .005 - .010                   |
| .618 | .185 | .040 - .050                   | .620 | .420 | .020 - .060                   | .622 | .384 | .005 - .010                   | .624 | .250 | .050 - .075                   | .625   | .236 | .025 - .042                   | .625 | .442 | .005 - .010                   |
| .618 | .215 | .005 - .010                   | .620 | .440 | .025 - .042                   | .622 | .389 | .060 - .075                   | .624 | .253 | .100 - .125                   | .625   | .238 | .005 - .072                   | .625 | .445 | .060 - .075                   |
| .618 | .216 | .010 - .020                   | .620 | .442 | .032 - .048                   | .622 | .390 | .005 - .010                   | .624 | .254 | .005 - .010                   | .625   | .239 | .070 - .090                   | .625 | .449 | .070 - .090                   |
| .618 | .259 | .040 - .060                   | .620 | .476 | .005 - .010                   | .622 | .391 | .050 - .105                   | .624 | .255 | .040 - .075                   | .625   | .240 | .050 - .070                   | .625 | .453 | .020 - .030                   |
| .618 | .262 | .005 - .010                   | .620 | .484 | .020 - .030                   | .622 | .400 | .010 - .020                   | .624 | .264 | .050 - .070                   | .625   | .251 | .005 - .042                   | .625 | .455 | .020 - .030                   |
| .618 | .364 | .005 - .078                   | .620 | .490 | .020 - .040                   | .622 | .407 | .006 - .016                   | .624 | .298 | .050 - .075                   | .625   | .252 | .036 - .105                   | .625 | .456 | .030 - .070                   |
| .618 | .381 | .040 - .060                   | .620 | .500 | .005 - .010                   | .622 | .409 | .005 - .015                   | .624 | .312 | .005 - .010                   | .625   | .253 | .005 - .042                   | .625 | .457 | .010 - .040                   |
| .618 | .382 | .020 - .040                   | .620 | .502 | .005 - .010                   | .622 | .411 | .025 - .040                   | .624 | .313 | .025 - .045                   | .625   | .255 | .075 - .104                   | .625 | .458 | .010 - .020                   |
| .618 | .393 | .005 - .010                   | .620 | .503 | .005 - .025                   | .622 | .438 | .005 - .010                   | .624 | .315 | .100 - .125                   | .625   | .259 | .125 - .156                   | .625 | .476 | .040 - .060                   |
| .618 | .400 | .080 - .104                   | .620 | .509 | .010 - .025                   | .622 | .445 | .015 - .030                   | .624 | .324 | .030 - .042                   | .625   | .260 | .005 - .010                   | .625 | .479 | .010 - .050                   |
| .618 | .435 | .050 - .075                   | .620 | .511 | .010 - .020                   | .622 | .450 | .050 - .070                   | .624 | .328 | .050 - .070                   | .625   | .261 | .030 - .075                   | .625 | .485 | .005 - .008                   |
| .618 | .440 | .005 - .010                   | .620 | .515 | .005 - .015                   | .622 | .453 | .005 - .010                   | .624 | .330 | .060 - .090                   | .625   | .264 | .005 - .015                   | .625 | .500 | .032 - .060                   |
| .618 | .446 | .005 - .010                   | .620 | .522 | .015 - .030                   | .622 | .461 | .005 - .010                   | .624 | .334 | .030 - .050                   | .625   | .265 | .040 - .050                   | .625 | .501 | .020 - .030                   |
| .618 | .475 | .005 - .010                   | .620 | .530 | .005 - .010                   | .622 | .488 | .050 - .070                   | .624 | .335 | .010 - .020                   | .625</ |      |                               |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .626 | .202 | .005 - .010                   | .627 | .505 | .050 - .070                   | .630 | .336 | .005 - .010                   | .634 | .354 | .010 - .030                   | .640 | .540 | .005 - .010                   | .648 | .490 | .010 - .020                   |
| .626 | .204 | .030 - .156                   | .627 | .510 | .005 - .040                   | .630 | .346 | .040 - .060                   | .634 | .394 | .005 - .010                   | .640 | .576 | .020 - .030                   | .648 | .493 | .015 - .030                   |
| .626 | .207 | .050 - .070                   | .627 | .527 | .005 - .010                   | .630 | .354 | .005 - .070                   | .634 | .459 | .020 - .030                   | .640 | .579 | .005 - .010                   | .648 | .521 | .005 - .010                   |
| .626 | .217 | .100 - .125                   | .627 | .547 | .007 - .012                   | .630 | .363 | .070 - .090                   | .634 | .477 | .008 - .016                   | .641 | .125 | .005 - .010                   | .648 | .551 | .005 - .010                   |
| .626 | .229 | .005 - .010                   | .628 | .096 | .030 - .050                   | .630 | .368 | .050 - .075                   | .634 | .478 | .005 - .010                   | .641 | .243 | .020 - .090                   | .649 | .126 | .020 - .050                   |
| .626 | .253 | .060 - .080                   | .628 | .125 | .005 - .010                   | .630 | .384 | .005 - .040                   | .634 | .512 | .010 - .020                   | .641 | .265 | .005 - .060                   | .649 | .201 | .090 - .100                   |
| .626 | .257 | .015 - .030                   | .628 | .166 | .050 - .070                   | .630 | .387 | .010 - .020                   | .634 | .524 | .005 - .020                   | .641 | .308 | .005 - .010                   | .649 | .203 | .025 - .040                   |
| .626 | .262 | .100 - .125                   | .628 | .191 | .040 - .060                   | .630 | .394 | .060 - .070                   | .635 | .167 | .015 - .035                   | .641 | .320 | .010 - .025                   | .649 | .250 | .005 - .010                   |
| .626 | .268 | .020 - .060                   | .628 | .198 | .005 - .010                   | .630 | .395 | .005 - .020                   | .635 | .179 | .010 - .015                   | .641 | .332 | .015 - .030                   | .649 | .266 | .125 - .135                   |
| .626 | .277 | .020 - .040                   | .628 | .201 | .040 - .060                   | .630 | .397 | .005 - .090                   | .635 | .200 | .025 - .040                   | .641 | .368 | .020 - .040                   | .649 | .281 | .005 - .020                   |
| .626 | .281 | .005 - .020                   | .628 | .208 | .020 - .040                   | .630 | .400 | .025 - .090                   | .635 | .204 | .010 - .020                   | .641 | .470 | .010 - .020                   | .649 | .286 | .070 - .090                   |
| .626 | .282 | .020 - .040                   | .628 | .232 | .030 - .050                   | .630 | .401 | .015 - .030                   | .635 | .312 | .035 - .050                   | .641 | .475 | .005 - .010                   | .649 | .338 | .030 - .050                   |
| .626 | .312 | .035 - .050                   | .628 | .238 | .050 - .070                   | .630 | .403 | .005 - .010                   | .635 | .356 | .010 - .020                   | .641 | .501 | .031 - .048                   | .649 | .387 | .005 - .010                   |
| .626 | .314 | .005 - .015                   | .628 | .261 | .040 - .060                   | .630 | .404 | .005 - .010                   | .635 | .375 | .032 - .042                   | .641 | .522 | .020 - .030                   | .649 | .452 | .005 - .010                   |
| .626 | .315 | .040 - .060                   | .628 | .271 | .005 - .010                   | .630 | .415 | .080 - .105                   | .635 | .376 | .005 - .010                   | .641 | .533 | .030 - .060                   | .649 | .522 | .005 - .010                   |
| .626 | .317 | .010 - .015                   | .628 | .287 | .090 - .105                   | .630 | .417 | .050 - .070                   | .635 | .410 | .005 - .010                   | .642 | .153 | .030 - .050                   | .649 | .562 | .005 - .010                   |
| .626 | .326 | .020 - .030                   | .628 | .331 | .105 - .120                   | .630 | .427 | .005 - .010                   | .635 | .443 | .020 - .030                   | .642 | .254 | .015 - .030                   | .649 | .583 | .005 - .010                   |
| .626 | .339 | .100 - .125                   | .628 | .375 | .060 - .083                   | .630 | .440 | .070 - .090                   | .635 | .470 | .030 - .042                   | .642 | .411 | .005 - .010                   | .650 | .056 | .005 - .010                   |
| .626 | .344 | .025 - .040                   | .628 | .449 | .005 - .010                   | .630 | .443 | .070 - .090                   | .635 | .531 | .025 - .040                   | .642 | .449 | .005 - .010                   | .650 | .062 | .020 - .040                   |
| .626 | .377 | .005 - .010                   | .628 | .449 | .020 - .040                   | .630 | .461 | .015 - .030                   | .636 | .179 | .008 - .015                   | .642 | .477 | .070 - .090                   | .650 | .076 | .005 - .010                   |
| .626 | .379 | .005 - .010                   | .628 | .477 | .005 - .010                   | .630 | .475 | .010 - .020                   | .636 | .212 | .005 - .010                   | .642 | .482 | .020 - .040                   | .650 | .118 | .010 - .030                   |
| .626 | .381 | .005 - .010                   | .628 | .483 | .030 - .050                   | .630 | .478 | .010 - .020                   | .636 | .275 | .005 - .010                   | .642 | .536 | .007 - .012                   | .650 | .161 | .005 - .015                   |
| .626 | .386 | .005 - .075                   | .628 | .510 | .010 - .020                   | .630 | .479 | .040 - .050                   | .636 | .381 | .015 - .030                   | .643 | .146 | .010 - .020                   | .650 | .162 | .040 - .060                   |
| .626 | .392 | .005 - .010                   | .628 | .511 | .040 - .060                   | .630 | .499 | .005 - .010                   | .636 | .384 | .005 - .010                   | .643 | .169 | .005 - .010                   | .650 | .212 | .005 - .010                   |
| .626 | .394 | .015 - .030                   | .628 | .555 | .020 - .030                   | .630 | .500 | .015 - .030                   | .636 | .393 | .020 - .030                   | .643 | .174 | .005 - .010                   | .650 | .236 | .005 - .010                   |
| .626 | .408 | .090 - .105                   | .629 | .095 | .062 - .078                   | .630 | .502 | .015 - .030                   | .636 | .410 | .005 - .015                   | .643 | .256 | .010 - .020                   | .650 | .250 | .020 - .030                   |
| .626 | .409 | .020 - .030                   | .629 | .149 | .015 - .030                   | .630 | .518 | .010 - .020                   | .636 | .454 | .015 - .030                   | .643 | .322 | .015 - .030                   | .650 | .255 | .005 - .010                   |
| .626 | .422 | .070 - .090                   | .629 | .177 | .005 - .010                   | .630 | .534 | .005 - .010                   | .636 | .565 | .005 - .010                   | .643 | .370 | .005 - .010                   | .650 | .255 | .020 - .040                   |
| .626 | .442 | .005 - .025                   | .629 | .226 | .005 - .010                   | .630 | .554 | .005 - .010                   | .637 | .244 | .020 - .040                   | .643 | .502 | .005 - .010                   | .650 | .260 | .042 - .060                   |
| .626 | .445 | .020 - .040                   | .629 | .290 | .050 - .083                   | .630 | .558 | .005 - .020                   | .637 | .356 | .005 - .010                   | .643 | .503 | .015 - .030                   | .650 | .260 | .130 - .150                   |
| .626 | .468 | .005 - .010                   | .629 | .292 | .042 - .060                   | .631 | .150 | .040 - .060                   | .637 | .381 | .025 - .040                   | .643 | .530 | .005 - .010                   | .650 | .290 | .015 - .030                   |
| .626 | .470 | .005 - .010                   | .629 | .316 | .005 - .010                   | .631 | .154 | .050 - .070                   | .637 | .399 | .105 - .125                   | .644 | .171 | .005 - .010                   | .650 | .311 | .075 - .090                   |
| .626 | .478 | .005 - .010                   | .629 | .319 | .005 - .010                   | .631 | .238 | .005 - .010                   | .637 | .422 | .020 - .040                   | .644 | .257 | .050 - .070                   | .650 | .312 | .005 - .120                   |
| .626 | .495 | .040 - .060                   | .629 | .344 | .005 - .010                   | .631 | .240 | .010 - .020                   | .637 | .425 | .012 - .020                   | .644 | .316 | .020 - .035                   | .650 | .315 | .010 - .020                   |
| .626 | .499 | .010 - .020                   | .629 | .351 | .090 - .110                   | .631 | .315 | .015 - .030                   | .637 | .520 | .005 - .010                   | .644 | .346 | .015 - .030                   | .650 | .316 | .005 - .010                   |
| .626 | .501 | .010 - .020                   | .629 | .356 | .010 - .020                   | .631 | .316 | .005 - .010                   | .638 | .156 | .032 - .048                   | .644 | .396 | .025 - .040                   | .650 | .317 | .005 - .010                   |
| .626 | .504 | .010 - .020                   | .629 | .391 | .030 - .050                   | .631 | .318 | .005 - .010                   | .638 | .263 | .040 - .060                   | .644 | .454 | .025 - .040                   | .650 | .319 | .005 - .010                   |
| .626 | .505 | .005 - .010                   | .629 | .406 | .030 - .050                   | .631 | .319 | .005 - .010                   | .638 | .338 | .020 - .040                   | .644 | .477 | .020 - .030                   | .650 | .325 | .050 - .075                   |
| .626 | .507 | .005 - .030                   | .629 | .407 | .030 - .050                   | .631 | .320 | .005 - .010                   | .638 | .401 | .005 - .010                   | .644 | .503 | .020 - .040                   | .650 | .326 | .005 - .010                   |
| .626 | .510 | .010 - .025                   | .629 | .427 | .005 - .010                   | .631 | .374 | .105 - .125                   | .638 | .401 | .015 - .030                   | .644 | .531 | .030 - .050                   | .650 | .357 | .015 - .030                   |
| .626 | .528 | .025 - .040                   | .629 | .472 | .030 - .080                   | .631 | .378 | .060 - .080                   | .638 | .410 | .020 - .040                   | .645 | .152 | .030 - .050                   | .650 | .374 | .015 - .030                   |
| .626 | .564 | .005 - .010                   | .629 | .473 | .005 - .020                   | .631 | .386 | .060 - .080                   | .638 | .451 | .020 - .040                   | .645 | .170 | .035 - .050                   | .650 | .377 | .005 - .030                   |
| .626 | .566 | .010 - .020                   | .629 | .507 | .005 - .030                   | .631 | .387 | .010 - .020                   | .638 | .506 | .025 - .040                   | .645 | .214 | .010 - .020                   | .650 | .380 | .050 - .070                   |
| .627 | .036 | .025 - .035                   | .629 | .512 | .015 - .030                   | .631 | .396 | .005 - .010                   | .639 | .199 | .060 - .080                   | .645 | .316 | .020 - .032                   | .650 | .388 | .070 - .090                   |
| .627 | .058 | .020 - .032                   | .629 | .517 | .005 - .010                   | .631 | .399 | .010 - .020                   | .639 | .322 | .005 - .010                   | .645 | .347 | .025 - .040                   | .650 | .397 | .005 - .010                   |
| .627 | .125 | .020 - .040                   | .630 | .052 | .015 - .030                   | .631 | .403 | .060 - .080                   | .639 | .325 | .010 - .020                   | .645 | .393 | .050 - .062                   | .650 | .404 | .040 - .060                   |
| .627 | .129 | .025 - .040                   | .630 | .128 | .005 - .010                   | .631 | .411 | .020 - .030                   | .639 | .394 | .020 - .040                   | .645 | .434 | .032 - .048                   | .650 | .410 | .080 - .090                   |
| .627 | .133 | .040 - .060                   | .630 | .138 | .030 - .060                   | .631 | .437 | .005 - .010                   | .639 | .415 | .025 - .040                   | .645 | .441 | .060 - .080                   | .650 | .424 | .005 - .010                   |
| .627 | .166 | .005 - .010                   | .630 | .140 | .020 - .040                   | .631 | .452 | .060 - .080                   | .639 | .438 | .030 - .050                   | .645 | .470 | .005 - .010                   | .650 | .469 | .050 - .070                   |
| .627 | .182 | .005 - .010                   | .630 | .141 | .100 - .120                   | .631 | .521 | .040 - .060                   | .639 | .439 | .040 - .050                   | .645 | .501 | .030 - .050                   | .650 | .500 | .005 - .010                   |
| .627 | .196 | .050 - .070                   | .630 | .158 | .050 - .060                   | .632 | .160 | .030 - .040                   | .639 | .453 | .005 - .010                   | .645 | .510 | .005 - .010                   | .650 | .503 | .015 - .030                   |
| .627 | .198 | .010 - .025                   | .630 | .163 | .050 - .060                   | .632 | .239 | .005 - .010                   | .639 | .524 | .025 - .035                   | .645 | .518 | .040 - .060                   | .650 | .505 | .020 - .030                   |
| .627 | .236 | .100 - .125                   | .630 | .174 | .050 - .075                   | .632 | .253 | .015 - .030                   | .639 | .550 | .005 - .010                   | .645 | .579 | .005 - .010                   | .650 | .507 | .010 - .020                   |
| .627 | .248 | .100 - .125                   | .630 | .177 | .030 - .050                   | .632 | .261 | .020 - .040                   | .639 | .576 | .015 - .030                   | .646 | .204 | .060 - .070                   | .650 | .534 | .025 - .040                   |
| .627 | .253 | .005 - .010                   | .630 | .188 | .090 - .105                   | .632 | .285 | .005 - .010                   | .640 | .036 | .015 - .030                   | .646 | .210 | .060 - .110                   | .650 | .540 | .005 - .010                   |
| .627 | .265 | .050 - .070                   | .630 | .204 | .050 - .065                   | .632 | .317 | .005 - .010                   | .640 | .073 | .025 - .040                   | .646 | .255 | .020 - .030                   | .650 | .553 | .010 - .020                   |
| .627 | .266 | .030 - .050                   | .630 | .209 | .105 - .125                   | .632 | .320 | .005 - .010                   | .640 | .168 | .025 - .040                   | .646 | .257 | .005 - .010                   | .650 | .562 | .005 - .010                   |
| .627 | .280 | .100 - .125                   | .630 | .214 | .065 - .080                   | .632 | .357 | .005 - .010                   | .640 | .175 | .025 - .042                   | .646 | .273 | .020 - .035                   | .651 | .147 | .042 - .060                   |
| .627 | .281 | .100 - .120                   | .630 | .236 | .005 - .025                   | .632 | .359 | .025 - .040                   | .640 | .186 | .030 - .050                   | .646 | .316 | .005 - .012                   | .651 | .160 | .020 - .030                   |
| .627 | .283 | .030 - .048                   | .630 | .237 | .005 - .020                   | .632 | .387 | .020 - .060                   | .640 | .251 | .020 - .040                   | .646 | .344 | .020 - .030                   | .651 | .229 | .005 - .010                   |
| .627 | .285 | .042 - .062                   | .630 | .238 | .005 - .010                   | .632 | .426 | .070 - .090                   | .640 | .256 | .005 - .010                   | .646 | .393 | .090 - .105                   | .651 | .315 | .010 - .020                   |
| .627 | .313 | .090 - .120                   | .630 | .239 | .005 - .010                   | .632 | .475 | .040 - .060                   | .640 | .299 | .005 - .010                   | .646 | .409 | .005 - .010                   | .651 | .374 | .010 - .020                   |
| .627 | .314 | .015 - .030                   | .630 | .241 | .050 - .060                   | .632 | .480 | .005 - .072                   | .640 | .334 | .005 - .010                   | .646 | .447 | .005 - .010                   | .651 | .377 | .030 - .050                   |
| .627 | .323 | .105 - .125                   | .630 | .243 | .005 - .010                   | .632 | .547 | .010 - .020                   | .640 | .342 | .040 - .060                   | .646 | .539 | .005 - .010                   | .651 | .379 | .005 - .010                   |
| .627 | .334 | .100 - .125                   | .630 | .247 | .030 - .050                   | .633 | .119 | .005 - .010                   | .640 | .361 | .030 - .050                   | .647 | .131 | .005 - .010                   | .651 | .380 | .015 - .030                   |
| .627 | .335 | .100 - .125                   | .630 | .254 | .025 - .040                   | .633 | .172 | .015 - .035                   | .640 | .377 | .030 - .040                   | .647 | .191 | .030 - .050                   | .651 | .394 | .005 - .010                   |
| .627 | .344 | .050 - .125                   | .630 | .275 | .005 - .125                   | .633 | .256 | .060 - .080                   | .640 | .390 | .050 - .075                   | .647 | .283 | .030 - .050                   | .651 | .398 | .005 - .010                   |
| .627 | .349 | .080 - .104                   | .630 | .279 | .005 - .010                   | .633 | .267 | .032 - .050                   | .640 | .400 | .005 - .010                   | .647 | .355 | .010 - .020                   |      |      |                               |

**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D.   | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|--------|------|-------------------------------|------|------|-------------------------------|
| .652 | .412 | .005 - .010                   | .657 | .375 | .005 - .010                   | .665 | .173 | .050 - .075                   | .670 | .257 | .040 - .125                   | .674   | .441 | .005 - .080                   | .679 | .501 | .015 - .030                   |
| .652 | .435 | .005 - .010                   | .657 | .413 | .005 - .010                   | .665 | .249 | .030 - .050                   | .670 | .260 | .020 - .030                   | .674   | .450 | .040 - .060                   | .679 | .509 | .005 - .010                   |
| .652 | .439 | .020 - .040                   | .657 | .417 | .005 - .010                   | .665 | .251 | .075 - .090                   | .670 | .280 | .010 - .020                   | .674   | .473 | .025 - .040                   | .680 | .163 | .005 - .010                   |
| .652 | .453 | .005 - .010                   | .657 | .530 | .020 - .040                   | .665 | .334 | .050 - .130                   | .670 | .300 | .005 - .010                   | .674   | .480 | .070 - .090                   | .680 | .200 | .032 - .050                   |
| .652 | .501 | .030 - .042                   | .657 | .531 | .040 - .060                   | .665 | .374 | .120 - .140                   | .670 | .315 | .005 - .010                   | .674   | .504 | .075 - .090                   | .680 | .204 | .090 - .110                   |
| .652 | .510 | .010 - .020                   | .657 | .538 | .040 - .060                   | .665 | .383 | .040 - .060                   | .670 | .317 | .005 - .010                   | .674   | .536 | .040 - .060                   | .680 | .239 | .005 - .010                   |
| .653 | .154 | .040 - .062                   | .657 | .613 | .016 - .025                   | .665 | .397 | .070 - .090                   | .670 | .319 | .050 - .070                   | .674   | .562 | .020 - .030                   | .680 | .253 | .005 - .030                   |
| .653 | .238 | .040 - .062                   | .658 | .255 | .010 - .020                   | .665 | .434 | .040 - .060                   | .670 | .330 | .050 - .075                   | .675   | .095 | .005 - .010                   | .680 | .256 | .040 - .060                   |
| .653 | .276 | .005 - .010                   | .658 | .314 | .030 - .050                   | .665 | .515 | .025 - .040                   | .670 | .331 | .005 - .010                   | .675   | .203 | .020 - .040                   | .680 | .262 | .005 - .010                   |
| .653 | .316 | .010 - .020                   | .658 | .375 | .010 - .020                   | .665 | .550 | .005 - .012                   | .670 | .350 | .020 - .100                   | .675   | .224 | .005 - .010                   | .680 | .270 | .015 - .035                   |
| .653 | .317 | .005 - .010                   | .658 | .385 | .050 - .060                   | .665 | .569 | .020 - .040                   | .670 | .354 | .105 - .125                   | .675   | .280 | .060 - .090                   | .680 | .283 | .080 - .105                   |
| .653 | .376 | .010 - .020                   | .658 | .437 | .005 - .012                   | .665 | .576 | .030 - .048                   | .670 | .355 | .005 - .010                   | .675   | .284 | .032 - .050                   | .680 | .300 | .032 - .050                   |
| .653 | .392 | .050 - .090                   | .658 | .478 | .005 - .010                   | .666 | .143 | .015 - .030                   | .670 | .360 | .040 - .050                   | .675   | .301 | .050 - .105                   | .680 | .316 | .048 - .062                   |
| .653 | .414 | .050 - .070                   | .658 | .478 | .015 - .025                   | .666 | .168 | .075 - .090                   | .670 | .365 | .060 - .080                   | .675   | .375 | .010 - .020                   | .680 | .317 | .030 - .040                   |
| .653 | .442 | .005 - .010                   | .658 | .479 | .030 - .042                   | .666 | .196 | .020 - .040                   | .670 | .378 | .060 - .080                   | .675   | .386 | .040 - .060                   | .680 | .325 | .005 - .050                   |
| .653 | .542 | .005 - .010                   | .658 | .511 | .030 - .070                   | .666 | .256 | .075 - .090                   | .670 | .382 | .030 - .060                   | .675   | .400 | .010 - .040                   | .680 | .326 | .070 - .090                   |
| .654 | .142 | .040 - .060                   | .658 | .572 | .005 - .010                   | .666 | .267 | .040 - .062                   | .670 | .385 | .010 - .020                   | .675   | .416 | .015 - .030                   | .680 | .330 | .015 - .030                   |
| .654 | .267 | .030 - .050                   | .659 | .125 | .015 - .025                   | .666 | .430 | .020 - .030                   | .670 | .398 | .040 - .060                   | .675   | .435 | .070 - .090                   | .680 | .369 | .050 - .075                   |
| .654 | .270 | .005 - .010                   | .659 | .256 | .100 - .120                   | .666 | .453 | .015 - .025                   | .670 | .401 | .015 - .030                   | .675   | .440 | .005 - .010                   | .680 | .375 | .040 - .060                   |
| .654 | .276 | .010 - .020                   | .659 | .265 | .020 - .035                   | .666 | .475 | .020 - .040                   | .670 | .406 | .005 - .010                   | .675   | .442 | .005 - .010                   | .680 | .422 | .005 - .015                   |
| .654 | .363 | .050 - .075                   | .659 | .288 | .050 - .070                   | .666 | .478 | .030 - .050                   | .670 | .413 | .070 - .090                   | .675   | .447 | .080 - .100                   | .680 | .442 | .040 - .060                   |
| .654 | .389 | .015 - .040                   | .659 | .299 | .050 - .070                   | .666 | .537 | .005 - .010                   | .670 | .421 | .005 - .010                   | .675   | .458 | .005 - .040                   | .680 | .445 | .005 - .010                   |
| .654 | .480 | .010 - .020                   | .659 | .313 | .020 - .040                   | .666 | .564 | .010 - .020                   | .670 | .439 | .005 - .010                   | .675   | .460 | .010 - .020                   | .680 | .447 | .010 - .020                   |
| .654 | .510 | .025 - .040                   | .659 | .335 | .060 - .075                   | .666 | .579 | .005 - .010                   | .670 | .474 | .070 - .090                   | .675   | .480 | .005 - .060                   | .680 | .470 | .005 - .010                   |
| .654 | .564 | .005 - .012                   | .659 | .381 | .090 - .100                   | .667 | .213 | .012 - .020                   | .670 | .476 | .005 - .020                   | .675   | .500 | .040 - .060                   | .680 | .476 | .030 - .050                   |
| .654 | .574 | .015 - .025                   | .659 | .501 | .015 - .030                   | .667 | .270 | .025 - .040                   | .670 | .480 | .010 - .020                   | .675   | .504 | .005 - .010                   | .680 | .485 | .050 - .060                   |
| .655 | .124 | .015 - .030                   | .660 | .125 | .020 - .030                   | .667 | .275 | .025 - .042                   | .670 | .481 | .040 - .060                   | .675   | .515 | .025 - .048                   | .680 | .500 | .032 - .050                   |
| .655 | .125 | .040 - .060                   | .660 | .213 | .070 - .090                   | .667 | .319 | .042 - .062                   | .670 | .490 | .005 - .010                   | .675   | .582 | .005 - .010                   | .680 | .504 | .020 - .040                   |
| .655 | .142 | .015 - .030                   | .660 | .225 | .040 - .060                   | .667 | .336 | .005 - .010                   | .670 | .495 | .040 - .062                   | .676   | .225 | .040 - .060                   | .680 | .514 | .020 - .060                   |
| .655 | .167 | .030 - .050                   | .660 | .251 | .005 - .010                   | .667 | .347 | .015 - .030                   | .670 | .503 | .020 - .040                   | .676   | .288 | .010 - .025                   | .680 | .524 | .030 - .050                   |
| .655 | .191 | .010 - .020                   | .660 | .261 | .005 - .010                   | .667 | .496 | .005 - .010                   | .670 | .520 | .020 - .040                   | .676   | .306 | .050 - .070                   | .680 | .540 | .005 - .010                   |
| .655 | .223 | .080 - .100                   | .660 | .268 | .050 - .072                   | .667 | .595 | .005 - .010                   | .670 | .545 | .005 - .010                   | .676   | .370 | .070 - .080                   | .680 | .559 | .005 - .010                   |
| .655 | .256 | .020 - .040                   | .660 | .313 | .020 - .030                   | .668 | .218 | .060 - .080                   | .670 | .546 | .040 - .060                   | .676   | .440 | .005 - .010                   | .680 | .564 | .030 - .050                   |
| .655 | .318 | .005 - .010                   | .660 | .314 | .005 - .010                   | .668 | .316 | .005 - .010                   | .670 | .566 | .015 - .030                   | .676   | .500 | .025 - .042                   | .680 | .565 | .005 - .050                   |
| .655 | .378 | .030 - .090                   | .660 | .345 | .015 - .030                   | .668 | .317 | .005 - .010                   | .670 | .574 | .030 - .050                   | .676   | .507 | .020 - .040                   | .680 | .597 | .005 - .010                   |
| .655 | .379 | .010 - .020                   | .660 | .350 | .050 - .070                   | .668 | .333 | .005 - .010                   | .671 | .200 | .025 - .042                   | .676   | .515 | .020 - .030                   | .681 | .190 | .030 - .050                   |
| .655 | .381 | .020 - .030                   | .660 | .366 | .020 - .030                   | .668 | .333 | .050 - .075                   | .671 | .239 | .005 - .010                   | .676   | .565 | .020 - .040                   | .681 | .251 | .050 - .070                   |
| .655 | .419 | .005 - .010                   | .660 | .378 | .020 - .030                   | .668 | .340 | .035 - .050                   | .671 | .264 | .005 - .010                   | .676   | .571 | .015 - .030                   | .681 | .264 | .030 - .050                   |
| .655 | .421 | .050 - .070                   | .660 | .390 | .040 - .060                   | .668 | .348 | .010 - .015                   | .671 | .311 | .078 - .090                   | .677   | .168 | .020 - .030                   | .681 | .391 | .005 - .010                   |
| .655 | .465 | .005 - .010                   | .660 | .401 | .020 - .030                   | .668 | .406 | .040 - .060                   | .671 | .315 | .005 - .010                   | .677   | .316 | .040 - .060                   | .681 | .395 | .005 - .050                   |
| .655 | .488 | .005 - .010                   | .660 | .409 | .040 - .060                   | .668 | .435 | .020 - .030                   | .671 | .316 | .015 - .030                   | .677   | .382 | .005 - .010                   | .681 | .401 | .020 - .040                   |
| .655 | .512 | .015 - .025                   | .660 | .437 | .005 - .020                   | .668 | .472 | .010 - .020                   | .671 | .319 | .005 - .010                   | .677   | .387 | .005 - .010                   | .681 | .440 | .005 - .010                   |
| .655 | .525 | .040 - .060                   | .660 | .472 | .005 - .010                   | .668 | .498 | .020 - .040                   | .671 | .322 | .005 - .010                   | .677   | .392 | .120 - .140                   | .681 | .503 | .015 - .030                   |
| .655 | .528 | .005 - .010                   | .660 | .503 | .040 - .060                   | .669 | .031 | .005 - .010                   | .671 | .325 | .015 - .030                   | .677   | .441 | .060 - .080                   | .681 | .515 | .005 - .010                   |
| .655 | .530 | .005 - .010                   | .660 | .507 | .005 - .010                   | .669 | .114 | .005 - .010                   | .671 | .333 | .010 - .020                   | .677   | .458 | .025 - .040                   | .681 | .590 | .010 - .020                   |
| .656 | .118 | .030 - .050                   | .660 | .512 | .005 - .010                   | .669 | .138 | .005 - .010                   | .671 | .345 | .020 - .040                   | .677   | .468 | .010 - .020                   | .682 | .129 | .015 - .025                   |
| .656 | .190 | .075 - .090                   | .660 | .561 | .015 - .030                   | .669 | .163 | .005 - .010                   | .671 | .385 | .070 - .090                   | .677   | .476 | .040 - .060                   | .682 | .333 | .070 - .090                   |
| .656 | .195 | .050 - .075                   | .660 | .563 | .005 - .010                   | .669 | .200 | .005 - .010                   | .671 | .386 | .100 - .125                   | .677   | .523 | .005 - .010                   | .682 | .351 | .050 - .070                   |
| .656 | .196 | .020 - .040                   | .660 | .577 | .020 - .030                   | .669 | .204 | .020 - .060                   | .671 | .391 | .005 - .075                   | .677   | .525 | .005 - .010                   | .682 | .365 | .005 - .010                   |
| .656 | .258 | .030 - .050                   | .661 | .241 | .005 - .010                   | .669 | .237 | .005 - .010                   | .671 | .395 | .020 - .030                   | .677   | .534 | .005 - .010                   | .682 | .395 | .005 - .010                   |
| .656 | .267 | .050 - .075                   | .661 | .270 | .060 - .080                   | .669 | .316 | .005 - .010                   | .671 | .422 | .020 - .040                   | .677   | .534 | .015 - .030                   | .682 | .400 | .032 - .048                   |
| .656 | .278 | .005 - .010                   | .661 | .336 | .020 - .040                   | .669 | .317 | .075 - .105                   | .671 | .474 | .005 - .010                   | .678   | .193 | .060 - .090                   | .682 | .439 | .025 - .040                   |
| .656 | .290 | .070 - .090                   | .661 | .341 | .005 - .010                   | .669 | .319 | .005 - .020                   | .671 | .507 | .008 - .015                   | .678   | .256 | .035 - .060                   | .682 | .440 | .020 - .030                   |
| .656 | .320 | .025 - .040                   | .661 | .403 | .040 - .060                   | .669 | .320 | .010 - .040                   | .671 | .568 | .010 - .020                   | .678   | .384 | .020 - .032                   | .682 | .472 | .062 - .078                   |
| .656 | .341 | .030 - .050                   | .661 | .487 | .040 - .060                   | .669 | .331 | .050 - .070                   | .672 | .128 | .100 - .125                   | .678   | .406 | .010 - .040                   | .682 | .486 | .005 - .010                   |
| .656 | .345 | .005 - .010                   | .661 | .529 | .015 - .025                   | .669 | .338 | .080 - .100                   | .672 | .325 | .015 - .030                   | .678   | .440 | .005 - .010                   | .682 | .503 | .005 - .010                   |
| .656 | .377 | .015 - .030                   | .661 | .531 | .010 - .020                   | .669 | .397 | .005 - .010                   | .672 | .326 | .080 - .125                   | .678   | .442 | .012 - .020                   | .682 | .578 | .015 - .030                   |
| .656 | .387 | .030 - .050                   | .661 | .551 | .005 - .010                   | .669 | .427 | .030 - .050                   | .672 | .346 | .005 - .010                   | .678   | .449 | .040 - .060                   | .682 | .601 | .020 - .030                   |
| .656 | .397 | .015 - .025                   | .661 | .583 | .005 - .010                   | .669 | .430 | .010 - .020                   | .672 | .362 | .005 - .010                   | .678   | .504 | .015 - .030                   | .683 | .121 | .050 - .070                   |
| .656 | .404 | .080 - .104                   | .662 | .201 | .050 - .070                   | .669 | .434 | .070 - .090                   | .672 | .375 | .005 - .010                   | .678   | .507 | .005 - .010                   | .683 | .172 | .010 - .025                   |
| .656 | .406 | .090 - .125                   | .662 | .219 | .050 - .070                   | .669 | .472 | .030 - .050                   | .672 | .405 | .110 - .130                   | .678   | .529 | .005 - .007                   | .683 | .345 | .070 - .090                   |
| .656 | .453 | .005 - .040                   | .662 | .324 | .010 - .020                   | .669 | .487 | .006 - .015                   | .672 | .407 | .010 - .020                   | .678   | .530 | .015 - .030                   | .683 | .376 | .005 - .010                   |
| .656 | .458 | .040 - .060                   | .662 | .386 | .020 - .040                   | .669 | .515 | .005 - .010                   | .672 | .415 | .005 - .010                   | .678   | .564 | .035 - .050                   | .683 | .378 | .015 - .030                   |
| .656 | .460 | .025 - .035                   | .662 | .393 | .040 - .060                   | .669 | .543 | .015 - .030                   | .672 | .442 | .030 - .040                   | .678   | .568 | .010 - .020                   | .683 | .379 | .040 - .060                   |
| .656 | .470 | .035 - .050                   | .662 | .432 | .060 - .080                   | .669 | .550 | .015 - .030                   | .672 | .445 | .025 - .060                   | .678   | .591 | .005 - .010                   | .683 | .396 | .070 - .090                   |
| .656 | .489 | .005 - .010                   | .662 | .461 | .030 - .050                   | .669 | .552 | .005 - .010                   | .672 | .490 | .050 - .070                   | .678   | .593 | .005 - .010                   | .683 | .400 | .032 - .042                   |
| .656 | .500 | .030 - .050                   | .662 | .477 | .010 - .020                   | .670 | .121 | .060 - .080                   | .672 | .531 | .030 - .040                   | .678   | .606 | .005 - .010                   | .683 | .406 | .040 - .105                   |
| .656 | .503 | .010 - .020                   | .662 | .487 | .060 - .070                   | .670 | .123 | .005 - .010                   | .673 | .098 | .020 - .040                   | .679</ |      |                               |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .684 | .323 | .020 - .040                   | .686 | .512 | .005 - .010                   | .688 | .317 | .005 - .010                   | .690 | .354 | .005 - .010                   | .698 | .506 | .010 - .020                   | .700 | .476 | .005 - .010                   |
| .684 | .399 | .005 - .010                   | .686 | .520 | .015 - .030                   | .688 | .326 | .015 - .030                   | .690 | .365 | .005 - .010                   | .698 | .527 | .005 - .010                   | .700 | .478 | .070 - .080                   |
| .684 | .400 | .015 - .030                   | .686 | .528 | .005 - .010                   | .688 | .328 | .080 - .105                   | .690 | .376 | .010 - .030                   | .698 | .541 | .025 - .040                   | .700 | .500 | .005 - .010                   |
| .684 | .412 | .100 - .125                   | .686 | .625 | .015 - .030                   | .688 | .330 | .030 - .050                   | .690 | .385 | .090 - .104                   | .698 | .542 | .030 - .060                   | .700 | .501 | .070 - .090                   |
| .684 | .443 | .005 - .012                   | .686 | .102 | .005 - .010                   | .688 | .334 | .005 - .010                   | .690 | .436 | .100 - .125                   | .698 | .564 | .010 - .020                   | .700 | .502 | .010 - .100                   |
| .684 | .466 | .090 - .100                   | .687 | .119 | .015 - .030                   | .688 | .343 | .070 - .090                   | .690 | .475 | .030 - .050                   | .698 | .602 | .005 - .010                   | .700 | .504 | .005 - .030                   |
| .684 | .510 | .050 - .070                   | .687 | .187 | .030 - .050                   | .688 | .344 | .070 - .090                   | .690 | .494 | .075 - .090                   | .698 | .626 | .005 - .010                   | .700 | .506 | .015 - .042                   |
| .684 | .542 | .035 - .050                   | .687 | .189 | .010 - .060                   | .688 | .349 | .005 - .010                   | .690 | .503 | .050 - .070                   | .699 | .070 | .040 - .060                   | .700 | .510 | .010 - .025                   |
| .684 | .568 | .025 - .045                   | .687 | .191 | .005 - .010                   | .688 | .350 | .050 - .070                   | .690 | .530 | .040 - .060                   | .699 | .076 | .015 - .025                   | .700 | .511 | .020 - .040                   |
| .684 | .581 | .015 - .025                   | .687 | .194 | .125 - .156                   | .688 | .352 | .050 - .070                   | .690 | .533 | .072 - .090                   | .699 | .201 | .040 - .060                   | .700 | .514 | .020 - .060                   |
| .684 | .593 | .030 - .040                   | .687 | .198 | .090 - .105                   | .688 | .376 | .005 - .042                   | .690 | .542 | .005 - .010                   | .699 | .210 | .060 - .080                   | .700 | .530 | .070 - .080                   |
| .684 | .613 | .015 - .030                   | .687 | .199 | .015 - .020                   | .688 | .378 | .050 - .075                   | .690 | .566 | .030 - .050                   | .699 | .376 | .005 - .010                   | .700 | .531 | .020 - .040                   |
| .685 | .143 | .040 - .060                   | .687 | .200 | .032 - .042                   | .688 | .381 | .005 - .010                   | .690 | .569 | .010 - .020                   | .699 | .380 | .005 - .010                   | .700 | .532 | .005 - .010                   |
| .685 | .158 | .060 - .083                   | .687 | .219 | .036 - .050                   | .688 | .384 | .050 - .070                   | .690 | .575 | .010 - .020                   | .699 | .483 | .005 - .020                   | .700 | .533 | .030 - .050                   |
| .685 | .225 | .005 - .010                   | .687 | .221 | .020 - .062                   | .688 | .386 | .050 - .070                   | .690 | .615 | .020 - .030                   | .699 | .500 | .010 - .020                   | .700 | .535 | .040 - .050                   |
| .685 | .233 | .010 - .020                   | .687 | .234 | .005 - .010                   | .688 | .391 | .105 - .125                   | .690 | .625 | .010 - .020                   | .699 | .502 | .005 - .010                   | .700 | .550 | .005 - .010                   |
| .685 | .254 | .010 - .075                   | .687 | .237 | .005 - .010                   | .688 | .393 | .075 - .090                   | .690 | .639 | .005 - .010                   | .699 | .503 | .070 - .090                   | .700 | .555 | .015 - .030                   |
| .685 | .263 | .010 - .015                   | .687 | .257 | .080 - .090                   | .688 | .407 | .005 - .010                   | .691 | .163 | .025 - .040                   | .699 | .505 | .010 - .020                   | .700 | .560 | .005 - .030                   |
| .685 | .264 | .005 - .010                   | .687 | .259 | .005 - .010                   | .688 | .452 | .030 - .050                   | .691 | .189 | .050 - .070                   | .699 | .514 | .060 - .080                   | .700 | .564 | .025 - .072                   |
| .685 | .269 | .050 - .070                   | .687 | .267 | .030 - .048                   | .688 | .464 | .080 - .100                   | .691 | .192 | .020 - .040                   | .699 | .562 | .040 - .060                   | .700 | .565 | .010 - .060                   |
| .685 | .325 | .090 - .120                   | .687 | .296 | .050 - .075                   | .688 | .468 | .020 - .040                   | .691 | .194 | .015 - .030                   | .700 | .076 | .010 - .020                   | .700 | .566 | .015 - .032                   |
| .685 | .344 | .040 - .060                   | .687 | .306 | .040 - .060                   | .688 | .469 | .015 - .030                   | .691 | .203 | .005 - .010                   | .700 | .077 | .005 - .010                   | .700 | .578 | .005 - .010                   |
| .685 | .346 | .070 - .105                   | .687 | .312 | .120 - .156                   | .688 | .505 | .060 - .080                   | .691 | .238 | .030 - .050                   | .700 | .093 | .005 - .010                   | .700 | .585 | .005 - .010                   |
| .685 | .366 | .105 - .125                   | .687 | .316 | .036 - .048                   | .688 | .513 | .050 - .075                   | .691 | .258 | .060 - .080                   | .700 | .096 | .050 - .062                   | .700 | .600 | .010 - .020                   |
| .685 | .371 | .100 - .125                   | .687 | .323 | .048 - .062                   | .688 | .518 | .005 - .010                   | .691 | .475 | .030 - .060                   | .700 | .120 | .070 - .090                   | .700 | .608 | .005 - .010                   |
| .685 | .375 | .032 - .062                   | .687 | .328 | .005 - .012                   | .688 | .538 | .015 - .040                   | .691 | .485 | .005 - .010                   | .700 | .129 | .005 - .010                   | .700 | .610 | .015 - .030                   |
| .685 | .376 | .100 - .125                   | .687 | .330 | .050 - .075                   | .688 | .563 | .005 - .010                   | .691 | .511 | .020 - .030                   | .700 | .138 | .010 - .020                   | .700 | .615 | .005 - .010                   |
| .685 | .378 | .080 - .100                   | .687 | .339 | .050 - .070                   | .688 | .615 | .015 - .030                   | .691 | .515 | .015 - .030                   | .700 | .159 | .040 - .060                   | .700 | .631 | .005 - .010                   |
| .685 | .379 | .010 - .048                   | .687 | .343 | .005 - .010                   | .689 | .156 | .040 - .060                   | .691 | .598 | .005 - .010                   | .700 | .164 | .010 - .020                   | .700 | .651 | .005 - .010                   |
| .685 | .380 | .025 - .060                   | .687 | .350 | .050 - .075                   | .689 | .162 | .100 - .120                   | .692 | .286 | .042 - .062                   | .700 | .168 | .050 - .070                   | .701 | .130 | .060 - .080                   |
| .685 | .391 | .090 - .110                   | .687 | .359 | .025 - .048                   | .689 | .222 | .090 - .120                   | .692 | .406 | .020 - .040                   | .700 | .169 | .040 - .060                   | .701 | .153 | .048 - .090                   |
| .685 | .392 | .090 - .110                   | .687 | .371 | .100 - .125                   | .689 | .249 | .005 - .010                   | .692 | .519 | .005 - .010                   | .700 | .176 | .005 - .010                   | .701 | .168 | .005 - .010                   |
| .685 | .400 | .105 - .125                   | .687 | .376 | .010 - .020                   | .689 | .273 | .005 - .010                   | .692 | .603 | .015 - .030                   | .700 | .193 | .005 - .010                   | .701 | .193 | .040 - .060                   |
| .685 | .410 | .060 - .078                   | .687 | .378 | .010 - .020                   | .689 | .281 | .050 - .070                   | .693 | .119 | .005 - .012                   | .700 | .210 | .050 - .070                   | .701 | .204 | .050 - .070                   |
| .685 | .423 | .100 - .125                   | .687 | .379 | .005 - .010                   | .689 | .313 | .020 - .040                   | .693 | .236 | .005 - .010                   | .700 | .221 | .020 - .040                   | .701 | .224 | .040 - .060                   |
| .685 | .427 | .032 - .042                   | .687 | .380 | .025 - .040                   | .689 | .319 | .025 - .040                   | .693 | .320 | .005 - .010                   | .700 | .221 | .075 - .090                   | .701 | .241 | .050 - .070                   |
| .685 | .441 | .005 - .010                   | .687 | .384 | .010 - .040                   | .689 | .320 | .005 - .010                   | .693 | .396 | .050 - .075                   | .700 | .250 | .070 - .090                   | .701 | .257 | .050 - .100                   |
| .685 | .450 | .008 - .020                   | .687 | .385 | .005 - .010                   | .689 | .325 | .040 - .060                   | .693 | .410 | .025 - .040                   | .700 | .252 | .010 - .020                   | .701 | .259 | .005 - .010                   |
| .685 | .470 | .050 - .070                   | .687 | .386 | .070 - .090                   | .689 | .345 | .040 - .060                   | .693 | .438 | .020 - .030                   | .700 | .253 | .005 - .010                   | .701 | .285 | .005 - .010                   |
| .685 | .473 | .060 - .080                   | .687 | .393 | .005 - .015                   | .689 | .375 | .010 - .020                   | .693 | .443 | .005 - .010                   | .700 | .256 | .040 - .060                   | .701 | .321 | .125 - .135                   |
| .685 | .475 | .020 - .040                   | .687 | .397 | .050 - .075                   | .689 | .377 | .050 - .070                   | .693 | .539 | .050 - .070                   | .700 | .272 | .060 - .080                   | .701 | .410 | .005 - .010                   |
| .685 | .478 | .015 - .030                   | .687 | .406 | .040 - .050                   | .689 | .398 | .005 - .010                   | .694 | .200 | .080 - .100                   | .700 | .291 | .005 - .010                   | .701 | .419 | .050 - .070                   |
| .685 | .487 | .020 - .030                   | .687 | .416 | .050 - .060                   | .689 | .401 | .015 - .030                   | .694 | .275 | .020 - .040                   | .700 | .313 | .010 - .020                   | .701 | .425 | .050 - .070                   |
| .685 | .520 | .010 - .020                   | .687 | .432 | .050 - .070                   | .689 | .402 | .032 - .048                   | .694 | .370 | .010 - .020                   | .700 | .316 | .060 - .080                   | .701 | .438 | .040 - .060                   |
| .685 | .533 | .060 - .083                   | .687 | .433 | .050 - .125                   | .689 | .408 | .100 - .125                   | .694 | .379 | .060 - .070                   | .700 | .317 | .005 - .020                   | .701 | .500 | .010 - .060                   |
| .685 | .568 | .030 - .050                   | .687 | .438 | .005 - .020                   | .689 | .435 | .005 - .010                   | .694 | .478 | .060 - .070                   | .700 | .320 | .005 - .010                   | .701 | .521 | .080 - .100                   |
| .685 | .609 | .010 - .030                   | .687 | .441 | .020 - .070                   | .689 | .437 | .005 - .010                   | .694 | .484 | .050 - .070                   | .700 | .327 | .015 - .020                   | .701 | .549 | .020 - .030                   |
| .686 | .066 | .036 - .050                   | .687 | .443 | .030 - .125                   | .689 | .468 | .015 - .125                   | .695 | .195 | .015 - .025                   | .700 | .328 | .010 - .025                   | .701 | .561 | .010 - .020                   |
| .686 | .094 | .005 - .010                   | .687 | .445 | .012 - .020                   | .689 | .471 | .005 - .010                   | .695 | .196 | .032 - .062                   | .700 | .330 | .100 - .125                   | .701 | .614 | .015 - .030                   |
| .686 | .135 | .030 - .050                   | .687 | .452 | .010 - .020                   | .689 | .472 | .030 - .050                   | .695 | .264 | .005 - .012                   | .700 | .337 | .050 - .070                   | .702 | .255 | .005 - .010                   |
| .686 | .136 | .040 - .060                   | .687 | .455 | .050 - .100                   | .689 | .493 | .040 - .060                   | .695 | .265 | .030 - .060                   | .700 | .344 | .007 - .020                   | .702 | .261 | .100 - .120                   |
| .686 | .147 | .015 - .025                   | .687 | .465 | .080 - .100                   | .689 | .494 | .050 - .075                   | .695 | .282 | .005 - .010                   | .700 | .356 | .005 - .010                   | .702 | .312 | .010 - .020                   |
| .686 | .159 | .080 - .100                   | .687 | .468 | .040 - .060                   | .689 | .500 | .005 - .010                   | .695 | .335 | .025 - .040                   | .700 | .357 | .010 - .020                   | .702 | .319 | .020 - .030                   |
| .686 | .161 | .005 - .010                   | .687 | .469 | .050 - .080                   | .689 | .517 | .030 - .050                   | .695 | .339 | .090 - .110                   | .700 | .358 | .040 - .060                   | .702 | .325 | .005 - .010                   |
| .686 | .167 | .040 - .135                   | .687 | .475 | .015 - .030                   | .689 | .564 | .010 - .030                   | .695 | .353 | .010 - .020                   | .700 | .360 | .030 - .050                   | .702 | .327 | .105 - .125                   |
| .686 | .198 | .042 - .060                   | .687 | .478 | .070 - .090                   | .689 | .565 | .010 - .020                   | .695 | .412 | .080 - .104                   | .700 | .366 | .090 - .105                   | .702 | .401 | .025 - .040                   |
| .686 | .202 | .100 - .125                   | .687 | .481 | .050 - .070                   | .689 | .577 | .030 - .050                   | .695 | .414 | .012 - .025                   | .700 | .376 | .010 - .020                   | .702 | .437 | .090 - .105                   |
| .686 | .252 | .040 - .060                   | .687 | .487 | .025 - .040                   | .690 | .076 | .010 - .020                   | .695 | .486 | .060 - .070                   | .700 | .377 | .020 - .040                   | .702 | .487 | .050 - .070                   |
| .686 | .253 | .042 - .062                   | .687 | .500 | .010 - .050                   | .690 | .149 | .050 - .060                   | .695 | .505 | .050 - .070                   | .700 | .378 | .005 - .030                   | .702 | .504 | .012 - .025                   |
| .686 | .269 | .050 - .072                   | .687 | .503 | .005 - .010                   | .690 | .157 | .005 - .010                   | .695 | .518 | .030 - .040                   | .700 | .380 | .040 - .060                   | .702 | .505 | .005 - .010                   |
| .686 | .270 | .005 - .010                   | .687 | .506 | .005 - .010                   | .690 | .167 | .005 - .010                   | .695 | .520 | .005 - .010                   | .700 | .381 | .005 - .010                   | .702 | .516 | .050 - .075                   |
| .686 | .313 | .100 - .120                   | .687 | .510 | .050 - .060                   | .690 | .173 | .050 - .070                   | .695 | .557 | .005 - .010                   | .700 | .383 | .040 - .060                   | .702 | .561 | .015 - .030                   |
| .686 | .345 | .060 - .080                   | .687 | .511 | .020 - .040                   | .690 | .188 | .040 - .060                   | .695 | .558 | .015 - .030                   | .700 | .385 | .090 - .105                   | .702 | .595 | .025 - .040                   |
| .686 | .346 | .025 - .035                   | .687 | .513 | .042 - .062                   | .690 | .190 | .010 - .020                   | .695 | .626 | .015 - .025                   | .700 | .392 | .010 - .020                   | .702 | .635 | .010 - .020                   |
| .686 | .360 | .015 - .025                   | .687 | .517 | .030 - .048                   | .690 | .192 | .060 - .080                   | .696 | .037 | .007 - .015                   | .700 | .394 | .135 - .156                   | .703 | .119 | .030 - .050                   |
| .686 | .377 | .060 - .080                   | .687 | .564 | .005 - .010                   | .690 | .202 | .030 - .050                   | .696 | .147 | .005 - .015                   | .700 | .397 | .005 - .010                   | .703 | .206 | .025 - .040                   |
| .686 | .379 | .025 - .040                   | .687 | .566 | .005 - .015                   | .690 | .206 | .050 - .075                   | .696 | .156 | .005 - .010                   | .700 | .405 | .120 - .134                   | .703 | .263 | .005 - .010                   |
| .686 | .381 | .080 - .105                   | .687 | .603 | .005 - .010                   | .690 | .220 | .020 - .032                   | .696 | .166 | .062 - .090                   | .700 | .406 | .050 - .150                   |      |      |                               |

**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .704 | .336 | .005 - .010                   | .708 | .512 | .005 - .040                   | .710 | .578 | .040 - .060                   | .717 | .476 | .025 - .040                   | .721 | .423 | .005 - .010                   | .728 | .454 | .015 - .025                   |
| .704 | .343 | .060 - .080                   | .708 | .550 | .020 - .036                   | .710 | .589 | .005 - .030                   | .717 | .478 | .005 - .010                   | .721 | .530 | .010 - .020                   | .728 | .473 | .025 - .042                   |
| .704 | .366 | .010 - .040                   | .708 | .551 | .045 - .060                   | .710 | .610 | .010 - .020                   | .717 | .515 | .050 - .075                   | .721 | .594 | .016 - .025                   | .728 | .477 | .005 - .010                   |
| .704 | .475 | .010 - .025                   | .708 | .575 | .010 - .025                   | .710 | .620 | .005 - .010                   | .717 | .548 | .005 - .010                   | .721 | .601 | .020 - .040                   | .728 | .500 | .005 - .015                   |
| .704 | .478 | .040 - .060                   | .708 | .630 | .005 - .010                   | .711 | .160 | .005 - .010                   | .717 | .628 | .005 - .010                   | .722 | .186 | .005 - .010                   | .728 | .532 | .020 - .040                   |
| .704 | .480 | .015 - .030                   | .708 | .632 | .005 - .010                   | .711 | .168 | .005 - .010                   | .718 | .131 | .030 - .050                   | .722 | .221 | .080 - .100                   | .728 | .545 | .015 - .030                   |
| .704 | .497 | .020 - .035                   | .708 | .636 | .015 - .030                   | .711 | .320 | .005 - .010                   | .718 | .160 | .048 - .062                   | .722 | .233 | .050 - .070                   | .728 | .574 | .005 - .010                   |
| .704 | .503 | .060 - .100                   | .708 | .637 | .005 - .020                   | .711 | .407 | .020 - .050                   | .718 | .189 | .015 - .030                   | .722 | .265 | .050 - .075                   | .728 | .591 | .030 - .050                   |
| .704 | .532 | .030 - .050                   | .708 | .641 | .005 - .010                   | .711 | .485 | .040 - .060                   | .718 | .205 | .005 - .010                   | .722 | .268 | .005 - .010                   | .728 | .631 | .012 - .020                   |
| .704 | .553 | .005 - .010                   | .709 | .145 | .005 - .010                   | .711 | .486 | .040 - .060                   | .718 | .213 | .015 - .030                   | .722 | .314 | .050 - .075                   | .728 | .632 | .005 - .010                   |
| .704 | .600 | .020 - .040                   | .709 | .149 | .030 - .060                   | .711 | .526 | .015 - .025                   | .718 | .252 | .010 - .025                   | .722 | .320 | .050 - .080                   | .729 | .219 | .010 - .020                   |
| .704 | .626 | .005 - .010                   | .709 | .177 | .005 - .010                   | .712 | .177 | .020 - .032                   | .718 | .257 | .025 - .040                   | .722 | .324 | .030 - .050                   | .729 | .376 | .015 - .030                   |
| .705 | .085 | .005 - .012                   | .709 | .181 | .060 - .080                   | .712 | .200 | .005 - .015                   | .718 | .262 | .020 - .040                   | .722 | .376 | .100 - .125                   | .729 | .379 | .005 - .010                   |
| .705 | .098 | .005 - .010                   | .709 | .239 | .005 - .020                   | .712 | .234 | .005 - .010                   | .718 | .282 | .062 - .083                   | .722 | .481 | .050 - .060                   | .729 | .382 | .135 - .156                   |
| .705 | .248 | .015 - .030                   | .709 | .243 | .005 - .010                   | .712 | .236 | .005 - .010                   | .718 | .313 | .015 - .030                   | .722 | .500 | .072 - .090                   | .729 | .397 | .025 - .040                   |
| .705 | .253 | .050 - .072                   | .709 | .253 | .160 - .180                   | .712 | .246 | .080 - .105                   | .718 | .353 | .005 - .010                   | .722 | .515 | .010 - .020                   | .729 | .477 | .005 - .010                   |
| .705 | .265 | .020 - .040                   | .709 | .259 | .040 - .060                   | .712 | .252 | .005 - .010                   | .718 | .375 | .030 - .060                   | .722 | .540 | .078 - .090                   | .729 | .500 | .005 - .010                   |
| .705 | .274 | .005 - .010                   | .709 | .313 | .005 - .110                   | .712 | .505 | .005 - .010                   | .718 | .378 | .025 - .050                   | .722 | .636 | .010 - .020                   | .729 | .513 | .007 - .016                   |
| .705 | .311 | .005 - .010                   | .709 | .314 | .005 - .010                   | .712 | .514 | .005 - .010                   | .718 | .380 | .005 - .090                   | .723 | .221 | .005 - .040                   | .729 | .552 | .060 - .080                   |
| .705 | .312 | .005 - .010                   | .709 | .316 | .005 - .030                   | .712 | .525 | .040 - .060                   | .718 | .395 | .010 - .020                   | .723 | .314 | .040 - .060                   | .730 | .238 | .060 - .080                   |
| .705 | .317 | .005 - .010                   | .709 | .317 | .005 - .010                   | .712 | .530 | .030 - .050                   | .718 | .398 | .005 - .010                   | .723 | .382 | .030 - .060                   | .730 | .280 | .010 - .020                   |
| .705 | .361 | .105 - .125                   | .709 | .320 | .005 - .010                   | .712 | .567 | .015 - .030                   | .718 | .406 | .005 - .010                   | .723 | .632 | .005 - .010                   | .730 | .287 | .050 - .075                   |
| .705 | .383 | .010 - .020                   | .709 | .321 | .005 - .010                   | .712 | .646 | .005 - .010                   | .718 | .408 | .030 - .050                   | .723 | .637 | .010 - .020                   | .730 | .401 | .005 - .010                   |
| .705 | .438 | .005 - .010                   | .709 | .322 | .005 - .010                   | .713 | .116 | .050 - .070                   | .718 | .418 | .015 - .030                   | .723 | .641 | .005 - .010                   | .730 | .415 | .005 - .010                   |
| .705 | .516 | .025 - .040                   | .709 | .327 | .040 - .060                   | .713 | .199 | .015 - .030                   | .718 | .438 | .090 - .125                   | .724 | .173 | .030 - .050                   | .730 | .429 | .005 - .010                   |
| .705 | .531 | .005 - .010                   | .709 | .347 | .050 - .070                   | .713 | .206 | .080 - .100                   | .718 | .464 | .005 - .010                   | .724 | .201 | .020 - .040                   | .730 | .433 | .025 - .040                   |
| .705 | .550 | .030 - .050                   | .709 | .352 | .015 - .030                   | .713 | .400 | .015 - .025                   | .718 | .465 | .060 - .070                   | .724 | .218 | .005 - .020                   | .730 | .460 | .010 - .020                   |
| .705 | .570 | .050 - .070                   | .709 | .381 | .030 - .050                   | .713 | .410 | .005 - .010                   | .718 | .487 | .005 - .010                   | .724 | .382 | .020 - .040                   | .730 | .475 | .020 - .040                   |
| .705 | .634 | .015 - .025                   | .709 | .386 | .005 - .010                   | .713 | .437 | .060 - .075                   | .718 | .518 | .020 - .040                   | .724 | .428 | .005 - .010                   | .730 | .480 | .050 - .070                   |
| .706 | .254 | .030 - .050                   | .709 | .392 | .010 - .020                   | .713 | .540 | .040 - .060                   | .718 | .562 | .005 - .040                   | .724 | .508 | .025 - .040                   | .730 | .486 | .020 - .040                   |
| .706 | .347 | .005 - .010                   | .709 | .394 | .010 - .050                   | .713 | .595 | .010 - .020                   | .718 | .585 | .005 - .010                   | .724 | .519 | .020 - .040                   | .730 | .492 | .030 - .050                   |
| .706 | .390 | .005 - .010                   | .709 | .395 | .005 - .020                   | .713 | .672 | .005 - .010                   | .718 | .593 | .015 - .020                   | .724 | .570 | .005 - .010                   | .730 | .506 | .040 - .060                   |
| .706 | .395 | .062 - .083                   | .709 | .397 | .005 - .020                   | .714 | .101 | .020 - .030                   | .718 | .595 | .005 - .010                   | .724 | .670 | .005 - .010                   | .730 | .519 | .050 - .070                   |
| .706 | .398 | .050 - .070                   | .709 | .399 | .010 - .020                   | .714 | .111 | .020 - .030                   | .718 | .600 | .045 - .060                   | .725 | .089 | .062 - .078                   | .730 | .526 | .005 - .010                   |
| .706 | .402 | .005 - .010                   | .709 | .437 | .005 - .050                   | .714 | .118 | .020 - .030                   | .718 | .638 | .006 - .030                   | .725 | .128 | .040 - .060                   | .730 | .569 | .015 - .030                   |
| .706 | .420 | .005 - .010                   | .709 | .455 | .090 - .105                   | .714 | .125 | .020 - .030                   | .719 | .132 | .030 - .050                   | .725 | .160 | .020 - .040                   | .730 | .571 | .005 - .010                   |
| .706 | .434 | .025 - .040                   | .709 | .472 | .005 - .050                   | .714 | .140 | .020 - .030                   | .719 | .196 | .040 - .060                   | .725 | .187 | .060 - .090                   | .730 | .615 | .020 - .030                   |
| .706 | .453 | .032 - .042                   | .709 | .474 | .010 - .020                   | .714 | .182 | .005 - .010                   | .719 | .198 | .015 - .030                   | .725 | .251 | .015 - .030                   | .730 | .630 | .030 - .042                   |
| .706 | .478 | .040 - .060                   | .709 | .475 | .040 - .060                   | .714 | .223 | .050 - .070                   | .719 | .237 | .005 - .010                   | .725 | .296 | .100 - .125                   | .730 | .632 | .005 - .010                   |
| .706 | .500 | .075 - .100                   | .709 | .476 | .005 - .010                   | .714 | .285 | .070 - .090                   | .719 | .240 | .015 - .030                   | .725 | .339 | .005 - .030                   | .731 | .206 | .030 - .050                   |
| .706 | .505 | .010 - .060                   | .709 | .482 | .070 - .090                   | .714 | .299 | .020 - .030                   | .719 | .254 | .008 - .016                   | .725 | .346 | .005 - .010                   | .731 | .410 | .070 - .090                   |
| .707 | .315 | .100 - .125                   | .709 | .483 | .005 - .010                   | .714 | .390 | .048 - .072                   | .719 | .324 | .015 - .030                   | .725 | .458 | .010 - .020                   | .731 | .416 | .005 - .080                   |
| .707 | .316 | .005 - .125                   | .709 | .490 | .060 - .080                   | .714 | .414 | .040 - .060                   | .719 | .329 | .080 - .100                   | .725 | .505 | .010 - .020                   | .731 | .426 | .010 - .020                   |
| .707 | .320 | .005 - .010                   | .709 | .492 | .030 - .050                   | .714 | .555 | .050 - .075                   | .719 | .374 | .010 - .015                   | .725 | .540 | .050 - .070                   | .731 | .433 | .030 - .050                   |
| .707 | .335 | .020 - .040                   | .709 | .503 | .080 - .105                   | .715 | .198 | .030 - .078                   | .719 | .378 | .005 - .010                   | .725 | .548 | .020 - .040                   | .731 | .453 | .100 - .120                   |
| .707 | .436 | .005 - .010                   | .709 | .519 | .040 - .060                   | .715 | .199 | .060 - .083                   | .719 | .380 | .070 - .090                   | .725 | .630 | .040 - .060                   | .731 | .482 | .020 - .040                   |
| .707 | .472 | .015 - .030                   | .709 | .550 | .005 - .010                   | .715 | .315 | .090 - .104                   | .719 | .395 | .040 - .060                   | .726 | .183 | .050 - .070                   | .731 | .564 | .005 - .010                   |
| .707 | .480 | .005 - .010                   | .709 | .592 | .030 - .050                   | .715 | .323 | .015 - .030                   | .719 | .439 | .080 - .105                   | .726 | .286 | .005 - .010                   | .731 | .585 | .005 - .010                   |
| .708 | .120 | .072 - .120                   | .709 | .596 | .020 - .040                   | .715 | .330 | .005 - .012                   | .719 | .441 | .070 - .090                   | .726 | .304 | .010 - .020                   | .732 | .043 | .010 - .020                   |
| .708 | .136 | .040 - .060                   | .710 | .133 | .005 - .010                   | .715 | .366 | .020 - .040                   | .719 | .453 | .050 - .070                   | .726 | .315 | .020 - .030                   | .732 | .159 | .070 - .090                   |
| .708 | .170 | .040 - .060                   | .710 | .201 | .050 - .070                   | .715 | .369 | .060 - .080                   | .719 | .468 | .020 - .040                   | .726 | .325 | .005 - .010                   | .732 | .163 | .015 - .030                   |
| .708 | .218 | .005 - .030                   | .710 | .211 | .070 - .090                   | .715 | .379 | .005 - .010                   | .719 | .543 | .040 - .060                   | .726 | .343 | .005 - .010                   | .732 | .165 | .005 - .010                   |
| .708 | .236 | .030 - .050                   | .710 | .236 | .005 - .010                   | .715 | .437 | .008 - .012                   | .719 | .555 | .040 - .060                   | .726 | .375 | .105 - .125                   | .732 | .199 | .042 - .080                   |
| .708 | .238 | .005 - .010                   | .710 | .238 | .005 - .010                   | .715 | .440 | .090 - .100                   | .720 | .254 | .020 - .035                   | .726 | .388 | .005 - .010                   | .732 | .253 | .010 - .015                   |
| .708 | .239 | .030 - .050                   | .710 | .252 | .008 - .016                   | .715 | .470 | .060 - .105                   | .720 | .259 | .005 - .010                   | .726 | .406 | .030 - .050                   | .732 | .263 | .040 - .062                   |
| .708 | .253 | .040 - .060                   | .710 | .278 | .005 - .010                   | .715 | .474 | .030 - .060                   | .720 | .281 | .110 - .187                   | .726 | .439 | .020 - .040                   | .732 | .281 | .050 - .075                   |
| .708 | .257 | .050 - .070                   | .710 | .279 | .005 - .010                   | .715 | .481 | .025 - .040                   | .720 | .315 | .005 - .010                   | .726 | .485 | .015 - .030                   | .732 | .290 | .005 - .010                   |
| .708 | .271 | .105 - .120                   | .710 | .288 | .015 - .125                   | .715 | .495 | .005 - .010                   | .720 | .321 | .050 - .075                   | .726 | .632 | .005 - .010                   | .732 | .330 | .005 - .060                   |
| .708 | .279 | .060 - .080                   | .710 | .301 | .010 - .020                   | .715 | .500 | .020 - .035                   | .720 | .341 | .090 - .105                   | .727 | .257 | .020 - .040                   | .732 | .335 | .020 - .040                   |
| .708 | .293 | .050 - .070                   | .710 | .308 | .100 - .120                   | .715 | .526 | .015 - .025                   | .720 | .360 | .020 - .030                   | .727 | .259 | .130 - .150                   | .732 | .443 | .015 - .030                   |
| .708 | .305 | .005 - .010                   | .710 | .315 | .005 - .010                   | .715 | .535 | .025 - .040                   | .720 | .380 | .020 - .040                   | .727 | .397 | .005 - .010                   | .732 | .475 | .008 - .015                   |
| .708 | .315 | .005 - .010                   | .710 | .317 | .005 - .010                   | .716 | .230 | .015 - .030                   | .720 | .401 | .005 - .015                   | .727 | .448 | .005 - .010                   | .732 | .502 | .025 - .042                   |
| .708 | .319 | .005 - .070                   | .710 | .318 | .010 - .015                   | .716 | .264 | .020 - .040                   | .720 | .446 | .025 - .040                   | .727 | .480 | .040 - .050                   | .732 | .550 | .040 - .050                   |
| .708 | .322 | .005 - .010                   | .710 | .330 | .010 - .020                   | .716 | .324 | .005 - .010                   | .720 | .455 | .105 - .125                   | .727 | .500 | .015 - .030                   | .733 | .159 | .070 - .090                   |
| .708 | .335 | .020 - .030                   | .710 | .342 | .020 - .030                   | .716 | .405 | .025 - .042                   | .720 | .463 | .080 - .104                   | .727 | .512 | .010 - .020                   | .733 | .234 | .005 - .010                   |
| .708 | .338 | .005 - .010                   | .710 | .354 | .008 - .020                   | .716 | .474 | .030 - .050                   | .720 | .473 | .005 - .010                   | .727 | .570 | .040 - .060                   | .733 | .389 | .010 - .020                   |
| .708 | .339 | .040 - .060                   | .710 | .376 | .020 - .040                   | .716 | .515 | .040 - .062                   | .720 | .476 | .070 - .090                   | .727 | .576 | .015 - .035                   | .733 | .435 | .030 - .050                   |
| .708 | .341 | .005 - .010                   | .710 | .413 | .050 - .072                   | .716 | .624 | .030 - .048                   | .720 | .502 | .015 - .020                   | .727 | .586 | .015 - .03                    |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .734 | .380 | .010 - .015                   | .740 | .160 | .005 - .010                   | .743 | .541 | .005 - .010                   | .746 | .253 | .040 - .060                   | .748 | .259 | .008 - .016                   | .749 | .408 | .005 - .010                   |
| .734 | .400 | .020 - .040                   | .740 | .200 | .005 - .010                   | .743 | .556 | .005 - .008                   | .746 | .260 | .005 - .010                   | .748 | .315 | .005 - .010                   | .749 | .424 | .040 - .060                   |
| .734 | .406 | .050 - .125                   | .740 | .206 | .005 - .010                   | .743 | .572 | .040 - .060                   | .746 | .285 | .005 - .010                   | .748 | .316 | .005 - .190                   | .749 | .437 | .042 - .060                   |
| .734 | .420 | .093 - .130                   | .740 | .250 | .120 - .135                   | .743 | .596 | .005 - .010                   | .746 | .316 | .005 - .030                   | .748 | .318 | .005 - .020                   | .749 | .438 | .010 - .020                   |
| .734 | .466 | .060 - .075                   | .740 | .318 | .005 - .010                   | .743 | .600 | .010 - .080                   | .746 | .318 | .078 - .090                   | .748 | .322 | .005 - .010                   | .749 | .440 | .005 - .070                   |
| .734 | .485 | .020 - .030                   | .740 | .330 | .070 - .080                   | .743 | .623 | .010 - .020                   | .746 | .319 | .040 - .060                   | .748 | .328 | .105 - .134                   | .749 | .445 | .005 - .015                   |
| .734 | .515 | .030 - .042                   | .740 | .341 | .050 - .070                   | .743 | .630 | .016 - .025                   | .746 | .378 | .010 - .020                   | .748 | .331 | .015 - .030                   | .749 | .459 | .005 - .010                   |
| .734 | .531 | .005 - .010                   | .740 | .344 | .020 - .030                   | .744 | .187 | .100 - .120                   | .746 | .379 | .040 - .060                   | .748 | .357 | .070 - .090                   | .749 | .468 | .005 - .010                   |
| .734 | .630 | .032 - .048                   | .740 | .352 | .020 - .040                   | .744 | .215 | .030 - .050                   | .746 | .386 | .060 - .070                   | .748 | .376 | .005 - .010                   | .749 | .471 | .050 - .070                   |
| .735 | .193 | .050 - .070                   | .740 | .377 | .050 - .093                   | .744 | .236 | .010 - .020                   | .746 | .390 | .006 - .010                   | .748 | .377 | .156 - .187                   | .749 | .474 | .050 - .070                   |
| .735 | .282 | .050 - .070                   | .740 | .380 | .030 - .125                   | .744 | .262 | .015 - .030                   | .746 | .393 | .110 - .130                   | .748 | .384 | .020 - .040                   | .749 | .499 | .020 - .080                   |
| .735 | .321 | .030 - .060                   | .740 | .386 | .005 - .010                   | .744 | .370 | .015 - .030                   | .746 | .395 | .030 - .050                   | .748 | .385 | .005 - .010                   | .749 | .503 | .005 - .010                   |
| .735 | .346 | .050 - .080                   | .740 | .390 | .005 - .050                   | .744 | .383 | .035 - .050                   | .746 | .405 | .005 - .010                   | .748 | .393 | .060 - .080                   | .749 | .504 | .090 - .120                   |
| .735 | .369 | .060 - .080                   | .740 | .391 | .005 - .010                   | .744 | .388 | .005 - .010                   | .746 | .437 | .042 - .060                   | .748 | .397 | .005 - .010                   | .749 | .507 | .008 - .016                   |
| .735 | .371 | .015 - .030                   | .740 | .410 | .105 - .125                   | .744 | .403 | .031 - .048                   | .746 | .438 | .005 - .010                   | .748 | .400 | .005 - .010                   | .749 | .517 | .005 - .010                   |
| .735 | .380 | .105 - .156                   | .740 | .412 | .062 - .075                   | .744 | .409 | .050 - .070                   | .746 | .445 | .040 - .060                   | .748 | .451 | .005 - .010                   | .749 | .528 | .005 - .010                   |
| .735 | .385 | .020 - .030                   | .740 | .439 | .005 - .010                   | .744 | .413 | .105 - .125                   | .746 | .455 | .010 - .020                   | .748 | .461 | .010 - .020                   | .749 | .531 | .005 - .010                   |
| .735 | .393 | .005 - .110                   | .740 | .440 | .010 - .020                   | .744 | .430 | .005 - .010                   | .746 | .469 | .030 - .060                   | .748 | .462 | .005 - .010                   | .749 | .562 | .010 - .020                   |
| .735 | .401 | .015 - .025                   | .740 | .453 | .020 - .040                   | .744 | .438 | .040 - .060                   | .746 | .480 | .015 - .090                   | .748 | .473 | .005 - .015                   | .749 | .563 | .005 - .010                   |
| .735 | .412 | .005 - .010                   | .740 | .489 | .005 - .080                   | .744 | .449 | .060 - .080                   | .746 | .499 | .020 - .040                   | .748 | .476 | .005 - .020                   | .749 | .575 | .040 - .060                   |
| .735 | .418 | .060 - .080                   | .740 | .501 | .008 - .015                   | .744 | .450 | .050 - .075                   | .746 | .500 | .005 - .012                   | .748 | .501 | .090 - .105                   | .749 | .594 | .010 - .020                   |
| .735 | .451 | .050 - .070                   | .740 | .502 | .080 - .100                   | .744 | .500 | .005 - .012                   | .746 | .521 | .005 - .010                   | .748 | .503 | .010 - .040                   | .749 | .595 | .035 - .062                   |
| .735 | .454 | .005 - .010                   | .740 | .510 | .040 - .060                   | .744 | .504 | .005 - .010                   | .746 | .531 | .005 - .020                   | .748 | .504 | .050 - .070                   | .749 | .599 | .015 - .030                   |
| .735 | .454 | .100 - .130                   | .740 | .511 | .005 - .010                   | .744 | .507 | .040 - .075                   | .746 | .533 | .030 - .050                   | .748 | .507 | .020 - .036                   | .749 | .609 | .005 - .010                   |
| .735 | .500 | .020 - .070                   | .740 | .550 | .005 - .010                   | .744 | .523 | .030 - .050                   | .746 | .564 | .015 - .030                   | .748 | .511 | .010 - .020                   | .749 | .620 | .015 - .030                   |
| .735 | .560 | .060 - .080                   | .740 | .571 | .005 - .010                   | .744 | .525 | .040 - .050                   | .746 | .565 | .075 - .090                   | .748 | .513 | .070 - .090                   | .749 | .626 | .040 - .060                   |
| .735 | .627 | .040 - .060                   | .740 | .603 | .005 - .010                   | .744 | .532 | .010 - .020                   | .746 | .579 | .025 - .048                   | .748 | .553 | .005 - .010                   | .749 | .633 | .010 - .020                   |
| .736 | .118 | .015 - .030                   | .740 | .626 | .005 - .010                   | .744 | .561 | .005 - .010                   | .746 | .608 | .050 - .070                   | .748 | .563 | .015 - .030                   | .749 | .640 | .030 - .060                   |
| .736 | .159 | .040 - .050                   | .740 | .628 | .005 - .010                   | .744 | .599 | .005 - .012                   | .746 | .621 | .005 - .010                   | .748 | .570 | .005 - .012                   | .749 | .644 | .005 - .010                   |
| .736 | .160 | .030 - .050                   | .740 | .631 | .005 - .010                   | .744 | .622 | .020 - .040                   | .746 | .627 | .020 - .040                   | .748 | .573 | .012 - .020                   | .749 | .650 | .040 - .050                   |
| .736 | .268 | .042 - .060                   | .740 | .659 | .005 - .010                   | .745 | .095 | .005 - .010                   | .746 | .634 | .010 - .020                   | .748 | .582 | .005 - .010                   | .749 | .669 | .005 - .010                   |
| .736 | .310 | .048 - .070                   | .740 | .660 | .020 - .030                   | .745 | .120 | .015 - .040                   | .746 | .670 | .005 - .010                   | .748 | .626 | .040 - .060                   |      |      |                               |
| .736 | .313 | .040 - .060                   | .740 | .691 | .005 - .010                   | .745 | .126 | .032 - .050                   | .747 | .131 | .025 - .040                   | .748 | .629 | .010 - .020                   |      |      |                               |
| .736 | .318 | .015 - .030                   | .740 | .696 | .010 - .020                   | .745 | .143 | .035 - .055                   | .747 | .143 | .030 - .050                   | .748 | .632 | .015 - .030                   |      |      |                               |
| .736 | .380 | .020 - .030                   | .741 | .201 | .015 - .025                   | .745 | .184 | .010 - .020                   | .747 | .214 | .065 - .080                   | .748 | .634 | .005 - .030                   |      |      |                               |
| .736 | .386 | .040 - .060                   | .741 | .203 | .060 - .080                   | .745 | .190 | .040 - .060                   | .747 | .235 | .005 - .010                   | .748 | .635 | .015 - .025                   |      |      |                               |
| .736 | .436 | .005 - .010                   | .741 | .261 | .156 - .187                   | .745 | .191 | .025 - .035                   | .747 | .261 | .015 - .025                   | .748 | .644 | .025 - .040                   |      |      |                               |
| .736 | .467 | .005 - .010                   | .741 | .291 | .015 - .025                   | .745 | .193 | .020 - .060                   | .747 | .268 | .005 - .010                   | .748 | .670 | .005 - .015                   |      |      |                               |
| .736 | .504 | .007 - .016                   | .741 | .296 | .015 - .030                   | .745 | .200 | .050 - .070                   | .747 | .269 | .040 - .060                   | .748 | .693 | .005 - .010                   |      |      |                               |
| .736 | .516 | .030 - .050                   | .741 | .322 | .050 - .075                   | .745 | .214 | .015 - .030                   | .747 | .315 | .005 - .010                   | .749 | .064 | .030 - .050                   |      |      |                               |
| .736 | .565 | .005 - .010                   | .741 | .378 | .050 - .080                   | .745 | .234 | .040 - .060                   | .747 | .316 | .030 - .040                   | .749 | .087 | .015 - .030                   | .750 | .063 | .025 - .048                   |
| .736 | .578 | .015 - .025                   | .741 | .395 | .025 - .040                   | .745 | .244 | .005 - .010                   | .747 | .317 | .040 - .060                   | .749 | .160 | .008 - .016                   | .750 | .069 | .005 - .010                   |
| .736 | .595 | .040 - .062                   | .741 | .412 | .080 - .105                   | .745 | .255 | .032 - .050                   | .747 | .324 | .020 - .030                   | .749 | .161 | .060 - .090                   | .750 | .078 | .005 - .010                   |
| .736 | .601 | .015 - .030                   | .741 | .505 | .060 - .083                   | .745 | .264 | .010 - .020                   | .747 | .376 | .010 - .020                   | .749 | .162 | .030 - .050                   | .750 | .085 | .005 - .010                   |
| .736 | .633 | .015 - .030                   | .741 | .515 | .040 - .060                   | .745 | .265 | .050 - .125                   | .747 | .377 | .010 - .015                   | .749 | .181 | .060 - .090                   | .750 | .090 | .010 - .015                   |
| .736 | .650 | .025 - .040                   | .741 | .529 | .010 - .020                   | .745 | .291 | .005 - .010                   | .747 | .380 | .008 - .016                   | .749 | .190 | .010 - .020                   | .750 | .096 | .060 - .090                   |
| .737 | .318 | .015 - .025                   | .741 | .531 | .050 - .070                   | .745 | .316 | .060 - .070                   | .747 | .395 | .010 - .020                   | .749 | .194 | .090 - .125                   | .750 | .102 | .015 - .025                   |
| .737 | .330 | .040 - .060                   | .741 | .562 | .030 - .060                   | .745 | .317 | .105 - .135                   | .747 | .397 | .105 - .125                   | .749 | .200 | .005 - .010                   | .750 | .118 | .005 - .010                   |
| .737 | .364 | .005 - .010                   | .741 | .570 | .020 - .040                   | .745 | .320 | .080 - .105                   | .747 | .468 | .030 - .050                   | .749 | .200 | .020 - .042                   | .750 | .125 | .012 - .025                   |
| .737 | .419 | .030 - .060                   | .741 | .636 | .015 - .030                   | .745 | .330 | .015 - .030                   | .747 | .475 | .008 - .012                   | .749 | .203 | .125 - .156                   | .750 | .126 | .005 - .010                   |
| .737 | .436 | .040 - .050                   | .741 | .640 | .005 - .010                   | .745 | .389 | .050 - .070                   | .747 | .478 | .005 - .015                   | .749 | .204 | .005 - .060                   | .750 | .128 | .005 - .010                   |
| .737 | .503 | .060 - .083                   | .741 | .690 | .005 - .010                   | .745 | .403 | .050 - .060                   | .747 | .491 | .005 - .010                   | .749 | .220 | .105 - .135                   | .750 | .129 | .090 - .104                   |
| .737 | .505 | .005 - .070                   | .742 | .149 | .005 - .010                   | .745 | .422 | .090 - .100                   | .747 | .508 | .100 - .125                   | .749 | .221 | .040 - .060                   | .750 | .133 | .030 - .050                   |
| .737 | .510 | .010 - .020                   | .742 | .226 | .075 - .100                   | .745 | .438 | .020 - .036                   | .747 | .510 | .015 - .030                   | .749 | .229 | .160 - .187                   | .750 | .134 | .005 - .010                   |
| .737 | .537 | .030 - .050                   | .742 | .251 | .040 - .060                   | .745 | .451 | .010 - .020                   | .747 | .517 | .010 - .020                   | .749 | .237 | .005 - .030                   | .750 | .143 | .015 - .030                   |
| .737 | .546 | .005 - .010                   | .742 | .271 | .110 - .130                   | .745 | .454 | .120 - .140                   | .747 | .561 | .010 - .025                   | .749 | .252 | .025 - .040                   | .750 | .146 | .010 - .078                   |
| .737 | .550 | .025 - .040                   | .742 | .346 | .020 - .030                   | .745 | .455 | .032 - .050                   | .747 | .566 | .050 - .070                   | .749 | .257 | .072 - .120                   | .750 | .147 | .005 - .015                   |
| .738 | .342 | .042 - .060                   | .742 | .360 | .050 - .060                   | .745 | .468 | .005 - .012                   | .747 | .594 | .005 - .010                   | .749 | .258 | .030 - .040                   | .750 | .150 | .005 - .020                   |
| .738 | .346 | .005 - .010                   | .742 | .378 | .080 - .104                   | .745 | .509 | .005 - .010                   | .747 | .618 | .005 - .010                   | .749 | .263 | .030 - .050                   | .750 | .155 | .005 - .010                   |
| .738 | .511 | .015 - .030                   | .742 | .380 | .030 - .050                   | .745 | .510 | .020 - .040                   | .747 | .628 | .005 - .010                   | .749 | .268 | .060 - .090                   | .750 | .156 | .025 - .075                   |
| .738 | .538 | .015 - .030                   | .742 | .387 | .100 - .135                   | .745 | .538 | .030 - .050                   | .747 | .632 | .030 - .050                   | .749 | .272 | .005 - .010                   | .750 | .161 | .090 - .100                   |
| .738 | .540 | .015 - .025                   | .742 | .389 | .042 - .062                   | .745 | .541 | .010 - .025                   | .747 | .651 | .005 - .010                   | .749 | .286 | .105 - .120                   | .750 | .165 | .060 - .080                   |
| .738 | .544 | .005 - .010                   | .742 | .426 | .050 - .070                   | .745 | .558 | .010 - .020                   | .747 | .691 | .015 - .025                   | .749 | .313 | .005 - .040                   | .750 | .166 | .025 - .035                   |
| .738 | .594 | .015 - .030                   | .742 | .443 | .025 - .060                   | .745 | .560 | .005 - .010                   | .748 | .066 | .015 - .030                   | .749 | .315 | .005 - .010                   | .750 | .171 | .005 - .010                   |
| .738 | .595 | .005 - .010                   | .742 | .462 | .005 - .010                   | .745 | .562 | .020 - .030                   | .748 | .136 | .031 - .042                   | .749 | .316 | .005 - .010                   | .750 | .172 | .010 - .020                   |
| .739 | .222 | .040 - .060                   | .742 | .466 | .060 - .075                   | .745 | .571 | .005 - .010                   | .748 | .139 | .020 - .042                   | .749 | .322 | .005 - .010                   | .750 | .184 | .030 - .050                   |
| .739 | .305 | .010 - .020                   | .742 | .474 | .080 - .100                   | .745 | .576 | .042 - .060                   | .748 | .140 | .005 - .010                   | .749 | .323 | .105 - .125                   | .750 | .186 | .005 - .015                   |
| .739 | .333 | .050 - .070                   | .742 | .502 | .060 - .070                   | .745 | .591 | .030 - .050                   | .748 | .147 | .062 - .075                   | .749 | .330 | .060 - .090                   | .750 | .188 | .060 - .083                   |
| .739 | .407 | .060 - .080                   | .742 | .517 | .005 - .030                   | .745 | .599 | .005 - .010                   | .748 | .173 | .032 - .050                   | .74  |      |                               |      |      |                               |

**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .750 | .204 | .050 - .070                   | .750 | .396 | .060 - .070                   | .750 | .630 | .005 - .060                   | .751 | .600 | .030 - .050                   | .755 | .533 | .010 - .020                   | .766 | .535 | .080 - .100                   |
| .750 | .206 | .070 - .090                   | .750 | .400 | .010 - .040                   | .750 | .632 | .005 - .010                   | .751 | .606 | .005 - .010                   | .755 | .552 | .030 - .040                   | .766 | .557 | .025 - .040                   |
| .750 | .209 | .030 - .050                   | .750 | .402 | .042 - .060                   | .750 | .634 | .005 - .020                   | .751 | .626 | .005 - .025                   | .755 | .554 | .005 - .010                   | .766 | .585 | .015 - .030                   |
| .750 | .213 | .105 - .125                   | .750 | .406 | .010 - .030                   | .750 | .639 | .015 - .030                   | .751 | .633 | .005 - .010                   | .755 | .565 | .040 - .060                   | .766 | .610 | .030 - .050                   |
| .750 | .218 | .005 - .010                   | .750 | .406 | .090 - .110                   | .750 | .640 | .010 - .020                   | .751 | .634 | .005 - .010                   | .755 | .586 | .005 - .010                   | .766 | .676 | .005 - .010                   |
| .750 | .223 | .125 - .156                   | .750 | .407 | .120 - .134                   | .750 | .645 | .010 - .020                   | .751 | .639 | .010 - .015                   | .756 | .230 | .005 - .010                   | .767 | .073 | .025 - .040                   |
| .750 | .229 | .005 - .010                   | .750 | .411 | .060 - .070                   | .750 | .650 | .025 - .040                   | .751 | .650 | .010 - .020                   | .756 | .258 | .075 - .100                   | .767 | .084 | .015 - .030                   |
| .750 | .232 | .050 - .075                   | .750 | .413 | .005 - .015                   | .750 | .651 | .040 - .060                   | .752 | .143 | .090 - .120                   | .756 | .375 | .040 - .050                   | .767 | .224 | .090 - .110                   |
| .750 | .236 | .005 - .030                   | .750 | .415 | .005 - .010                   | .750 | .679 | .005 - .010                   | .752 | .145 | .100 - .125                   | .756 | .395 | .005 - .010                   | .767 | .301 | .100 - .125                   |
| .750 | .242 | .030 - .050                   | .750 | .419 | .080 - .100                   | .750 | .691 | .010 - .020                   | .752 | .150 | .090 - .105                   | .756 | .408 | .020 - .035                   | .767 | .315 | .020 - .040                   |
| .750 | .250 | .005 - .062                   | .750 | .420 | .105 - .125                   | .750 | .692 | .015 - .025                   | .752 | .181 | .080 - .104                   | .756 | .500 | .010 - .020                   | .767 | .429 | .005 - .010                   |
| .750 | .251 | .005 - .030                   | .750 | .426 | .005 - .010                   | .750 | .697 | .030 - .060                   | .752 | .186 | .005 - .010                   | .756 | .564 | .005 - .010                   | .767 | .537 | .005 - .010                   |
| .750 | .252 | .005 - .080                   | .750 | .437 | .005 - .010                   | .750 | .700 | .010 - .020                   | .752 | .196 | .040 - .060                   | .756 | .570 | .020 - .030                   | .767 | .563 | .020 - .040                   |
| .750 | .253 | .025 - .040                   | .750 | .438 | .040 - .062                   | .750 | .705 | .010 - .020                   | .752 | .212 | .030 - .060                   | .757 | .139 | .005 - .010                   | .767 | .576 | .030 - .050                   |
| .750 | .254 | .005 - .100                   | .750 | .439 | .010 - .020                   | .751 | .105 | .010 - .020                   | .752 | .250 | .005 - .010                   | .757 | .243 | .005 - .020                   | .767 | .588 | .015 - .030                   |
| .750 | .256 | .040 - .060                   | .750 | .440 | .080 - .104                   | .751 | .126 | .030 - .050                   | .752 | .269 | .100 - .135                   | .757 | .279 | .005 - .015                   | .767 | .699 | .005 - .010                   |
| .750 | .257 | .090 - .120                   | .750 | .441 | .060 - .090                   | .751 | .129 | .050 - .070                   | .752 | .303 | .005 - .012                   | .757 | .387 | .060 - .125                   | .768 | .235 | .040 - .060                   |
| .750 | .259 | .005 - .032                   | .750 | .442 | .005 - .090                   | .751 | .140 | .080 - .100                   | .752 | .315 | .104 - .135                   | .757 | .400 | .040 - .060                   | .768 | .378 | .110 - .130                   |
| .750 | .260 | .090 - .125                   | .750 | .444 | .015 - .030                   | .751 | .168 | .040 - .060                   | .752 | .317 | .010 - .020                   | .757 | .436 | .005 - .010                   | .768 | .415 | .050 - .070                   |
| .750 | .261 | .040 - .080                   | .750 | .445 | .030 - .050                   | .751 | .170 | .040 - .060                   | .752 | .319 | .005 - .030                   | .757 | .468 | .030 - .050                   | .768 | .416 | .050 - .070                   |
| .750 | .264 | .005 - .104                   | .750 | .446 | .015 - .030                   | .751 | .184 | .005 - .010                   | .752 | .320 | .050 - .070                   | .757 | .470 | .020 - .040                   | .768 | .471 | .010 - .020                   |
| .750 | .265 | .050 - .120                   | .750 | .448 | .005 - .010                   | .751 | .187 | .010 - .020                   | .752 | .322 | .005 - .010                   | .757 | .563 | .010 - .020                   | .768 | .530 | .010 - .030                   |
| .750 | .266 | .072 - .135                   | .750 | .450 | .025 - .042                   | .751 | .188 | .060 - .083                   | .752 | .340 | .005 - .010                   | .758 | .234 | .005 - .010                   | .768 | .545 | .020 - .040                   |
| .750 | .267 | .010 - .025                   | .750 | .451 | .036 - .050                   | .751 | .190 | .005 - .010                   | .752 | .357 | .050 - .070                   | .758 | .237 | .005 - .010                   | .768 | .631 | .020 - .040                   |
| .750 | .268 | .010 - .080                   | .750 | .454 | .042 - .125                   | .751 | .194 | .090 - .125                   | .752 | .375 | .062 - .075                   | .758 | .310 | .015 - .030                   | .769 | .202 | .050 - .070                   |
| .750 | .270 | .005 - .010                   | .750 | .457 | .070 - .090                   | .751 | .200 | .042 - .062                   | .752 | .379 | .090 - .110                   | .758 | .350 | .080 - .100                   | .769 | .240 | .050 - .070                   |
| .750 | .277 | .005 - .010                   | .750 | .468 | .010 - .125                   | .751 | .204 | .005 - .010                   | .752 | .380 | .090 - .120                   | .758 | .394 | .040 - .060                   | .769 | .256 | .005 - .035                   |
| .750 | .281 | .005 - .078                   | .750 | .470 | .020 - .040                   | .751 | .205 | .060 - .080                   | .752 | .388 | .050 - .070                   | .758 | .608 | .050 - .075                   | .769 | .395 | .070 - .090                   |
| .750 | .282 | .105 - .135                   | .750 | .472 | .016 - .025                   | .751 | .206 | .040 - .075                   | .752 | .389 | .005 - .010                   | .759 | .462 | .005 - .010                   | .769 | .399 | .135 - .156                   |
| .750 | .283 | .170 - .190                   | .750 | .476 | .060 - .080                   | .751 | .218 | .020 - .050                   | .752 | .406 | .060 - .083                   | .759 | .606 | .005 - .010                   | .770 | .141 | .025 - .040                   |
| .750 | .285 | .015 - .135                   | .750 | .477 | .005 - .010                   | .751 | .229 | .015 - .030                   | .752 | .431 | .090 - .125                   | .759 | .694 | .005 - .010                   | .770 | .211 | .040 - .060                   |
| .750 | .288 | .015 - .030                   | .750 | .478 | .100 - .125                   | .751 | .239 | .005 - .010                   | .752 | .461 | .008 - .012                   | .760 | .032 | .020 - .032                   | .770 | .248 | .005 - .010                   |
| .750 | .291 | .100 - .125                   | .750 | .480 | .030 - .050                   | .751 | .242 | .080 - .105                   | .752 | .475 | .030 - .050                   | .760 | .126 | .015 - .030                   | .770 | .375 | .040 - .060                   |
| .750 | .293 | .100 - .125                   | .750 | .491 | .015 - .030                   | .751 | .244 | .050 - .070                   | .752 | .502 | .008 - .012                   | .760 | .150 | .020 - .040                   | .770 | .377 | .040 - .060                   |
| .750 | .295 | .015 - .030                   | .750 | .496 | .040 - .060                   | .751 | .250 | .080 - .140                   | .752 | .504 | .010 - .050                   | .760 | .200 | .090 - .110                   | .770 | .384 | .020 - .040                   |
| .750 | .299 | .010 - .020                   | .750 | .499 | .100 - .125                   | .751 | .255 | .050 - .070                   | .752 | .505 | .015 - .030                   | .760 | .256 | .080 - .104                   | .770 | .385 | .015 - .030                   |
| .750 | .303 | .060 - .080                   | .750 | .500 | .005 - .060                   | .751 | .257 | .050 - .070                   | .752 | .516 | .005 - .015                   | .760 | .260 | .030 - .062                   | .770 | .430 | .030 - .050                   |
| .750 | .312 | .035 - .050                   | .750 | .502 | .005 - .100                   | .751 | .265 | .005 - .015                   | .752 | .555 | .040 - .070                   | .760 | .269 | .040 - .060                   | .770 | .474 | .030 - .040                   |
| .750 | .313 | .020 - .135                   | .750 | .503 | .005 - .020                   | .751 | .266 | .032 - .050                   | .752 | .564 | .050 - .070                   | .760 | .322 | .050 - .070                   | .770 | .517 | .005 - .015                   |
| .750 | .315 | .025 - .190                   | .750 | .504 | .015 - .025                   | .751 | .272 | .100 - .125                   | .752 | .570 | .010 - .020                   | .760 | .330 | .005 - .010                   | .770 | .524 | .040 - .060                   |
| .750 | .316 | .007 - .125                   | .750 | .505 | .025 - .105                   | .751 | .296 | .050 - .070                   | .752 | .591 | .060 - .090                   | .760 | .385 | .040 - .060                   | .770 | .525 | .005 - .010                   |
| .750 | .317 | .005 - .030                   | .750 | .506 | .005 - .020                   | .751 | .303 | .005 - .010                   | .752 | .624 | .050 - .070                   | .760 | .446 | .010 - .020                   | .770 | .531 | .050 - .060                   |
| .750 | .318 | .005 - .015                   | .750 | .509 | .005 - .010                   | .751 | .307 | .010 - .020                   | .752 | .697 | .010 - .020                   | .760 | .471 | .050 - .070                   | .770 | .536 | .015 - .030                   |
| .750 | .319 | .040 - .100                   | .750 | .510 | .010 - .020                   | .751 | .315 | .015 - .030                   | .753 | .133 | .075 - .090                   | .760 | .482 | .040 - .060                   | .770 | .571 | .025 - .040                   |
| .750 | .320 | .015 - .025                   | .750 | .510 | .100 - .120                   | .751 | .322 | .050 - .075                   | .753 | .170 | .020 - .040                   | .760 | .508 | .105 - .120                   | .770 | .636 | .020 - .040                   |
| .750 | .321 | .005 - .010                   | .750 | .511 | .030 - .060                   | .751 | .325 | .015 - .030                   | .753 | .276 | .010 - .020                   | .760 | .525 | .015 - .030                   | .770 | .664 | .005 - .010                   |
| .750 | .325 | .125 - .156                   | .750 | .512 | .005 - .075                   | .751 | .331 | .075 - .093                   | .753 | .318 | .050 - .070                   | .760 | .565 | .020 - .040                   | .770 | .680 | .035 - .045                   |
| .750 | .326 | .025 - .040                   | .750 | .513 | .010 - .075                   | .751 | .332 | .005 - .010                   | .753 | .330 | .110 - .130                   | .760 | .571 | .070 - .090                   | .770 | .711 | .015 - .030                   |
| .750 | .327 | .062 - .090                   | .750 | .514 | .100 - .125                   | .751 | .335 | .090 - .125                   | .753 | .337 | .100 - .125                   | .760 | .579 | .005 - .008                   | .771 | .380 | .005 - .010                   |
| .750 | .329 | .070 - .090                   | .750 | .517 | .030 - .050                   | .751 | .343 | .025 - .040                   | .753 | .375 | .100 - .125                   | .760 | .592 | .020 - .035                   | .771 | .474 | .050 - .070                   |
| .750 | .330 | .025 - .040                   | .750 | .522 | .010 - .020                   | .751 | .361 | .005 - .010                   | .753 | .381 | .134 - .187                   | .760 | .624 | .020 - .030                   | .771 | .511 | .105 - .125                   |
| .750 | .331 | .005 - .010                   | .750 | .524 | .015 - .030                   | .751 | .376 | .005 - .015                   | .753 | .384 | .050 - .070                   | .760 | .664 | .005 - .010                   | .771 | .554 | .010 - .020                   |
| .750 | .333 | .005 - .010                   | .750 | .525 | .050 - .070                   | .751 | .379 | .040 - .060                   | .753 | .405 | .050 - .072                   | .760 | .675 | .010 - .020                   | .771 | .606 | .005 - .010                   |
| .750 | .337 | .042 - .072                   | .750 | .528 | .005 - .010                   | .751 | .380 | .005 - .020                   | .753 | .409 | .005 - .010                   | .761 | .141 | .005 - .015                   | .771 | .639 | .050 - .060                   |
| .750 | .344 | .075 - .100                   | .750 | .530 | .040 - .105                   | .751 | .387 | .105 - .125                   | .753 | .472 | .100 - .120                   | .761 | .184 | .005 - .015                   | .771 | .700 | .005 - .010                   |
| .750 | .345 | .005 - .125                   | .750 | .531 | .010 - .020                   | .751 | .395 | .020 - .030                   | .753 | .477 | .020 - .040                   | .761 | .561 | .030 - .050                   | .772 | .188 | .020 - .040                   |
| .750 | .348 | .005 - .010                   | .750 | .532 | .020 - .125                   | .751 | .400 | .050 - .080                   | .753 | .484 | .025 - .050                   | .762 | .250 | .005 - .010                   | .772 | .250 | .040 - .060                   |
| .750 | .350 | .072 - .090                   | .750 | .533 | .050 - .070                   | .751 | .420 | .110 - .130                   | .753 | .526 | .030 - .060                   | .762 | .445 | .040 - .060                   | .772 | .265 | .060 - .070                   |
| .750 | .354 | .005 - .010                   | .750 | .535 | .010 - .020                   | .751 | .435 | .005 - .010                   | .753 | .527 | .005 - .010                   | .762 | .616 | .005 - .010                   | .772 | .404 | .005 - .010                   |
| .750 | .356 | .070 - .080                   | .750 | .536 | .040 - .060                   | .751 | .437 | .005 - .010                   | .753 | .609 | .025 - .050                   | .763 | .503 | .005 - .010                   | .772 | .412 | .050 - .060                   |
| .750 | .359 | .015 - .125                   | .750 | .540 | .040 - .050                   | .751 | .438 | .050 - .070                   | .753 | .627 | .005 - .015                   | .763 | .660 | .005 - .010                   | .772 | .671 | .010 - .020                   |
| .750 | .362 | .050 - .075                   | .750 | .545 | .015 - .030                   | .751 | .440 | .050 - .070                   | .753 | .629 | .005 - .010                   | .764 | .315 | .050 - .075                   | .773 | .126 | .005 - .010                   |
| .750 | .364 | .005 - .010                   | .750 | .549 | .005 - .010                   | .751 | .448 | .050 - .070                   | .754 | .253 | .005 - .010                   | .764 | .528 | .060 - .080                   | .773 | .238 | .062 - .080                   |
| .750 | .374 | .010 - .020                   | .750 | .550 | .020 - .030                   | .751 | .455 | .010 - .020                   | .754 | .265 | .030 - .060                   | .764 | .707 | .005 - .010                   | .773 | .370 | .060 - .080                   |
| .750 | .375 | .005 - .010                   | .750 | .551 | .010 - .020                   | .751 | .463 | .050 - .070                   | .754 | .393 | .005 - .010                   | .765 | .117 | .040 - .062                   | .773 | .480 | .015 - .030                   |
| .750 | .376 | .005 - .125                   | .750 | .558 | .040 - .060                   | .751 | .470 | .075 - .090                   | .754 | .428 | .048 - .062                   | .765 | .222 | .030 - .050                   | .773 | .579 | .090 - .100                   |
| .750 | .377 | .005 - .010                   | .750 | .562 | .040 - .060                   | .751 | .499 | .005 - .025                   | .754 | .460 | .105 - .125                   | .765 | .265 | .100 - .125                   | .773 | .656 | .020 - .040                   |
| .750 | .378 | .005 - .187                   | .750 | .563 | .010 - .060                   | .751 | .500 | .050 - .070                   | .754 | .469 | .040 - .060                   | .765 | .285 | .005 - .01                    |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .775 | .368 | .080 - .090                   | .780 | .552 | .040 - .060                   | .785 | .392 | .110 - .130                   | .787 | .525 | .005 - .010                   | .790 | .441 | .020 - .040                   | .797 | .413 | .005 - .010                   |
| .775 | .379 | .005 - .012                   | .780 | .562 | .031 - .048                   | .785 | .406 | .005 - .010                   | .787 | .530 | .030 - .050                   | .790 | .448 | .015 - .030                   | .797 | .561 | .020 - .040                   |
| .775 | .428 | .025 - .040                   | .780 | .566 | .030 - .050                   | .785 | .417 | .050 - .070                   | .787 | .547 | .005 - .010                   | .790 | .450 | .030 - .042                   | .797 | .691 | .025 - .040                   |
| .775 | .457 | .005 - .010                   | .780 | .566 | .080 - .100                   | .785 | .450 | .050 - .070                   | .787 | .551 | .005 - .030                   | .790 | .452 | .030 - .060                   | .798 | .312 | .010 - .025                   |
| .775 | .464 | .048 - .070                   | .780 | .570 | .020 - .040                   | .785 | .475 | .015 - .050                   | .787 | .556 | .005 - .010                   | .790 | .467 | .030 - .050                   | .798 | .351 | .010 - .020                   |
| .775 | .469 | .080 - .100                   | .780 | .579 | .005 - .015                   | .785 | .482 | .100 - .125                   | .787 | .577 | .005 - .010                   | .790 | .478 | .025 - .045                   | .798 | .378 | .005 - .010                   |
| .775 | .500 | .075 - .090                   | .780 | .591 | .060 - .090                   | .785 | .512 | .060 - .080                   | .787 | .603 | .005 - .010                   | .790 | .500 | .050 - .072                   | .798 | .487 | .005 - .010                   |
| .775 | .525 | .100 - .125                   | .780 | .593 | .005 - .010                   | .785 | .520 | .090 - .105                   | .787 | .610 | .005 - .080                   | .790 | .511 | .125 - .135                   | .798 | .578 | .005 - .090                   |
| .775 | .555 | .020 - .030                   | .780 | .598 | .050 - .070                   | .785 | .523 | .005 - .020                   | .787 | .630 | .030 - .050                   | .790 | .515 | .020 - .040                   | .798 | .624 | .070 - .090                   |
| .775 | .560 | .070 - .090                   | .780 | .600 | .005 - .010                   | .785 | .530 | .030 - .050                   | .787 | .631 | .005 - .010                   | .790 | .550 | .030 - .042                   | .798 | .632 | .010 - .020                   |
| .775 | .602 | .005 - .010                   | .780 | .627 | .020 - .030                   | .785 | .548 | .042 - .062                   | .787 | .648 | .025 - .040                   | .790 | .560 | .020 - .040                   | .798 | .656 | .005 - .010                   |
| .775 | .643 | .005 - .030                   | .780 | .640 | .030 - .070                   | .785 | .556 | .030 - .050                   | .787 | .661 | .005 - .010                   | .790 | .565 | .040 - .060                   | .798 | .711 | .010 - .020                   |
| .776 | .196 | .015 - .030                   | .780 | .658 | .005 - .010                   | .785 | .569 | .005 - .010                   | .787 | .677 | .010 - .020                   | .790 | .586 | .015 - .025                   | .799 | .252 | .005 - .010                   |
| .776 | .197 | .020 - .035                   | .780 | .672 | .015 - .030                   | .785 | .594 | .005 - .010                   | .787 | .680 | .060 - .080                   | .790 | .623 | .050 - .070                   | .799 | .360 | .170 - .190                   |
| .776 | .221 | .005 - .010                   | .780 | .684 | .025 - .040                   | .785 | .656 | .005 - .010                   | .787 | .697 | .005 - .010                   | .790 | .642 | .010 - .040                   | .799 | .397 | .010 - .020                   |
| .776 | .239 | .070 - .090                   | .780 | .685 | .005 - .012                   | .785 | .696 | .010 - .020                   | .787 | .707 | .005 - .010                   | .790 | .650 | .030 - .042                   | .799 | .401 | .030 - .050                   |
| .776 | .240 | .025 - .040                   | .781 | .111 | .025 - .040                   | .786 | .157 | .015 - .030                   | .788 | .128 | .010 - .020                   | .790 | .694 | .040 - .060                   | .799 | .439 | .005 - .010                   |
| .776 | .283 | .030 - .050                   | .781 | .142 | .010 - .020                   | .786 | .198 | .015 - .030                   | .788 | .218 | .040 - .060                   | .790 | .728 | .010 - .020                   | .799 | .471 | .005 - .010                   |
| .776 | .386 | .005 - .010                   | .781 | .172 | .010 - .020                   | .786 | .253 | .070 - .090                   | .788 | .227 | .005 - .010                   | .791 | .056 | .015 - .030                   | .799 | .472 | .030 - .050                   |
| .776 | .432 | .070 - .090                   | .781 | .280 | .156 - .190                   | .786 | .257 | .005 - .010                   | .788 | .237 | .080 - .100                   | .791 | .323 | .050 - .070                   | .799 | .492 | .080 - .100                   |
| .776 | .598 | .050 - .070                   | .781 | .316 | .005 - .010                   | .786 | .300 | .005 - .010                   | .788 | .243 | .030 - .050                   | .791 | .400 | .010 - .020                   | .799 | .500 | .005 - .010                   |
| .776 | .646 | .020 - .040                   | .781 | .317 | .010 - .030                   | .786 | .316 | .090 - .135                   | .788 | .244 | .005 - .010                   | .791 | .401 | .025 - .040                   | .799 | .501 | .010 - .020                   |
| .776 | .653 | .040 - .050                   | .781 | .335 | .005 - .050                   | .786 | .382 | .005 - .010                   | .788 | .317 | .010 - .020                   | .791 | .531 | .010 - .020                   | .799 | .505 | .025 - .040                   |
| .777 | .150 | .005 - .010                   | .781 | .402 | .010 - .020                   | .786 | .396 | .040 - .060                   | .788 | .319 | .060 - .080                   | .791 | .635 | .005 - .010                   | .799 | .580 | .050 - .075                   |
| .777 | .317 | .020 - .040                   | .781 | .430 | .048 - .062                   | .786 | .436 | .050 - .070                   | .788 | .322 | .005 - .010                   | .791 | .674 | .010 - .020                   | .799 | .596 | .005 - .010                   |
| .777 | .328 | .156 - .187                   | .781 | .448 | .015 - .030                   | .786 | .443 | .100 - .120                   | .788 | .355 | .010 - .020                   | .792 | .317 | .062 - .083                   | .799 | .629 | .015 - .025                   |
| .777 | .392 | .020 - .030                   | .781 | .485 | .005 - .010                   | .786 | .446 | .040 - .060                   | .788 | .376 | .005 - .010                   | .792 | .420 | .020 - .030                   | .799 | .653 | .005 - .010                   |
| .777 | .421 | .025 - .040                   | .781 | .488 | .050 - .060                   | .786 | .452 | .010 - .020                   | .788 | .394 | .125 - .156                   | .792 | .485 | .025 - .040                   | .799 | .671 | .005 - .010                   |
| .777 | .572 | .005 - .010                   | .781 | .501 | .005 - .015                   | .786 | .474 | .005 - .010                   | .788 | .395 | .005 - .010                   | .792 | .517 | .010 - .020                   | .799 | .673 | .005 - .010                   |
| .777 | .613 | .050 - .070                   | .781 | .518 | .040 - .060                   | .786 | .477 | .005 - .010                   | .788 | .397 | .005 - .015                   | .792 | .606 | .005 - .010                   | .799 | .674 | .005 - .010                   |
| .778 | .221 | .005 - .015                   | .781 | .531 | .008 - .012                   | .786 | .484 | .040 - .050                   | .788 | .403 | .005 - .030                   | .792 | .672 | .010 - .020                   | .799 | .694 | .005 - .010                   |
| .778 | .261 | .060 - .070                   | .781 | .557 | .020 - .040                   | .786 | .502 | .010 - .020                   | .788 | .414 | .020 - .040                   | .792 | .695 | .015 - .030                   | .799 | .701 | .005 - .010                   |
| .778 | .266 | .062 - .075                   | .781 | .600 | .015 - .030                   | .786 | .505 | .005 - .020                   | .788 | .440 | .005 - .010                   | .793 | .256 | .010 - .020                   | .800 | .076 | .005 - .010                   |
| .778 | .363 | .070 - .090                   | .781 | .605 | .032 - .050                   | .786 | .515 | .010 - .020                   | .788 | .452 | .005 - .010                   | .793 | .386 | .050 - .060                   | .800 | .190 | .020 - .040                   |
| .778 | .386 | .030 - .050                   | .781 | .621 | .040 - .060                   | .786 | .531 | .020 - .030                   | .788 | .473 | .010 - .020                   | .793 | .438 | .080 - .100                   | .800 | .194 | .050 - .070                   |
| .778 | .390 | .015 - .030                   | .781 | .625 | .050 - .075                   | .786 | .535 | .005 - .030                   | .788 | .476 | .030 - .050                   | .793 | .439 | .060 - .090                   | .800 | .200 | .025 - .040                   |
| .778 | .408 | .020 - .040                   | .781 | .627 | .040 - .060                   | .786 | .556 | .040 - .060                   | .788 | .478 | .030 - .050                   | .793 | .441 | .020 - .040                   | .800 | .222 | .065 - .080                   |
| .778 | .435 | .120 - .135                   | .781 | .628 | .005 - .010                   | .786 | .572 | .050 - .070                   | .788 | .483 | .070 - .090                   | .793 | .471 | .025 - .048                   | .800 | .225 | .040 - .060                   |
| .778 | .534 | .062 - .078                   | .781 | .629 | .025 - .060                   | .786 | .594 | .010 - .020                   | .788 | .487 | .040 - .060                   | .793 | .505 | .025 - .040                   | .800 | .250 | .020 - .030                   |
| .779 | .190 | .030 - .050                   | .781 | .640 | .060 - .070                   | .786 | .598 | .030 - .050                   | .788 | .488 | .040 - .050                   | .793 | .575 | .032 - .050                   | .800 | .252 | .008 - .015                   |
| .779 | .264 | .025 - .040                   | .782 | .200 | .060 - .080                   | .786 | .626 | .030 - .050                   | .788 | .505 | .050 - .070                   | .794 | .257 | .005 - .010                   | .800 | .253 | .040 - .060                   |
| .779 | .270 | .060 - .090                   | .782 | .368 | .010 - .020                   | .786 | .631 | .030 - .050                   | .788 | .512 | .060 - .090                   | .794 | .285 | .005 - .010                   | .800 | .254 | .025 - .040                   |
| .779 | .318 | .050 - .070                   | .782 | .437 | .090 - .105                   | .786 | .680 | .010 - .020                   | .788 | .521 | .048 - .062                   | .794 | .420 | .090 - .110                   | .800 | .256 | .005 - .010                   |
| .779 | .323 | .015 - .030                   | .782 | .440 | .015 - .030                   | .787 | .129 | .030 - .050                   | .788 | .545 | .005 - .010                   | .794 | .477 | .135 - .160                   | .800 | .315 | .010 - .020                   |
| .779 | .378 | .090 - .105                   | .782 | .442 | .070 - .090                   | .787 | .141 | .040 - .060                   | .788 | .555 | .040 - .060                   | .794 | .552 | .070 - .090                   | .800 | .316 | .005 - .010                   |
| .779 | .395 | .032 - .060                   | .782 | .482 | .070 - .090                   | .787 | .142 | .030 - .060                   | .788 | .566 | .080 - .100                   | .795 | .116 | .005 - .010                   | .800 | .320 | .105 - .125                   |
| .779 | .422 | .030 - .050                   | .782 | .500 | .030 - .060                   | .787 | .161 | .050 - .070                   | .788 | .596 | .030 - .050                   | .795 | .159 | .005 - .010                   | .800 | .327 | .020 - .040                   |
| .779 | .439 | .015 - .030                   | .782 | .513 | .030 - .050                   | .787 | .188 | .020 - .040                   | .788 | .697 | .010 - .015                   | .795 | .170 | .090 - .125                   | .800 | .345 | .075 - .104                   |
| .779 | .476 | .100 - .125                   | .782 | .517 | .080 - .100                   | .787 | .203 | .040 - .060                   | .788 | .715 | .005 - .010                   | .795 | .175 | .005 - .010                   | .800 | .370 | .005 - .012                   |
| .779 | .492 | .050 - .060                   | .782 | .530 | .093 - .103                   | .787 | .208 | .070 - .080                   | .788 | .716 | .010 - .020                   | .795 | .187 | .030 - .050                   | .800 | .377 | .005 - .010                   |
| .779 | .568 | .010 - .020                   | .782 | .542 | .005 - .010                   | .787 | .228 | .052 - .072                   | .789 | .114 | .025 - .040                   | .795 | .197 | .008 - .016                   | .800 | .378 | .005 - .078                   |
| .779 | .579 | .005 - .010                   | .782 | .546 | .010 - .020                   | .787 | .238 | .005 - .010                   | .789 | .221 | .005 - .010                   | .795 | .267 | .048 - .062                   | .800 | .379 | .005 - .020                   |
| .779 | .632 | .030 - .060                   | .782 | .562 | .060 - .083                   | .787 | .256 | .010 - .020                   | .789 | .255 | .010 - .020                   | .795 | .281 | .040 - .060                   | .800 | .380 | .040 - .060                   |
| .779 | .633 | .005 - .010                   | .782 | .563 | .010 - .020                   | .787 | .257 | .025 - .060                   | .789 | .262 | .040 - .050                   | .795 | .340 | .005 - .012                   | .800 | .387 | .020 - .040                   |
| .779 | .640 | .040 - .060                   | .782 | .565 | .005 - .020                   | .787 | .279 | .005 - .010                   | .789 | .312 | .042 - .060                   | .795 | .392 | .010 - .020                   | .800 | .397 | .005 - .010                   |
| .779 | .680 | .005 - .010                   | .782 | .699 | .005 - .010                   | .787 | .315 | .005 - .020                   | .789 | .316 | .005 - .010                   | .795 | .427 | .090 - .105                   | .800 | .397 | .070 - .090                   |
| .779 | .700 | .010 - .020                   | .783 | .062 | .030 - .050                   | .787 | .317 | .005 - .010                   | .789 | .327 | .005 - .010                   | .795 | .482 | .030 - .050                   | .800 | .398 | .005 - .010                   |
| .780 | .051 | .025 - .035                   | .783 | .254 | .050 - .070                   | .787 | .318 | .005 - .010                   | .789 | .354 | .060 - .080                   | .795 | .509 | .030 - .060                   | .800 | .411 | .070 - .090                   |
| .780 | .190 | .020 - .060                   | .783 | .270 | .070 - .080                   | .787 | .319 | .005 - .010                   | .789 | .438 | .005 - .010                   | .795 | .532 | .005 - .010                   | .800 | .426 | .105 - .135                   |
| .780 | .267 | .062 - .090                   | .783 | .278 | .010 - .020                   | .787 | .324 | .015 - .030                   | .789 | .478 | .050 - .080                   | .795 | .551 | .010 - .020                   | .800 | .437 | .005 - .010                   |
| .780 | .306 | .015 - .030                   | .783 | .320 | .050 - .070                   | .787 | .329 | .005 - .010                   | .789 | .498 | .005 - .010                   | .795 | .577 | .090 - .105                   | .800 | .439 | .030 - .050                   |
| .780 | .378 | .005 - .020                   | .783 | .453 | .080 - .104                   | .787 | .355 | .135 - .156                   | .789 | .514 | .005 - .010                   | .795 | .634 | .005 - .010                   | .800 | .440 | .005 - .010                   |
| .780 | .380 | .080 - .105                   | .783 | .488 | .005 - .010                   | .787 | .380 | .015 - .030                   | .789 | .543 | .010 - .020                   | .795 | .655 | .030 - .040                   | .800 | .441 | .010 - .020                   |
| .780 | .390 | .080 - .104                   | .783 | .500 | .030 - .050                   | .787 | .392 | .005 - .010                   | .789 | .630 | .010 - .020                   | .795 | .680 | .005 - .040                   | .800 | .443 | .005 - .020                   |
| .780 | .391 | .080 - .100                   | .783 | .513 | .025 - .040                   | .787 | .394 | .015 - .030                   | .790 | .160 | .015 - .030                   | .795 | .730 | .025 - .035                   | .800 | .464 | .040 - .060                   |
| .780 | .403 | .005 - .010                   | .783 | .604 | .005 - .010                   | .787 | .395 | .005 - .010                   | .790 | .175 | .050 - .070                   | .795 | .731 | .030 - .040                   | .800 | .490 | .030 - .050                   |
| .780 | .408 | .030 - .050                   | .783 | .630 | .060 - .080                   | .787 | .397 | .005 - .010                   | .790 | .240 | .010 - .020                   | .796 | .256 | .005 - .010                   | .800 | .502 | .005 - .020                   |
| .780 | .420 | .060 - .080                   | .783 | .635 | .050 - .070                   | .787 | .398 | .005 - .020                   | .790 | .250 | .032 - .042                   | .796 | .286 | .005 - .010</                 |      |      |                               |



**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .800 | .575 | .025 - .040                   | .806 | .350 | .005 - .010                   | .810 | .475 | .025 - .042                   | .812 | .473 | .015 - .020                   | .816 | .510 | .005 - .012                   | .823 | .523 | .070 - .090                   |
| .800 | .582 | .005 - .010                   | .806 | .378 | .060 - .083                   | .810 | .480 | .005 - .010                   | .812 | .501 | .005 - .020                   | .816 | .520 | .015 - .025                   | .823 | .755 | .005 - .020                   |
| .800 | .594 | .005 - .010                   | .806 | .407 | .030 - .050                   | .810 | .501 | .080 - .100                   | .812 | .506 | .060 - .080                   | .817 | .195 | .050 - .070                   | .823 | .756 | .005 - .010                   |
| .800 | .618 | .005 - .010                   | .806 | .469 | .030 - .050                   | .810 | .507 | .010 - .025                   | .812 | .508 | .015 - .025                   | .817 | .319 | .060 - .083                   | .824 | .321 | .005 - .010                   |
| .800 | .619 | .005 - .010                   | .806 | .631 | .020 - .040                   | .810 | .514 | .080 - .125                   | .812 | .509 | .050 - .075                   | .817 | .321 | .015 - .030                   | .824 | .333 | .005 - .010                   |
| .800 | .623 | .050 - .075                   | .806 | .636 | .005 - .010                   | .810 | .522 | .040 - .060                   | .812 | .515 | .042 - .060                   | .817 | .411 | .040 - .060                   | .824 | .508 | .050 - .070                   |
| .800 | .626 | .005 - .010                   | .806 | .641 | .060 - .083                   | .810 | .533 | .025 - .050                   | .812 | .517 | .030 - .040                   | .817 | .455 | .060 - .090                   | .824 | .543 | .025 - .040                   |
| .800 | .628 | .025 - .080                   | .806 | .650 | .050 - .070                   | .810 | .543 | .020 - .040                   | .812 | .524 | .050 - .070                   | .817 | .505 | .050 - .070                   | .824 | .605 | .042 - .062                   |
| .800 | .631 | .010 - .020                   | .806 | .671 | .005 - .010                   | .810 | .545 | .020 - .040                   | .812 | .530 | .032 - .042                   | .817 | .631 | .005 - .010                   | .825 | .238 | .005 - .010                   |
| .800 | .639 | .005 - .010                   | .806 | .691 | .020 - .040                   | .810 | .551 | .005 - .010                   | .812 | .540 | .010 - .020                   | .817 | .660 | .005 - .010                   | .825 | .317 | .005 - .010                   |
| .800 | .641 | .016 - .025                   | .806 | .692 | .005 - .010                   | .810 | .561 | .120 - .140                   | .812 | .561 | .005 - .030                   | .817 | .661 | .005 - .010                   | .825 | .319 | .005 - .020                   |
| .800 | .645 | .025 - .040                   | .807 | .117 | .015 - .030                   | .810 | .564 | .005 - .015                   | .812 | .577 | .020 - .040                   | .817 | .690 | .012 - .020                   | .825 | .399 | .005 - .010                   |
| .800 | .654 | .040 - .060                   | .807 | .222 | .015 - .030                   | .810 | .565 | .025 - .050                   | .812 | .591 | .020 - .030                   | .817 | .711 | .005 - .010                   | .825 | .400 | .015 - .030                   |
| .800 | .659 | .010 - .020                   | .807 | .283 | .005 - .010                   | .810 | .569 | .020 - .040                   | .812 | .592 | .005 - .050                   | .817 | .750 | .010 - .020                   | .825 | .414 | .105 - .125                   |
| .800 | .670 | .005 - .020                   | .807 | .389 | .050 - .070                   | .810 | .600 | .040 - .060                   | .812 | .596 | .025 - .040                   | .818 | .264 | .030 - .040                   | .825 | .483 | .040 - .060                   |
| .800 | .672 | .005 - .010                   | .807 | .445 | .040 - .060                   | .810 | .646 | .005 - .010                   | .812 | .625 | .015 - .110                   | .818 | .317 | .030 - .040                   | .825 | .511 | .005 - .010                   |
| .800 | .675 | .005 - .010                   | .807 | .531 | .080 - .090                   | .810 | .652 | .005 - .010                   | .812 | .641 | .015 - .080                   | .818 | .321 | .010 - .020                   | .825 | .518 | .070 - .080                   |
| .800 | .677 | .005 - .010                   | .807 | .534 | .005 - .010                   | .810 | .675 | .005 - .010                   | .812 | .647 | .015 - .025                   | .818 | .330 | .005 - .010                   | .825 | .525 | .010 - .020                   |
| .800 | .678 | .005 - .010                   | .807 | .598 | .020 - .040                   | .810 | .690 | .010 - .020                   | .812 | .650 | .040 - .060                   | .818 | .391 | .125 - .156                   | .825 | .527 | .090 - .125                   |
| .800 | .679 | .005 - .010                   | .807 | .625 | .005 - .010                   | .810 | .703 | .005 - .010                   | .812 | .655 | .020 - .030                   | .818 | .432 | .060 - .080                   | .825 | .543 | .015 - .030                   |
| .800 | .680 | .005 - .010                   | .807 | .629 | .020 - .040                   | .810 | .706 | .025 - .042                   | .812 | .675 | .020 - .040                   | .818 | .480 | .005 - .010                   | .825 | .577 | .020 - .040                   |
| .800 | .694 | .020 - .040                   | .807 | .638 | .015 - .030                   | .810 | .723 | .005 - .010                   | .812 | .687 | .050 - .070                   | .818 | .549 | .005 - .010                   | .825 | .624 | .005 - .015                   |
| .800 | .711 | .010 - .040                   | .807 | .640 | .010 - .020                   | .811 | .116 | .005 - .015                   | .812 | .697 | .050 - .062                   | .818 | .591 | .090 - .110                   | .825 | .632 | .030 - .040                   |
| .801 | .148 | .010 - .020                   | .807 | .670 | .050 - .070                   | .811 | .156 | .030 - .050                   | .812 | .707 | .005 - .010                   | .818 | .644 | .010 - .020                   | .825 | .669 | .020 - .030                   |
| .801 | .255 | .030 - .060                   | .807 | .690 | .015 - .030                   | .811 | .188 | .040 - .060                   | .813 | .156 | .040 - .060                   | .818 | .690 | .040 - .060                   | .825 | .709 | .005 - .010                   |
| .801 | .321 | .040 - .050                   | .807 | .745 | .020 - .031                   | .811 | .201 | .040 - .060                   | .813 | .162 | .040 - .060                   | .818 | .720 | .025 - .040                   | .826 | .250 | .040 - .050                   |
| .801 | .332 | .080 - .104                   | .808 | .228 | .005 - .015                   | .811 | .282 | .050 - .070                   | .813 | .194 | .100 - .125                   | .819 | .065 | .025 - .040                   | .826 | .314 | .030 - .050                   |
| .801 | .339 | .040 - .060                   | .808 | .231 | .060 - .080                   | .811 | .322 | .030 - .050                   | .813 | .204 | .005 - .010                   | .819 | .174 | .005 - .010                   | .826 | .319 | .030 - .050                   |
| .801 | .345 | .075 - .102                   | .808 | .317 | .015 - .030                   | .811 | .333 | .005 - .010                   | .813 | .272 | .100 - .134                   | .819 | .250 | .005 - .010                   | .826 | .359 | .105 - .125                   |
| .801 | .376 | .015 - .030                   | .808 | .375 | .105 - .125                   | .811 | .342 | .135 - .187                   | .813 | .318 | .060 - .080                   | .819 | .260 | .010 - .020                   | .826 | .401 | .010 - .020                   |
| .801 | .376 | .040 - .060                   | .808 | .413 | .060 - .080                   | .811 | .376 | .040 - .060                   | .813 | .328 | .005 - .010                   | .819 | .531 | .005 - .010                   | .826 | .414 | .025 - .040                   |
| .801 | .400 | .025 - .040                   | .808 | .414 | .025 - .040                   | .811 | .393 | .010 - .020                   | .813 | .350 | .030 - .050                   | .819 | .675 | .025 - .040                   | .826 | .434 | .050 - .070                   |
| .801 | .439 | .005 - .010                   | .808 | .471 | .005 - .010                   | .811 | .403 | .060 - .070                   | .813 | .380 | .100 - .125                   | .819 | .690 | .020 - .035                   | .826 | .536 | .090 - .105                   |
| .801 | .490 | .005 - .010                   | .808 | .478 | .020 - .040                   | .811 | .411 | .010 - .020                   | .813 | .406 | .030 - .125                   | .819 | .700 | .040 - .060                   | .826 | .620 | .030 - .050                   |
| .801 | .502 | .015 - .025                   | .808 | .532 | .005 - .010                   | .811 | .449 | .100 - .125                   | .813 | .407 | .100 - .125                   | .820 | .090 | .005 - .010                   | .826 | .660 | .020 - .040                   |
| .801 | .505 | .005 - .010                   | .808 | .620 | .015 - .030                   | .811 | .548 | .070 - .090                   | .813 | .419 | .005 - .010                   | .820 | .125 | .015 - .030                   | .826 | .711 | .025 - .040                   |
| .801 | .596 | .015 - .025                   | .808 | .626 | .015 - .030                   | .811 | .553 | .040 - .060                   | .813 | .431 | .005 - .010                   | .820 | .159 | .105 - .135                   | .827 | .187 | .010 - .020                   |
| .801 | .598 | .015 - .030                   | .808 | .692 | .030 - .050                   | .811 | .566 | .025 - .050                   | .813 | .435 | .100 - .125                   | .820 | .198 | .005 - .010                   | .827 | .215 | .005 - .010                   |
| .801 | .629 | .040 - .060                   | .809 | .094 | .030 - .050                   | .811 | .567 | .042 - .062                   | .813 | .441 | .050 - .070                   | .820 | .221 | .010 - .020                   | .827 | .236 | .005 - .010                   |
| .801 | .650 | .010 - .020                   | .809 | .096 | .015 - .032                   | .811 | .568 | .005 - .010                   | .813 | .450 | .040 - .060                   | .820 | .280 | .060 - .075                   | .827 | .238 | .005 - .010                   |
| .801 | .657 | .005 - .010                   | .809 | .099 | .005 - .015                   | .811 | .576 | .026 - .052                   | .813 | .493 | .005 - .010                   | .820 | .310 | .005 - .010                   | .827 | .317 | .005 - .125                   |
| .801 | .674 | .005 - .010                   | .809 | .157 | .050 - .070                   | .811 | .577 | .025 - .042                   | .813 | .494 | .020 - .040                   | .820 | .315 | .005 - .010                   | .827 | .318 | .005 - .010                   |
| .801 | .696 | .060 - .070                   | .809 | .250 | .020 - .030                   | .811 | .595 | .035 - .060                   | .813 | .496 | .010 - .020                   | .820 | .320 | .040 - .060                   | .827 | .328 | .060 - .080                   |
| .802 | .257 | .060 - .080                   | .809 | .257 | .030 - .050                   | .811 | .623 | .005 - .010                   | .813 | .500 | .050 - .083                   | .820 | .340 | .005 - .010                   | .827 | .331 | .120 - .135                   |
| .802 | .261 | .040 - .062                   | .809 | .288 | .070 - .090                   | .811 | .630 | .005 - .010                   | .813 | .504 | .105 - .135                   | .820 | .348 | .005 - .010                   | .827 | .332 | .156 - .187                   |
| .802 | .346 | .020 - .035                   | .809 | .321 | .025 - .042                   | .811 | .656 | .005 - .010                   | .813 | .510 | .020 - .040                   | .820 | .380 | .005 - .010                   | .827 | .376 | .005 - .010                   |
| .802 | .387 | .050 - .075                   | .809 | .336 | .050 - .070                   | .811 | .658 | .020 - .030                   | .813 | .562 | .080 - .100                   | .820 | .392 | .010 - .020                   | .827 | .393 | .005 - .010                   |
| .802 | .408 | .100 - .110                   | .809 | .377 | .005 - .010                   | .812 | .127 | .025 - .040                   | .813 | .563 | .005 - .020                   | .820 | .395 | .050 - .075                   | .827 | .407 | .090 - .120                   |
| .802 | .453 | .025 - .040                   | .809 | .385 | .005 - .010                   | .812 | .130 | .015 - .030                   | .813 | .597 | .020 - .040                   | .820 | .405 | .135 - .160                   | .827 | .412 | .005 - .010                   |
| .802 | .503 | .005 - .010                   | .809 | .414 | .070 - .090                   | .812 | .136 | .040 - .060                   | .813 | .631 | .010 - .020                   | .820 | .442 | .025 - .040                   | .827 | .415 | .060 - .080                   |
| .802 | .516 | .040 - .060                   | .809 | .475 | .070 - .090                   | .812 | .141 | .005 - .040                   | .813 | .634 | .060 - .080                   | .820 | .450 | .012 - .025                   | .827 | .473 | .005 - .010                   |
| .802 | .596 | .005 - .010                   | .809 | .483 | .032 - .042                   | .812 | .191 | .020 - .040                   | .813 | .659 | .035 - .048                   | .820 | .453 | .015 - .025                   | .827 | .509 | .050 - .075                   |
| .802 | .611 | .025 - .040                   | .809 | .504 | .005 - .010                   | .812 | .192 | .005 - .010                   | .813 | .680 | .005 - .030                   | .820 | .460 | .030 - .040                   | .827 | .632 | .005 - .010                   |
| .802 | .622 | .020 - .030                   | .809 | .508 | .005 - .010                   | .812 | .219 | .062 - .075                   | .813 | .728 | .005 - .010                   | .820 | .482 | .070 - .090                   | .827 | .749 | .005 - .010                   |
| .802 | .701 | .005 - .010                   | .809 | .570 | .050 - .070                   | .812 | .221 | .080 - .100                   | .814 | .412 | .060 - .080                   | .820 | .500 | .005 - .010                   | .828 | .108 | .005 - .010                   |
| .802 | .704 | .025 - .040                   | .809 | .601 | .020 - .040                   | .812 | .245 | .020 - .036                   | .814 | .522 | .040 - .060                   | .820 | .536 | .050 - .070                   | .828 | .317 | .010 - .015                   |
| .802 | .752 | .005 - .008                   | .809 | .625 | .005 - .010                   | .812 | .253 | .080 - .104                   | .814 | .532 | .090 - .105                   | .820 | .542 | .005 - .010                   | .828 | .407 | .015 - .030                   |
| .803 | .261 | .050 - .075                   | .810 | .057 | .005 - .010                   | .812 | .255 | .005 - .010                   | .814 | .598 | .050 - .075                   | .820 | .559 | .050 - .075                   | .828 | .447 | .060 - .080                   |
| .803 | .264 | .010 - .020                   | .810 | .116 | .015 - .032                   | .812 | .269 | .050 - .070                   | .814 | .628 | .020 - .030                   | .820 | .564 | .100 - .125                   | .828 | .499 | .005 - .008                   |
| .803 | .345 | .080 - .105                   | .810 | .142 | .040 - .060                   | .812 | .312 | .040 - .060                   | .814 | .637 | .042 - .062                   | .820 | .565 | .100 - .125                   | .828 | .502 | .030 - .040                   |
| .803 | .422 | .015 - .030                   | .810 | .150 | .040 - .060                   | .812 | .314 | .025 - .042                   | .814 | .641 | .005 - .010                   | .820 | .566 | .005 - .010                   | .828 | .504 | .005 - .020                   |
| .803 | .517 | .105 - .125                   | .810 | .166 | .025 - .040                   | .812 | .315 | .015 - .030                   | .814 | .751 | .020 - .030                   | .820 | .572 | .105 - .125                   | .828 | .530 | .005 - .010                   |
| .803 | .569 | .005 - .010                   | .810 | .185 | .005 - .010                   | .812 | .375 | .150 - .180                   | .815 | .129 | .020 - .040                   | .820 | .591 | .010 - .020                   | .828 | .590 | .015 - .030                   |
| .803 | .715 | .010 - .025                   | .810 | .192 | .050 - .062                   | .812 | .376 | .156 - .190                   | .815 | .221 | .020 - .030                   | .820 | .600 | .005 - .010                   | .828 | .655 | .005 - .010                   |
| .804 | .134 | .050 - .072                   | .810 | .198 | .030 - .050                   | .812 | .378 | .050 - .083                   | .815 | .255 | .060 - .075                   | .820 | .636 | .030 - .050                   | .828 | .727 | .005 - .010                   |
| .804 | .191 | .060 - .080                   | .810 | .210 | .025 - .042                   | .812 | .379 | .025 - .032                   | .815 | .260 | .048 - .062                   | .820 | .678 | .010 - .020                   | .829 | .137 | .025 - .048                   |
| .804 | .313 | .005 - .010                   | .810 | .218 | .100 - .125                   | .812 | .390 | .031 - .060                   | .815 | .281 | .105 - .120                   | .820 | .698 | .005 - .030                   | .829 | .250 | .030 - .050                   |
| .804 | .330 | .050 - .072                   | .810 | .250 | .062 - .078                   | .812 | .391 | .080 - .100                   | .815 | .309 | .005 - .010                   | .820 | .726 | .015 - .02                    |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .830 | .379 | .005 - .035                   | .840 | .292 | .020 - .040                   | .846 | .320 | .015 - .030                   | .850 | .600 | .010 - .020                   | .855 | .599 | .105 - .135                   | .860 | .600 | .005 - .010                   |
| .830 | .405 | .040 - .060                   | .840 | .310 | .060 - .080                   | .846 | .327 | .005 - .010                   | .850 | .612 | .005 - .010                   | .855 | .651 | .050 - .062                   | .860 | .602 | .010 - .020                   |
| .830 | .461 | .015 - .030                   | .840 | .313 | .105 - .125                   | .846 | .455 | .030 - .060                   | .850 | .620 | .005 - .010                   | .855 | .691 | .050 - .070                   | .860 | .625 | .050 - .070                   |
| .830 | .475 | .025 - .040                   | .840 | .316 | .015 - .030                   | .846 | .456 | .035 - .050                   | .850 | .625 | .060 - .080                   | .855 | .748 | .015 - .030                   | .860 | .629 | .030 - .050                   |
| .830 | .515 | .005 - .010                   | .840 | .340 | .010 - .025                   | .846 | .630 | .005 - .010                   | .850 | .627 | .005 - .010                   | .855 | .088 | .010 - .020                   | .860 | .634 | .020 - .030                   |
| .830 | .530 | .090 - .120                   | .840 | .384 | .010 - .025                   | .846 | .639 | .005 - .040                   | .850 | .630 | .015 - .020                   | .856 | .123 | .005 - .010                   | .860 | .645 | .040 - .060                   |
| .830 | .556 | .010 - .025                   | .840 | .387 | .015 - .030                   | .846 | .658 | .032 - .050                   | .850 | .635 | .015 - .030                   | .856 | .265 | .048 - .062                   | .860 | .676 | .005 - .030                   |
| .830 | .564 | .100 - .125                   | .840 | .390 | .005 - .010                   | .846 | .662 | .010 - .020                   | .850 | .650 | .070 - .080                   | .856 | .286 | .050 - .070                   | .860 | .691 | .005 - .010                   |
| .830 | .565 | .030 - .050                   | .840 | .470 | .060 - .083                   | .846 | .663 | .030 - .060                   | .850 | .653 | .015 - .030                   | .856 | .380 | .010 - .020                   | .860 | .698 | .030 - .050                   |
| .830 | .590 | .070 - .090                   | .840 | .499 | .005 - .010                   | .846 | .670 | .040 - .060                   | .850 | .664 | .005 - .030                   | .856 | .443 | .020 - .040                   | .860 | .705 | .005 - .050                   |
| .830 | .605 | .025 - .040                   | .840 | .503 | .005 - .010                   | .846 | .697 | .015 - .030                   | .850 | .673 | .015 - .030                   | .856 | .616 | .025 - .040                   | .860 | .711 | .025 - .040                   |
| .830 | .628 | .025 - .040                   | .840 | .510 | .005 - .010                   | .846 | .757 | .005 - .010                   | .850 | .706 | .005 - .010                   | .856 | .628 | .060 - .080                   | .860 | .742 | .030 - .050                   |
| .830 | .632 | .025 - .040                   | .840 | .515 | .025 - .040                   | .847 | .193 | .090 - .105                   | .850 | .711 | .015 - .030                   | .856 | .640 | .015 - .030                   | .860 | .750 | .005 - .010                   |
| .830 | .636 | .015 - .030                   | .840 | .535 | .005 - .010                   | .847 | .253 | .005 - .010                   | .850 | .731 | .020 - .040                   | .856 | .650 | .010 - .020                   | .860 | .757 | .005 - .010                   |
| .830 | .649 | .010 - .020                   | .840 | .545 | .100 - .135                   | .847 | .323 | .005 - .010                   | .850 | .735 | .005 - .030                   | .856 | .671 | .010 - .020                   | .860 | .767 | .005 - .010                   |
| .830 | .693 | .020 - .035                   | .840 | .556 | .032 - .040                   | .847 | .416 | .005 - .010                   | .850 | .740 | .005 - .010                   | .856 | .688 | .005 - .010                   | .860 | .778 | .005 - .010                   |
| .830 | .696 | .005 - .010                   | .840 | .558 | .005 - .010                   | .847 | .422 | .005 - .010                   | .850 | .750 | .010 - .020                   | .856 | .689 | .030 - .050                   | .860 | .785 | .010 - .020                   |
| .830 | .711 | .015 - .030                   | .840 | .569 | .005 - .010                   | .847 | .500 | .005 - .010                   | .850 | .756 | .020 - .030                   | .856 | .734 | .010 - .020                   | .861 | .499 | .030 - .050                   |
| .831 | .239 | .005 - .010                   | .840 | .575 | .060 - .070                   | .847 | .522 | .005 - .010                   | .850 | .809 | .010 - .020                   | .857 | .312 | .005 - .010                   | .861 | .527 | .040 - .060                   |
| .831 | .584 | .015 - .025                   | .840 | .631 | .030 - .060                   | .847 | .536 | .005 - .010                   | .851 | .093 | .005 - .010                   | .857 | .409 | .005 - .010                   | .861 | .601 | .030 - .050                   |
| .831 | .649 | .005 - .010                   | .840 | .633 | .007 - .015                   | .848 | .067 | .010 - .020                   | .851 | .164 | .050 - .070                   | .857 | .555 | .015 - .025                   | .861 | .620 | .060 - .080                   |
| .832 | .461 | .010 - .025                   | .840 | .643 | .075 - .090                   | .848 | .199 | .025 - .040                   | .851 | .173 | .005 - .010                   | .857 | .640 | .025 - .040                   | .861 | .636 | .005 - .010                   |
| .832 | .520 | .050 - .070                   | .840 | .650 | .048 - .062                   | .848 | .317 | .005 - .010                   | .851 | .184 | .040 - .090                   | .857 | .665 | .010 - .020                   | .861 | .638 | .050 - .070                   |
| .832 | .551 | .005 - .010                   | .840 | .674 | .010 - .020                   | .848 | .323 | .005 - .020                   | .851 | .185 | .060 - .090                   | .857 | .692 | .030 - .050                   | .861 | .661 | .005 - .010                   |
| .832 | .574 | .030 - .050                   | .840 | .675 | .015 - .030                   | .848 | .472 | .015 - .030                   | .851 | .300 | .070 - .090                   | .858 | .352 | .100 - .125                   | .861 | .689 | .030 - .050                   |
| .832 | .595 | .005 - .010                   | .840 | .676 | .020 - .035                   | .848 | .492 | .050 - .070                   | .851 | .384 | .104 - .134                   | .858 | .564 | .030 - .060                   | .861 | .749 | .015 - .020                   |
| .832 | .598 | .005 - .010                   | .840 | .680 | .005 - .010                   | .848 | .505 | .005 - .010                   | .851 | .385 | .010 - .020                   | .858 | .596 | .030 - .050                   | .861 | .763 | .005 - .010                   |
| .832 | .703 | .010 - .020                   | .840 | .682 | .015 - .030                   | .848 | .510 | .010 - .020                   | .851 | .401 | .005 - .010                   | .858 | .619 | .050 - .070                   | .862 | .256 | .050 - .072                   |
| .832 | .751 | .030 - .040                   | .840 | .711 | .020 - .040                   | .848 | .540 | .005 - .010                   | .851 | .421 | .105 - .120                   | .858 | .626 | .005 - .010                   | .862 | .295 | .040 - .070                   |
| .833 | .607 | .005 - .010                   | .840 | .731 | .030 - .050                   | .848 | .610 | .010 - .020                   | .851 | .450 | .030 - .050                   | .858 | .630 | .005 - .010                   | .862 | .312 | .025 - .042                   |
| .833 | .730 | .030 - .042                   | .840 | .748 | .015 - .025                   | .848 | .685 | .032 - .062                   | .851 | .503 | .005 - .010                   | .858 | .649 | .030 - .050                   | .862 | .407 | .015 - .025                   |
| .833 | .770 | .010 - .020                   | .841 | .440 | .025 - .040                   | .848 | .750 | .010 - .020                   | .851 | .513 | .040 - .060                   | .858 | .650 | .008 - .020                   | .862 | .427 | .020 - .030                   |
| .834 | .093 | .050 - .070                   | .841 | .631 | .030 - .050                   | .849 | .151 | .030 - .060                   | .851 | .564 | .030 - .050                   | .858 | .653 | .025 - .040                   | .862 | .472 | .050 - .060                   |
| .834 | .462 | .020 - .040                   | .841 | .651 | .005 - .010                   | .849 | .386 | .050 - .075                   | .851 | .571 | .005 - .010                   | .858 | .720 | .030 - .050                   | .862 | .518 | .090 - .125                   |
| .834 | .562 | .005 - .010                   | .841 | .663 | .015 - .030                   | .849 | .401 | .040 - .060                   | .851 | .633 | .005 - .010                   | .858 | .725 | .040 - .060                   | .862 | .529 | .050 - .075                   |
| .834 | .590 | .030 - .050                   | .841 | .752 | .010 - .020                   | .849 | .413 | .005 - .010                   | .851 | .640 | .005 - .010                   | .858 | .773 | .010 - .020                   | .862 | .538 | .015 - .030                   |
| .834 | .596 | .030 - .050                   | .842 | .378 | .025 - .042                   | .849 | .497 | .005 - .010                   | .851 | .655 | .005 - .010                   | .859 | .064 | .030 - .050                   | .862 | .572 | .060 - .075                   |
| .834 | .759 | .010 - .020                   | .842 | .470 | .050 - .070                   | .849 | .520 | .005 - .010                   | .851 | .671 | .040 - .060                   | .859 | .171 | .010 - .020                   | .862 | .609 | .005 - .010                   |
| .835 | .200 | .020 - .035                   | .842 | .593 | .080 - .095                   | .849 | .606 | .005 - .010                   | .852 | .187 | .040 - .060                   | .859 | .265 | .075 - .090                   | .862 | .680 | .020 - .032                   |
| .835 | .221 | .005 - .010                   | .842 | .631 | .005 - .008                   | .849 | .631 | .010 - .020                   | .852 | .257 | .062 - .090                   | .859 | .380 | .005 - .015                   | .862 | .692 | .020 - .030                   |
| .835 | .390 | .040 - .060                   | .842 | .632 | .010 - .020                   | .850 | .155 | .005 - .010                   | .852 | .409 | .005 - .020                   | .859 | .439 | .020 - .030                   | .862 | .751 | .030 - .050                   |
| .835 | .441 | .070 - .090                   | .842 | .690 | .005 - .010                   | .850 | .174 | .025 - .040                   | .852 | .503 | .020 - .030                   | .859 | .450 | .005 - .020                   | .862 | .763 | .005 - .010                   |
| .835 | .480 | .010 - .020                   | .842 | .729 | .005 - .010                   | .850 | .175 | .050 - .070                   | .852 | .528 | .015 - .030                   | .859 | .454 | .015 - .030                   | .863 | .139 | .030 - .050                   |
| .835 | .506 | .080 - .100                   | .842 | .764 | .005 - .010                   | .850 | .180 | .120 - .135                   | .852 | .534 | .015 - .025                   | .859 | .489 | .020 - .030                   | .863 | .272 | .062 - .078                   |
| .835 | .570 | .005 - .050                   | .843 | .142 | .010 - .020                   | .850 | .200 | .020 - .080                   | .852 | .543 | .025 - .040                   | .859 | .508 | .025 - .050                   | .863 | .375 | .025 - .040                   |
| .835 | .595 | .010 - .020                   | .843 | .210 | .040 - .060                   | .850 | .240 | .048 - .072                   | .852 | .628 | .020 - .040                   | .859 | .515 | .032 - .042                   | .863 | .422 | .090 - .120                   |
| .835 | .685 | .030 - .060                   | .843 | .260 | .005 - .010                   | .850 | .250 | .015 - .030                   | .852 | .685 | .020 - .062                   | .859 | .606 | .060 - .080                   | .863 | .505 | .005 - .010                   |
| .835 | .753 | .020 - .040                   | .843 | .288 | .040 - .060                   | .850 | .251 | .120 - .140                   | .853 | .266 | .030 - .060                   | .859 | .628 | .020 - .030                   | .863 | .531 | .005 - .050                   |
| .835 | .782 | .020 - .030                   | .843 | .358 | .005 - .010                   | .850 | .252 | .005 - .010                   | .853 | .357 | .005 - .010                   | .859 | .629 | .005 - .010                   | .863 | .540 | .015 - .030                   |
| .836 | .416 | .010 - .020                   | .843 | .390 | .070 - .090                   | .850 | .283 | .005 - .010                   | .853 | .401 | .040 - .060                   | .859 | .646 | .020 - .040                   | .863 | .626 | .090 - .120                   |
| .836 | .438 | .005 - .010                   | .843 | .453 | .100 - .125                   | .850 | .301 | .015 - .030                   | .853 | .408 | .050 - .070                   | .859 | .650 | .030 - .070                   | .863 | .679 | .040 - .062                   |
| .836 | .450 | .040 - .060                   | .843 | .500 | .005 - .010                   | .850 | .302 | .105 - .125                   | .853 | .438 | .016 - .025                   | .859 | .671 | .040 - .060                   | .863 | .680 | .005 - .008                   |
| .836 | .680 | .005 - .060                   | .843 | .530 | .040 - .060                   | .850 | .316 | .090 - .105                   | .853 | .467 | .010 - .020                   | .859 | .675 | .030 - .050                   | .863 | .682 | .010 - .020                   |
| .836 | .705 | .032 - .060                   | .843 | .559 | .050 - .072                   | .850 | .319 | .060 - .080                   | .853 | .628 | .040 - .060                   | .859 | .705 | .005 - .010                   | .863 | .687 | .015 - .020                   |
| .837 | .506 | .115 - .130                   | .843 | .630 | .005 - .010                   | .850 | .330 | .020 - .040                   | .853 | .632 | .005 - .010                   | .859 | .779 | .005 - .010                   | .863 | .688 | .005 - .010                   |
| .837 | .527 | .040 - .060                   | .843 | .656 | .010 - .020                   | .850 | .340 | .005 - .010                   | .853 | .726 | .030 - .050                   | .860 | .036 | .032 - .042                   | .863 | .759 | .015 - .050                   |
| .837 | .530 | .048 - .075                   | .843 | .689 | .030 - .040                   | .850 | .350 | .080 - .104                   | .853 | .750 | .005 - .010                   | .860 | .171 | .015 - .030                   | .864 | .208 | .005 - .010                   |
| .837 | .591 | .005 - .010                   | .843 | .782 | .020 - .030                   | .850 | .351 | .030 - .050                   | .854 | .077 | .005 - .030                   | .860 | .192 | .090 - .125                   | .864 | .316 | .005 - .010                   |
| .837 | .633 | .025 - .040                   | .844 | .099 | .025 - .040                   | .850 | .356 | .010 - .020                   | .854 | .329 | .050 - .075                   | .860 | .225 | .030 - .040                   | .864 | .368 | .005 - .010                   |
| .837 | .679 | .025 - .040                   | .844 | .397 | .005 - .010                   | .850 | .374 | .005 - .010                   | .854 | .352 | .100 - .125                   | .860 | .252 | .015 - .030                   | .864 | .420 | .080 - .100                   |
| .837 | .783 | .010 - .020                   | .844 | .555 | .010 - .020                   | .850 | .377 | .005 - .020                   | .854 | .578 | .010 - .020                   | .860 | .255 | .005 - .010                   | .864 | .430 | .040 - .060                   |
| .838 | .281 | .032 - .060                   | .844 | .578 | .005 - .010                   | .850 | .378 | .005 - .010                   | .854 | .583 | .030 - .050                   | .860 | .261 | .010 - .030                   | .864 | .505 | .015 - .025                   |
| .838 | .290 | .050 - .075                   | .844 | .610 | .030 - .060                   | .850 | .380 | .030 - .040                   | .854 | .605 | .005 - .010                   | .860 | .265 | .075 - .090                   | .864 | .536 | .080 - .104                   |
| .838 | .376 | .015 - .030                   | .844 | .666 | .070 - .090                   | .850 | .382 | .005 - .125                   | .854 | .650 | .005 - .010                   | .860 | .275 | .030 - .050                   | .864 | .551 | .005 - .010                   |
| .838 | .482 | .031 - .048                   | .844 | .703 | .005 - .010                   | .850 | .384 | .100 - .125                   | .854 | .655 | .005 - .010                   | .860 | .314 | .075 - .090                   | .864 | .569 | .010 - .020                   |
| .838 | .483 | .050 - .075                   | .844 | .711 | .015 - .030                   | .850 | .433 | .005 - .010                   | .854 | .808 | .015 - .020                   | .860 | .321 | .062 - .090                   | .864 | .595 | .005 - .008                   |
| .838 | .508 | .005 - .010                   | .844 | .750 | .020 - .040                   | .850 | .495 | .015 - .025                   | .855 | .078 | .005 - .010                   | .860 | .324 | .060 - .080                   | .864 | .620 | .010 - .020                   |
| .838 | .563 | .040 - .060                   | .845 | .163 | .010 - .020                   | .850 | .500 | .015 - .025                   | .855 | .130 | .060 - .080                   | .860 | .338 | .005 - .010</                 |      |      |                               |

## BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .865 | .476 | .020 - .040                   | .867 | .129 | .020 - .040                   | .870 | .318 | .080 - .100                   | .872 | .334 | .010 - .050                   | .874 | .513 | .015 - .030                   | .875 | .384 | .008 - .016                   |
| .865 | .477 | .005 - .010                   | .867 | .264 | .070 - .090                   | .870 | .320 | .040 - .060                   | .872 | .376 | .010 - .020                   | .874 | .514 | .005 - .010                   | .875 | .389 | .040 - .060                   |
| .865 | .479 | .070 - .090                   | .867 | .336 | .090 - .120                   | .870 | .345 | .025 - .040                   | .872 | .386 | .010 - .020                   | .874 | .526 | .050 - .070                   | .875 | .390 | .060 - .075                   |
| .865 | .492 | .036 - .060                   | .867 | .360 | .020 - .040                   | .870 | .352 | .005 - .010                   | .872 | .388 | .010 - .020                   | .874 | .533 | .030 - .060                   | .875 | .391 | .040 - .060                   |
| .865 | .493 | .010 - .020                   | .867 | .370 | .025 - .040                   | .870 | .354 | .060 - .080                   | .872 | .394 | .005 - .025                   | .874 | .535 | .032 - .048                   | .875 | .393 | .005 - .010                   |
| .865 | .551 | .080 - .100                   | .867 | .381 | .030 - .060                   | .870 | .381 | .090 - .120                   | .872 | .397 | .040 - .060                   | .874 | .540 | .030 - .050                   | .875 | .395 | .090 - .125                   |
| .865 | .553 | .010 - .020                   | .867 | .387 | .005 - .010                   | .870 | .387 | .135 - .187                   | .872 | .399 | .005 - .010                   | .874 | .579 | .015 - .030                   | .875 | .396 | .010 - .020                   |
| .865 | .566 | .005 - .010                   | .867 | .394 | .010 - .020                   | .870 | .393 | .050 - .070                   | .872 | .402 | .010 - .020                   | .874 | .601 | .070 - .090                   | .875 | .397 | .050 - .070                   |
| .865 | .570 | .030 - .040                   | .867 | .398 | .005 - .010                   | .870 | .394 | .070 - .080                   | .872 | .475 | .060 - .083                   | .874 | .603 | .005 - .010                   | .875 | .399 | .005 - .010                   |
| .865 | .597 | .042 - .062                   | .867 | .405 | .090 - .105                   | .870 | .421 | .040 - .060                   | .872 | .476 | .055 - .085                   | .874 | .621 | .005 - .010                   | .875 | .405 | .100 - .120                   |
| .865 | .626 | .040 - .060                   | .867 | .413 | .005 - .010                   | .870 | .437 | .060 - .080                   | .872 | .562 | .075 - .090                   | .874 | .624 | .020 - .040                   | .875 | .406 | .050 - .060                   |
| .865 | .630 | .005 - .010                   | .867 | .452 | .005 - .010                   | .870 | .440 | .156 - .187                   | .872 | .593 | .075 - .104                   | .874 | .625 | .015 - .025                   | .875 | .412 | .100 - .125                   |
| .865 | .634 | .005 - .070                   | .867 | .474 | .090 - .110                   | .870 | .450 | .090 - .120                   | .872 | .605 | .005 - .010                   | .874 | .627 | .030 - .050                   | .875 | .413 | .005 - .015                   |
| .865 | .635 | .005 - .010                   | .867 | .477 | .015 - .030                   | .870 | .459 | .010 - .020                   | .872 | .626 | .005 - .010                   | .874 | .645 | .030 - .050                   | .875 | .415 | .060 - .083                   |
| .865 | .650 | .020 - .030                   | .867 | .560 | .040 - .060                   | .870 | .461 | .040 - .060                   | .872 | .687 | .005 - .010                   | .874 | .658 | .005 - .010                   | .875 | .430 | .005 - .030                   |
| .865 | .656 | .015 - .030                   | .867 | .566 | .005 - .010                   | .870 | .472 | .005 - .010                   | .872 | .725 | .040 - .060                   | .874 | .660 | .010 - .020                   | .875 | .436 | .060 - .080                   |
| .865 | .672 | .010 - .015                   | .867 | .593 | .015 - .030                   | .870 | .478 | .010 - .020                   | .872 | .728 | .005 - .010                   | .874 | .688 | .015 - .030                   | .875 | .437 | .050 - .080                   |
| .865 | .698 | .005 - .010                   | .867 | .608 | .080 - .120                   | .870 | .502 | .030 - .040                   | .872 | .754 | .005 - .010                   | .874 | .721 | .010 - .020                   | .875 | .438 | .010 - .020                   |
| .865 | .714 | .005 - .010                   | .867 | .632 | .025 - .040                   | .870 | .505 | .040 - .075                   | .872 | .755 | .005 - .025                   | .874 | .751 | .020 - .030                   | .875 | .439 | .005 - .010                   |
| .865 | .715 | .032 - .042                   | .867 | .638 | .012 - .020                   | .870 | .506 | .080 - .105                   | .872 | .760 | .005 - .010                   | .875 | .070 | .005 - .010                   | .875 | .440 | .015 - .125                   |
| .865 | .740 | .020 - .040                   | .867 | .644 | .080 - .100                   | .870 | .508 | .105 - .135                   | .872 | .807 | .010 - .015                   | .875 | .086 | .005 - .010                   | .875 | .448 | .030 - .050                   |
| .865 | .755 | .032 - .050                   | .867 | .670 | .015 - .030                   | .870 | .512 | .005 - .010                   | .873 | .140 | .048 - .062                   | .875 | .087 | .020 - .040                   | .875 | .451 | .005 - .010                   |
| .865 | .756 | .005 - .010                   | .867 | .688 | .005 - .008                   | .870 | .520 | .075 - .090                   | .873 | .153 | .050 - .075                   | .875 | .111 | .020 - .040                   | .875 | .452 | .005 - .010                   |
| .865 | .794 | .005 - .010                   | .867 | .690 | .010 - .020                   | .870 | .540 | .005 - .010                   | .873 | .194 | .070 - .090                   | .875 | .129 | .020 - .040                   | .875 | .453 | .025 - .080                   |
| .866 | .157 | .020 - .030                   | .867 | .704 | .025 - .040                   | .870 | .541 | .105 - .125                   | .873 | .195 | .005 - .010                   | .875 | .133 | .032 - .042                   | .875 | .456 | .090 - .125                   |
| .866 | .197 | .080 - .100                   | .867 | .709 | .005 - .010                   | .870 | .551 | .050 - .070                   | .873 | .224 | .020 - .040                   | .875 | .140 | .015 - .030                   | .875 | .465 | .080 - .100                   |
| .866 | .236 | .005 - .020                   | .867 | .710 | .010 - .030                   | .870 | .557 | .005 - .010                   | .873 | .307 | .007 - .016                   | .875 | .150 | .005 - .010                   | .875 | .473 | .100 - .125                   |
| .866 | .239 | .030 - .050                   | .867 | .724 | .040 - .060                   | .870 | .562 | .005 - .060                   | .873 | .312 | .030 - .050                   | .875 | .153 | .040 - .060                   | .875 | .475 | .025 - .040                   |
| .866 | .242 | .005 - .010                   | .867 | .753 | .005 - .010                   | .870 | .567 | .090 - .105                   | .873 | .361 | .105 - .125                   | .875 | .158 | .005 - .010                   | .875 | .481 | .120 - .135                   |
| .866 | .276 | .030 - .040                   | .867 | .760 | .015 - .030                   | .870 | .578 | .040 - .060                   | .873 | .365 | .005 - .010                   | .875 | .161 | .040 - .060                   | .875 | .486 | .020 - .040                   |
| .866 | .299 | .005 - .020                   | .867 | .770 | .030 - .050                   | .870 | .580 | .010 - .020                   | .873 | .378 | .040 - .060                   | .875 | .168 | .072 - .120                   | .875 | .500 | .040 - .090                   |
| .866 | .302 | .060 - .080                   | .867 | .794 | .005 - .010                   | .870 | .581 | .042 - .060                   | .873 | .381 | .005 - .010                   | .875 | .172 | .048 - .062                   | .875 | .501 | .005 - .030                   |
| .866 | .315 | .005 - .020                   | .868 | .237 | .005 - .010                   | .870 | .608 | .030 - .060                   | .873 | .387 | .015 - .025                   | .875 | .175 | .040 - .060                   | .875 | .502 | .015 - .030                   |
| .866 | .316 | .005 - .010                   | .868 | .238 | .005 - .010                   | .870 | .610 | .005 - .012                   | .873 | .388 | .005 - .010                   | .875 | .180 | .062 - .075                   | .875 | .504 | .030 - .125                   |
| .866 | .317 | .005 - .010                   | .868 | .315 | .015 - .060                   | .870 | .625 | .015 - .030                   | .873 | .405 | .015 - .030                   | .875 | .184 | .020 - .040                   | .875 | .505 | .005 - .042                   |
| .866 | .318 | .005 - .020                   | .868 | .317 | .005 - .010                   | .870 | .628 | .025 - .040                   | .873 | .410 | .105 - .135                   | .875 | .187 | .090 - .105                   | .875 | .506 | .090 - .125                   |
| .866 | .322 | .005 - .010                   | .868 | .442 | .005 - .010                   | .870 | .629 | .005 - .010                   | .873 | .412 | .005 - .010                   | .875 | .190 | .105 - .125                   | .875 | .507 | .030 - .125                   |
| .866 | .325 | .090 - .105                   | .868 | .462 | .030 - .050                   | .870 | .632 | .010 - .050                   | .873 | .436 | .050 - .075                   | .875 | .192 | .025 - .042                   | .875 | .513 | .032 - .135                   |
| .866 | .336 | .070 - .080                   | .868 | .473 | .005 - .010                   | .870 | .639 | .005 - .010                   | .873 | .440 | .105 - .135                   | .875 | .196 | .020 - .040                   | .875 | .516 | .060 - .080                   |
| .866 | .350 | .025 - .040                   | .868 | .477 | .005 - .010                   | .870 | .640 | .030 - .060                   | .873 | .467 | .015 - .030                   | .875 | .196 | .050 - .075                   | .875 | .517 | .005 - .010                   |
| .866 | .355 | .005 - .010                   | .868 | .513 | .015 - .025                   | .870 | .647 | .005 - .010                   | .873 | .470 | .030 - .050                   | .875 | .199 | .050 - .070                   | .875 | .518 | .090 - .110                   |
| .866 | .394 | .005 - .020                   | .868 | .521 | .100 - .134                   | .870 | .649 | .015 - .030                   | .873 | .503 | .015 - .070                   | .875 | .203 | .062 - .090                   | .875 | .527 | .032 - .048                   |
| .866 | .395 | .010 - .020                   | .868 | .527 | .010 - .020                   | .870 | .650 | .040 - .060                   | .873 | .522 | .020 - .040                   | .875 | .204 | .040 - .060                   | .875 | .530 | .015 - .030                   |
| .866 | .396 | .005 - .010                   | .868 | .563 | .080 - .100                   | .870 | .682 | .015 - .075                   | .873 | .532 | .170 - .190                   | .875 | .226 | .005 - .010                   | .875 | .531 | .105 - .125                   |
| .866 | .397 | .005 - .015                   | .868 | .606 | .015 - .030                   | .870 | .687 | .050 - .062                   | .873 | .546 | .050 - .070                   | .875 | .236 | .005 - .060                   | .875 | .537 | .005 - .010                   |
| .866 | .401 | .105 - .125                   | .868 | .607 | .015 - .030                   | .870 | .691 | .005 - .010                   | .873 | .582 | .100 - .125                   | .875 | .246 | .040 - .060                   | .875 | .562 | .050 - .072                   |
| .866 | .416 | .005 - .010                   | .868 | .610 | .090 - .125                   | .870 | .695 | .005 - .010                   | .873 | .599 | .075 - .090                   | .875 | .250 | .005 - .050                   | .875 | .563 | .005 - .105                   |
| .866 | .439 | .005 - .010                   | .868 | .620 | .005 - .010                   | .870 | .711 | .025 - .040                   | .873 | .604 | .025 - .040                   | .875 | .252 | .010 - .020                   | .875 | .567 | .005 - .090                   |
| .866 | .444 | .005 - .010                   | .868 | .627 | .080 - .105                   | .870 | .728 | .005 - .010                   | .873 | .627 | .030 - .060                   | .875 | .253 | .050 - .075                   | .875 | .568 | .020 - .048                   |
| .866 | .453 | .030 - .040                   | .868 | .641 | .040 - .060                   | .870 | .738 | .005 - .010                   | .873 | .628 | .105 - .125                   | .875 | .257 | .070 - .130                   | .875 | .579 | .050 - .060                   |
| .866 | .473 | .005 - .010                   | .868 | .664 | .060 - .080                   | .870 | .744 | .005 - .010                   | .873 | .630 | .005 - .050                   | .875 | .260 | .030 - .040                   | .875 | .580 | .015 - .030                   |
| .866 | .474 | .005 - .020                   | .868 | .665 | .010 - .030                   | .870 | .754 | .005 - .012                   | .873 | .632 | .005 - .015                   | .875 | .267 | .090 - .134                   | .875 | .600 | .090 - .105                   |
| .866 | .475 | .010 - .020                   | .868 | .687 | .005 - .010                   | .870 | .755 | .042 - .062                   | .873 | .780 | .025 - .040                   | .875 | .268 | .005 - .010                   | .875 | .610 | .025 - .040                   |
| .866 | .484 | .070 - .090                   | .868 | .689 | .005 - .010                   | .870 | .761 | .020 - .030                   | .874 | .200 | .042 - .080                   | .875 | .281 | .005 - .010                   | .875 | .611 | .050 - .070                   |
| .866 | .496 | .100 - .125                   | .868 | .719 | .070 - .090                   | .870 | .810 | .015 - .025                   | .874 | .203 | .040 - .060                   | .875 | .282 | .030 - .050                   | .875 | .621 | .060 - .080                   |
| .866 | .500 | .010 - .020                   | .868 | .736 | .010 - .020                   | .871 | .211 | .050 - .070                   | .874 | .243 | .030 - .050                   | .875 | .307 | .100 - .120                   | .875 | .626 | .050 - .070                   |
| .866 | .531 | .025 - .040                   | .868 | .751 | .010 - .020                   | .871 | .381 | .030 - .110                   | .874 | .259 | .005 - .010                   | .875 | .315 | .100 - .134                   | .875 | .628 | .005 - .060                   |
| .866 | .543 | .030 - .060                   | .868 | .760 | .025 - .040                   | .871 | .383 | .060 - .070                   | .874 | .266 | .025 - .040                   | .875 | .318 | .090 - .110                   | .875 | .630 | .050 - .070                   |
| .866 | .545 | .020 - .040                   | .869 | .279 | .105 - .135                   | .871 | .410 | .030 - .050                   | .874 | .312 | .005 - .010                   | .875 | .320 | .010 - .020                   | .875 | .631 | .015 - .030                   |
| .866 | .562 | .015 - .030                   | .869 | .393 | .020 - .035                   | .871 | .455 | .005 - .010                   | .874 | .316 | .005 - .010                   | .875 | .320 | .070 - .090                   | .875 | .632 | .100 - .125                   |
| .866 | .568 | .040 - .060                   | .869 | .430 | .125 - .187                   | .871 | .477 | .060 - .090                   | .874 | .329 | .060 - .083                   | .875 | .324 | .030 - .040                   | .875 | .635 | .005 - .010                   |
| .866 | .591 | .030 - .050                   | .869 | .508 | .050 - .070                   | .871 | .579 | .010 - .020                   | .874 | .330 | .025 - .040                   | .875 | .325 | .050 - .072                   | .875 | .637 | .010 - .104                   |
| .866 | .592 | .005 - .010                   | .869 | .539 | .010 - .020                   | .871 | .581 | .070 - .090                   | .874 | .375 | .060 - .187                   | .875 | .327 | .090 - .125                   | .875 | .650 | .100 - .125                   |
| .866 | .626 | .040 - .060                   | .869 | .575 | .005 - .010                   | .871 | .582 | .005 - .010                   | .874 | .376 | .020 - .040                   | .875 | .328 | .005 - .010                   | .875 | .652 | .031 - .048                   |
| .866 | .627 | .025 - .040                   | .869 | .628 | .020 - .080                   | .871 | .590 | .005 - .010                   | .874 | .377 | .015 - .080                   | .875 | .330 | .080 - .104                   | .875 | .654 | .075 - .100                   |
| .866 | .631 | .010 - .020                   | .869 | .667 | .020 - .030                   | .871 | .673 | .010 - .020                   | .874 | .381 | .005 - .010                   | .875 | .337 | .050 - .072                   | .875 | .660 | .062 - .078                   |
| .866 | .637 | .015 - .030                   | .870 | .125 | .005 - .015                   | .871 | .675 | .015 - .030                   | .874 | .384 | .008 - .016                   | .875 | .340 | .005 - .010                   | .875 | .666 | .040 - .060                   |
| .866 | .638 | .060 - .070                   | .870 | .170 | .025 - .040                   | .871 | .752 | .005 - .010                   | .874 | .392 | .015 - .030                   | .875 | .343 | .01                           |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .875 | .754 | .015 - .030                   | .878 | .219 | .015 - .040                   | .881 | .201 | .005 - .010                   | .892 | .073 | .025 - .036                   | .900 | .455 | .050 - .070                   | .904 | .629 | .020 - .100                   |
| .875 | .755 | .005 - .020                   | .878 | .229 | .040 - .060                   | .881 | .203 | .005 - .010                   | .892 | .273 | .070 - .105                   | .900 | .489 | .005 - .010                   | .904 | .640 | .030 - .040                   |
| .875 | .756 | .025 - .040                   | .878 | .264 | .060 - .083                   | .881 | .257 | .060 - .080                   | .892 | .390 | .005 - .010                   | .900 | .500 | .005 - .105                   | .904 | .649 | .020 - .035                   |
| .875 | .760 | .020 - .040                   | .878 | .282 | .015 - .030                   | .881 | .548 | .030 - .050                   | .892 | .514 | .005 - .010                   | .900 | .503 | .005 - .020                   | .904 | .690 | .015 - .030                   |
| .876 | .067 | .015 - .030                   | .878 | .285 | .090 - .120                   | .881 | .661 | .005 - .010                   | .892 | .612 | .010 - .025                   | .900 | .504 | .005 - .008                   | .904 | .750 | .040 - .060                   |
| .876 | .093 | .020 - .040                   | .878 | .376 | .025 - .040                   | .881 | .681 | .010 - .015                   | .892 | .632 | .005 - .010                   | .900 | .510 | .015 - .030                   | .904 | .805 | .005 - .040                   |
| .876 | .102 | .020 - .040                   | .878 | .387 | .020 - .062                   | .881 | .732 | .020 - .030                   | .892 | .653 | .050 - .070                   | .900 | .562 | .005 - .015                   | .905 | .127 | .090 - .110                   |
| .876 | .127 | .060 - .080                   | .878 | .402 | .060 - .075                   | .882 | .300 | .005 - .010                   | .892 | .726 | .005 - .010                   | .900 | .563 | .040 - .060                   | .905 | .196 | .040 - .060                   |
| .876 | .130 | .005 - .010                   | .878 | .406 | .025 - .040                   | .882 | .323 | .005 - .010                   | .893 | .621 | .040 - .075                   | .900 | .564 | .010 - .100                   | .905 | .201 | .005 - .010                   |
| .876 | .164 | .005 - .010                   | .878 | .437 | .020 - .040                   | .882 | .325 | .005 - .010                   | .893 | .701 | .005 - .010                   | .900 | .570 | .005 - .070                   | .905 | .238 | .005 - .010                   |
| .876 | .173 | .050 - .070                   | .878 | .446 | .050 - .075                   | .882 | .500 | .150 - .180                   | .893 | .770 | .005 - .010                   | .900 | .577 | .015 - .025                   | .905 | .259 | .005 - .010                   |
| .876 | .282 | .040 - .187                   | .878 | .473 | .135 - .156                   | .882 | .518 | .110 - .130                   | .894 | .195 | .020 - .040                   | .900 | .578 | .070 - .090                   | .905 | .330 | .015 - .030                   |
| .876 | .284 | .040 - .060                   | .878 | .478 | .010 - .020                   | .882 | .522 | .020 - .040                   | .894 | .251 | .010 - .020                   | .900 | .590 | .010 - .040                   | .905 | .344 | .020 - .030                   |
| .876 | .287 | .100 - .125                   | .878 | .501 | .020 - .040                   | .882 | .540 | .090 - .110                   | .894 | .501 | .060 - .080                   | .900 | .592 | .110 - .130                   | .905 | .392 | .010 - .040                   |
| .876 | .288 | .005 - .010                   | .878 | .516 | .100 - .125                   | .882 | .642 | .040 - .060                   | .894 | .624 | .005 - .010                   | .900 | .595 | .070 - .090                   | .905 | .396 | .005 - .010                   |
| .876 | .317 | .030 - .050                   | .878 | .518 | .100 - .125                   | .882 | .664 | .005 - .010                   | .894 | .762 | .005 - .010                   | .900 | .610 | .020 - .040                   | .905 | .398 | .120 - .135                   |
| .876 | .320 | .005 - .010                   | .878 | .523 | .100 - .125                   | .882 | .788 | .015 - .030                   | .895 | .375 | .070 - .090                   | .900 | .625 | .025 - .040                   | .905 | .403 | .020 - .040                   |
| .876 | .328 | .005 - .187                   | .878 | .531 | .020 - .040                   | .883 | .315 | .010 - .020                   | .895 | .390 | .032 - .062                   | .900 | .626 | .050 - .070                   | .905 | .414 | .180 - .190                   |
| .876 | .340 | .160 - .190                   | .878 | .562 | .025 - .040                   | .883 | .500 | .050 - .075                   | .895 | .462 | .005 - .010                   | .900 | .628 | .005 - .010                   | .905 | .451 | .070 - .090                   |
| .876 | .343 | .025 - .040                   | .878 | .570 | .005 - .012                   | .883 | .509 | .030 - .050                   | .895 | .574 | .032 - .042                   | .900 | .629 | .010 - .020                   | .905 | .460 | .005 - .010                   |
| .876 | .350 | .015 - .025                   | .878 | .585 | .005 - .010                   | .883 | .560 | .050 - .070                   | .895 | .631 | .005 - .010                   | .900 | .630 | .120 - .135                   | .905 | .473 | .010 - .030                   |
| .876 | .377 | .005 - .010                   | .878 | .593 | .025 - .050                   | .883 | .622 | .050 - .075                   | .895 | .661 | .010 - .020                   | .900 | .634 | .040 - .060                   | .905 | .475 | .105 - .125                   |
| .876 | .378 | .090 - .105                   | .878 | .627 | .020 - .030                   | .883 | .777 | .010 - .020                   | .895 | .708 | .005 - .010                   | .900 | .651 | .005 - .010                   | .905 | .481 | .040 - .060                   |
| .876 | .397 | .030 - .050                   | .878 | .628 | .005 - .010                   | .883 | .788 | .005 - .010                   | .895 | .733 | .050 - .070                   | .900 | .654 | .060 - .070                   | .905 | .493 | .070 - .090                   |
| .876 | .461 | .005 - .010                   | .878 | .632 | .040 - .060                   | .884 | .411 | .005 - .010                   | .895 | .795 | .010 - .020                   | .900 | .661 | .070 - .090                   | .905 | .513 | .060 - .080                   |
| .876 | .471 | .040 - .062                   | .878 | .648 | .005 - .010                   | .884 | .510 | .015 - .030                   | .895 | .801 | .020 - .030                   | .900 | .670 | .025 - .048                   | .905 | .520 | .020 - .040                   |
| .876 | .500 | .005 - .010                   | .878 | .660 | .015 - .030                   | .885 | .150 | .020 - .040                   | .896 | .215 | .060 - .080                   | .900 | .690 | .010 - .050                   | .905 | .531 | .050 - .060                   |
| .876 | .503 | .005 - .010                   | .878 | .689 | .020 - .040                   | .885 | .212 | .010 - .020                   | .896 | .340 | .050 - .070                   | .900 | .711 | .025 - .040                   | .905 | .558 | .005 - .010                   |
| .876 | .506 | .090 - .120                   | .878 | .742 | .005 - .010                   | .885 | .325 | .005 - .010                   | .896 | .772 | .020 - .042                   | .900 | .725 | .020 - .040                   | .905 | .564 | .040 - .060                   |
| .876 | .514 | .030 - .050                   | .878 | .826 | .005 - .010                   | .885 | .396 | .005 - .010                   | .897 | .292 | .005 - .010                   | .900 | .730 | .060 - .080                   | .905 | .585 | .050 - .075                   |
| .876 | .515 | .080 - .104                   | .879 | .125 | .050 - .060                   | .885 | .443 | .005 - .008                   | .897 | .407 | .005 - .010                   | .900 | .755 | .010 - .020                   | .905 | .634 | .032 - .060                   |
| .876 | .516 | .125 - .156                   | .879 | .172 | .090 - .120                   | .885 | .456 | .005 - .020                   | .897 | .408 | .010 - .020                   | .900 | .800 | .005 - .010                   | .905 | .637 | .015 - .030                   |
| .876 | .519 | .060 - .083                   | .879 | .250 | .025 - .040                   | .885 | .521 | .005 - .010                   | .897 | .409 | .025 - .080                   | .900 | .805 | .005 - .010                   | .905 | .639 | .040 - .060                   |
| .876 | .520 | .050 - .070                   | .879 | .327 | .048 - .062                   | .885 | .565 | .015 - .032                   | .897 | .704 | .025 - .040                   | .900 | .810 | .010 - .020                   | .905 | .643 | .010 - .020                   |
| .876 | .522 | .100 - .125                   | .879 | .376 | .010 - .020                   | .885 | .626 | .020 - .040                   | .897 | .748 | .005 - .015                   | .900 | .825 | .005 - .010                   | .905 | .657 | .070 - .080                   |
| .876 | .533 | .110 - .130                   | .879 | .399 | .050 - .070                   | .885 | .695 | .005 - .010                   | .897 | .810 | .010 - .020                   | .900 | .830 | .015 - .025                   | .905 | .667 | .040 - .060                   |
| .876 | .551 | .100 - .120                   | .879 | .431 | .050 - .070                   | .885 | .705 | .005 - .010                   | .898 | .250 | .040 - .060                   | .900 | .840 | .005 - .010                   | .905 | .672 | .070 - .090                   |
| .876 | .563 | .005 - .010                   | .879 | .515 | .025 - .040                   | .886 | .118 | .030 - .050                   | .898 | .318 | .050 - .075                   | .901 | .202 | .030 - .050                   | .905 | .673 | .090 - .125                   |
| .876 | .565 | .020 - .040                   | .879 | .516 | .040 - .060                   | .886 | .291 | .030 - .050                   | .898 | .343 | .005 - .010                   | .901 | .256 | .010 - .016                   | .905 | .674 | .075 - .100                   |
| .876 | .591 | .050 - .070                   | .879 | .593 | .050 - .070                   | .886 | .443 | .005 - .040                   | .898 | .453 | .080 - .100                   | .901 | .292 | .040 - .060                   | .905 | .677 | .105 - .125                   |
| .876 | .600 | .060 - .075                   | .879 | .635 | .050 - .075                   | .886 | .531 | .050 - .070                   | .898 | .510 | .075 - .104                   | .901 | .361 | .010 - .020                   | .905 | .682 | .010 - .020                   |
| .876 | .616 | .048 - .062                   | .879 | .636 | .015 - .030                   | .886 | .548 | .060 - .080                   | .898 | .665 | .025 - .040                   | .901 | .506 | .005 - .020                   | .905 | .709 | .015 - .030                   |
| .876 | .622 | .040 - .060                   | .880 | .165 | .050 - .075                   | .886 | .650 | .070 - .090                   | .898 | .726 | .005 - .010                   | .901 | .626 | .005 - .020                   | .905 | .728 | .050 - .070                   |
| .876 | .625 | .005 - .010                   | .880 | .170 | .110 - .130                   | .887 | .265 | .062 - .090                   | .898 | .748 | .005 - .010                   | .901 | .694 | .075 - .093                   | .905 | .785 | .005 - .010                   |
| .876 | .626 | .050 - .075                   | .880 | .192 | .015 - .030                   | .887 | .325 | .035 - .050                   | .898 | .812 | .005 - .010                   | .901 | .710 | .005 - .020                   | .906 | .316 | .005 - .010                   |
| .876 | .632 | .030 - .050                   | .880 | .219 | .032 - .050                   | .887 | .572 | .050 - .070                   | .898 | .829 | .015 - .030                   | .901 | .715 | .010 - .020                   | .906 | .317 | .005 - .020                   |
| .876 | .633 | .062 - .080                   | .880 | .260 | .005 - .187                   | .887 | .714 | .020 - .040                   | .899 | .121 | .040 - .060                   | .902 | .316 | .010 - .030                   | .906 | .325 | .005 - .010                   |
| .876 | .672 | .090 - .105                   | .880 | .265 | .005 - .010                   | .887 | .755 | .005 - .010                   | .899 | .197 | .030 - .050                   | .902 | .318 | .005 - .010                   | .906 | .332 | .090 - .110                   |
| .876 | .675 | .030 - .040                   | .880 | .302 | .005 - .015                   | .887 | .795 | .005 - .010                   | .899 | .444 | .010 - .020                   | .902 | .329 | .005 - .010                   | .906 | .394 | .010 - .020                   |
| .876 | .681 | .060 - .080                   | .880 | .324 | .050 - .070                   | .888 | .382 | .075 - .090                   | .899 | .479 | .020 - .040                   | .902 | .377 | .005 - .010                   | .906 | .395 | .090 - .100                   |
| .876 | .692 | .020 - .030                   | .880 | .333 | .042 - .060                   | .888 | .530 | .005 - .010                   | .899 | .535 | .005 - .010                   | .902 | .504 | .006 - .012                   | .906 | .396 | .010 - .020                   |
| .876 | .694 | .020 - .040                   | .880 | .340 | .160 - .190                   | .888 | .535 | .015 - .030                   | .899 | .562 | .025 - .040                   | .902 | .505 | .005 - .020                   | .906 | .405 | .010 - .020                   |
| .876 | .702 | .010 - .020                   | .880 | .357 | .005 - .010                   | .888 | .622 | .005 - .010                   | .899 | .563 | .005 - .010                   | .902 | .535 | .005 - .010                   | .906 | .470 | .060 - .080                   |
| .876 | .714 | .030 - .050                   | .880 | .375 | .060 - .080                   | .888 | .656 | .005 - .010                   | .899 | .568 | .070 - .090                   | .902 | .564 | .005 - .010                   | .906 | .474 | .005 - .010                   |
| .876 | .745 | .025 - .040                   | .880 | .376 | .025 - .062                   | .888 | .760 | .010 - .020                   | .899 | .789 | .030 - .040                   | .902 | .642 | .005 - .010                   | .906 | .512 | .006 - .012                   |
| .876 | .750 | .030 - .040                   | .880 | .380 | .005 - .080                   | .889 | .392 | .080 - .100                   | .899 | .791 | .010 - .020                   | .902 | .658 | .005 - .010                   | .906 | .519 | .010 - .020                   |
| .876 | .751 | .015 - .030                   | .880 | .381 | .005 - .015                   | .889 | .395 | .105 - .120                   | .899 | .810 | .020 - .030                   | .902 | .679 | .030 - .050                   | .906 | .565 | .080 - .100                   |
| .877 | .128 | .060 - .080                   | .880 | .386 | .070 - .090                   | .889 | .557 | .005 - .010                   | .899 | .814 | .005 - .010                   | .902 | .790 | .030 - .050                   | .906 | .585 | .020 - .040                   |
| .877 | .170 | .035 - .060                   | .880 | .406 | .005 - .010                   | .889 | .569 | .005 - .010                   | .899 | .841 | .010 - .020                   | .902 | .792 | .005 - .010                   | .906 | .592 | .025 - .040                   |
| .877 | .173 | .100 - .125                   | .880 | .407 | .080 - .105                   | .889 | .758 | .025 - .040                   | .900 | .063 | .010 - .020                   | .903 | .252 | .080 - .100                   | .906 | .603 | .010 - .020                   |
| .877 | .250 | .030 - .050                   | .880 | .426 | .005 - .015                   | .889 | .786 | .005 - .010                   | .900 | .079 | .030 - .050                   | .903 | .258 | .060 - .080                   | .906 | .609 | .005 - .010                   |
| .877 | .254 | .100 - .125                   | .880 | .430 | .005 - .010                   | .890 | .192 | .050 - .072                   | .900 | .100 | .015 - .030                   | .903 | .315 | .030 - .048                   | .906 | .638 | .093 - .125                   |
| .877 | .281 | .010 - .015                   | .880 | .455 | .005 - .012                   | .890 | .273 | .070 - .105                   | .900 | .154 | .005 - .010                   | .903 | .330 | .015 - .030                   | .906 | .657 | .025 - .035                   |
| .877 | .313 | .025 - .040                   | .880 | .475 | .060 - .080                   | .890 | .385 | .090 - .105                   | .900 | .217 | .025 - .040                   | .903 | .401 | .005 - .010                   | .906 | .669 | .015 - .030                   |
| .877 | .329 | .020 - .030                   | .880 | .485 | .050 - .060                   | .890 | .405 | .100 - .125                   | .900 | .252 | .005 - .010                   | .903 | .416 | .100 - .125                   | .906 | .728 | .030 - .050                   |
| .877 | .377 | .012 - .020                   | .880 | .495 | .005 - .010                   | .890 | .438 | .030 - .040                   | .900 | .254 | .040 - .060                   | .903 | .500 | .025 - .036                   | .906 | .730 | .030 - .050                   |
| .877 | .389 | .134 - .187                   | .880 | .505 | .015 - .025                   | .890 | .504 | .015 - .030                   | .900 | .321 | .005 - .010                   | .903 | .531 | .160 - .180                   | .906 | .750 | .010 - .020                   |
| .877 | .407 | .170 - .190                   | .880 | .518 | .040 - .060                   | .890 | .530 | .010 - .030                   | .900 | .376 | .005 - .030                   | .903 | .664 | .025 - .040</                 |      |      |                               |

**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .907 | .669 | .060 - .080                   | .915 | .623 | .030 - .060                   | .921 | .680 | .025 - .040                   | .929 | .470 | .072 - .105                   | .935 | .481 | .030 - .050                   | .937 | .578 | .080 - .104                   |
| .907 | .672 | .042 - .060                   | .915 | .628 | .080 - .095                   | .921 | .682 | .030 - .050                   | .929 | .570 | .005 - .010                   | .935 | .489 | .090 - .120                   | .937 | .580 | .030 - .050                   |
| .907 | .682 | .030 - .050                   | .915 | .744 | .005 - .010                   | .921 | .788 | .020 - .040                   | .929 | .575 | .005 - .010                   | .935 | .501 | .080 - .104                   | .937 | .594 | .050 - .060                   |
| .907 | .728 | .005 - .015                   | .915 | .775 | .005 - .010                   | .921 | .790 | .005 - .010                   | .929 | .600 | .050 - .075                   | .935 | .523 | .080 - .105                   | .937 | .623 | .020 - .040                   |
| .907 | .740 | .010 - .050                   | .916 | .150 | .020 - .032                   | .922 | .316 | .105 - .125                   | .929 | .689 | .005 - .014                   | .935 | .535 | .090 - .105                   | .937 | .624 | .020 - .090                   |
| .907 | .757 | .010 - .020                   | .916 | .317 | .100 - .120                   | .922 | .450 | .080 - .100                   | .929 | .697 | .012 - .020                   | .935 | .565 | .012 - .020                   | .937 | .625 | .005 - .010                   |
| .908 | .332 | .135 - .156                   | .916 | .507 | .020 - .040                   | .922 | .608 | .050 - .075                   | .930 | .088 | .015 - .030                   | .935 | .569 | .030 - .050                   | .937 | .629 | .030 - .050                   |
| .908 | .342 | .050 - .075                   | .916 | .532 | .040 - .060                   | .922 | .630 | .010 - .020                   | .930 | .098 | .020 - .040                   | .935 | .570 | .030 - .060                   | .937 | .637 | .025 - .042                   |
| .908 | .379 | .025 - .040                   | .916 | .540 | .020 - .040                   | .922 | .640 | .030 - .050                   | .930 | .199 | .005 - .083                   | .935 | .581 | .100 - .125                   | .937 | .640 | .032 - .060                   |
| .908 | .502 | .030 - .050                   | .916 | .570 | .050 - .090                   | .922 | .670 | .010 - .020                   | .930 | .270 | .005 - .010                   | .935 | .624 | .100 - .125                   | .937 | .650 | .005 - .010                   |
| .908 | .555 | .080 - .105                   | .916 | .571 | .090 - .110                   | .922 | .687 | .020 - .030                   | .930 | .286 | .070 - .090                   | .935 | .681 | .030 - .050                   | .937 | .656 | .032 - .060                   |
| .908 | .564 | .015 - .030                   | .916 | .734 | .020 - .040                   | .922 | .755 | .020 - .040                   | .930 | .301 | .015 - .030                   | .935 | .682 | .005 - .010                   | .937 | .672 | .005 - .010                   |
| .908 | .616 | .020 - .032                   | .916 | .735 | .020 - .040                   | .922 | .758 | .050 - .070                   | .930 | .377 | .005 - .020                   | .935 | .683 | .030 - .060                   | .937 | .675 | .060 - .075                   |
| .908 | .688 | .010 - .025                   | .916 | .795 | .010 - .020                   | .923 | .265 | .090 - .105                   | .930 | .381 | .040 - .125                   | .935 | .685 | .072 - .120                   | .937 | .687 | .100 - .125                   |
| .908 | .705 | .030 - .048                   | .916 | .804 | .016 - .032                   | .923 | .397 | .015 - .025                   | .930 | .420 | .040 - .060                   | .935 | .687 | .020 - .040                   | .937 | .693 | .015 - .020                   |
| .908 | .751 | .060 - .080                   | .916 | .834 | .005 - .010                   | .923 | .502 | .015 - .030                   | .930 | .440 | .020 - .040                   | .935 | .715 | .016 - .032                   | .937 | .703 | .010 - .020                   |
| .908 | .753 | .005 - .010                   | .917 | .501 | .050 - .090                   | .923 | .506 | .050 - .070                   | .930 | .475 | .040 - .060                   | .935 | .719 | .010 - .030                   | .937 | .724 | .050 - .070                   |
| .908 | .764 | .020 - .030                   | .917 | .506 | .010 - .020                   | .923 | .661 | .005 - .010                   | .930 | .501 | .025 - .062                   | .935 | .720 | .050 - .070                   | .937 | .737 | .020 - .030                   |
| .908 | .765 | .020 - .040                   | .917 | .531 | .062 - .078                   | .923 | .668 | .030 - .050                   | .930 | .520 | .020 - .040                   | .935 | .724 | .010 - .030                   | .937 | .754 | .048 - .072                   |
| .909 | .250 | .030 - .040                   | .917 | .579 | .050 - .060                   | .923 | .678 | .020 - .030                   | .930 | .609 | .042 - .072                   | .935 | .733 | .025 - .040                   | .937 | .772 | .060 - .080                   |
| .909 | .342 | .050 - .075                   | .917 | .596 | .005 - .015                   | .923 | .754 | .020 - .040                   | .930 | .630 | .010 - .025                   | .935 | .735 | .005 - .010                   | .937 | .785 | .005 - .015                   |
| .909 | .364 | .005 - .010                   | .917 | .623 | .040 - .060                   | .923 | .755 | .015 - .050                   | .930 | .635 | .080 - .104                   | .935 | .783 | .005 - .010                   | .937 | .793 | .025 - .040                   |
| .909 | .379 | .005 - .010                   | .918 | .257 | .070 - .090                   | .923 | .796 | .030 - .050                   | .930 | .645 | .005 - .010                   | .935 | .794 | .060 - .075                   | .937 | .802 | .015 - .040                   |
| .909 | .634 | .010 - .020                   | .918 | .497 | .010 - .020                   | .923 | .820 | .005 - .010                   | .930 | .673 | .010 - .020                   | .935 | .796 | .020 - .040                   | .937 | .813 | .005 - .010                   |
| .909 | .676 | .007 - .015                   | .918 | .508 | .030 - .050                   | .924 | .201 | .100 - .125                   | .930 | .679 | .005 - .010                   | .935 | .807 | .040 - .060                   | .937 | .875 | .025 - .035                   |
| .909 | .749 | .040 - .060                   | .918 | .596 | .005 - .010                   | .924 | .253 | .005 - .010                   | .930 | .700 | .005 - .010                   | .935 | .839 | .020 - .030                   | .938 | .140 | .048 - .062                   |
| .909 | .796 | .005 - .010                   | .918 | .614 | .005 - .010                   | .924 | .382 | .030 - .040                   | .930 | .701 | .015 - .030                   | .935 | .860 | .015 - .030                   | .938 | .144 | .105 - .135                   |
| .910 | .250 | .080 - .104                   | .918 | .762 | .025 - .035                   | .924 | .538 | .010 - .015                   | .930 | .710 | .005 - .010                   | .935 | .871 | .005 - .010                   | .938 | .150 | .050 - .072                   |
| .910 | .330 | .030 - .040                   | .919 | .257 | .070 - .090                   | .924 | .727 | .040 - .060                   | .930 | .750 | .025 - .040                   | .936 | .266 | .060 - .080                   | .938 | .199 | .048 - .062                   |
| .910 | .381 | .050 - .070                   | .919 | .366 | .005 - .010                   | .924 | .746 | .020 - .040                   | .930 | .760 | .005 - .030                   | .936 | .310 | .050 - .080                   | .938 | .200 | .030 - .060                   |
| .910 | .400 | .015 - .030                   | .919 | .396 | .005 - .010                   | .925 | .091 | .005 - .010                   | .930 | .812 | .010 - .020                   | .936 | .313 | .020 - .035                   | .938 | .201 | .100 - .120                   |
| .910 | .417 | .010 - .020                   | .919 | .493 | .100 - .125                   | .925 | .158 | .100 - .125                   | .931 | .454 | .020 - .030                   | .936 | .343 | .105 - .125                   | .938 | .217 | .050 - .072                   |
| .910 | .425 | .005 - .010                   | .919 | .565 | .005 - .020                   | .925 | .289 | .100 - .120                   | .931 | .478 | .020 - .030                   | .936 | .375 | .040 - .050                   | .938 | .246 | .048 - .062                   |
| .910 | .440 | .005 - .010                   | .919 | .671 | .005 - .010                   | .925 | .314 | .010 - .015                   | .931 | .598 | .035 - .060                   | .936 | .390 | .060 - .090                   | .938 | .266 | .042 - .060                   |
| .910 | .468 | .075 - .090                   | .919 | .697 | .010 - .020                   | .925 | .322 | .070 - .090                   | .931 | .600 | .010 - .020                   | .936 | .406 | .050 - .070                   | .938 | .318 | .048 - .062                   |
| .910 | .490 | .130 - .156                   | .919 | .765 | .005 - .010                   | .925 | .346 | .015 - .025                   | .931 | .632 | .105 - .125                   | .936 | .480 | .010 - .030                   | .938 | .322 | .035 - .060                   |
| .910 | .500 | .025 - .040                   | .919 | .812 | .020 - .030                   | .925 | .397 | .048 - .072                   | .931 | .660 | .020 - .030                   | .936 | .481 | .005 - .060                   | .938 | .328 | .104 - .134                   |
| .910 | .515 | .100 - .125                   | .920 | .048 | .005 - .010                   | .925 | .438 | .015 - .050                   | .931 | .691 | .040 - .060                   | .936 | .502 | .005 - .010                   | .938 | .343 | .048 - .062                   |
| .910 | .540 | .060 - .080                   | .920 | .090 | .040 - .060                   | .925 | .445 | .060 - .083                   | .931 | .729 | .050 - .070                   | .936 | .517 | .090 - .110                   | .938 | .376 | .048 - .062                   |
| .910 | .560 | .110 - .130                   | .920 | .157 | .005 - .010                   | .925 | .450 | .025 - .040                   | .931 | .762 | .020 - .030                   | .936 | .537 | .005 - .010                   | .938 | .379 | .005 - .010                   |
| .910 | .590 | .005 - .010                   | .920 | .163 | .032 - .060                   | .925 | .474 | .050 - .070                   | .931 | .811 | .040 - .060                   | .936 | .552 | .005 - .010                   | .938 | .383 | .105 - .125                   |
| .910 | .638 | .010 - .020                   | .920 | .200 | .005 - .010                   | .925 | .516 | .025 - .040                   | .932 | .243 | .050 - .070                   | .936 | .627 | .040 - .060                   | .938 | .388 | .090 - .105                   |
| .910 | .650 | .005 - .015                   | .920 | .230 | .025 - .040                   | .925 | .526 | .015 - .030                   | .932 | .330 | .025 - .040                   | .936 | .641 | .100 - .125                   | .938 | .439 | .042 - .062                   |
| .910 | .667 | .030 - .050                   | .920 | .253 | .005 - .075                   | .925 | .575 | .070 - .090                   | .932 | .335 | .050 - .070                   | .936 | .645 | .105 - .135                   | .938 | .444 | .040 - .062                   |
| .910 | .703 | .030 - .040                   | .920 | .265 | .040 - .060                   | .925 | .576 | .050 - .075                   | .932 | .465 | .090 - .110                   | .936 | .650 | .050 - .070                   | .938 | .458 | .005 - .010                   |
| .910 | .750 | .010 - .020                   | .920 | .269 | .135 - .187                   | .925 | .577 | .050 - .075                   | .932 | .469 | .040 - .062                   | .936 | .660 | .005 - .008                   | .938 | .505 | .030 - .050                   |
| .910 | .811 | .020 - .040                   | .920 | .316 | .080 - .100                   | .925 | .611 | .010 - .020                   | .932 | .563 | .005 - .012                   | .936 | .687 | .052 - .084                   | .938 | .507 | .005 - .010                   |
| .910 | .820 | .005 - .010                   | .920 | .318 | .005 - .010                   | .925 | .661 | .025 - .040                   | .932 | .676 | .015 - .030                   | .936 | .718 | .020 - .040                   | .938 | .521 | .005 - .010                   |
| .911 | .256 | .080 - .100                   | .920 | .378 | .005 - .010                   | .925 | .672 | .040 - .060                   | .932 | .749 | .050 - .070                   | .937 | .080 | .020 - .035                   | .938 | .532 | .105 - .125                   |
| .911 | .416 | .062 - .090                   | .920 | .456 | .010 - .030                   | .925 | .690 | .010 - .020                   | .932 | .775 | .005 - .010                   | .937 | .092 | .050 - .070                   | .938 | .550 | .005 - .010                   |
| .911 | .471 | .030 - .050                   | .920 | .470 | .105 - .125                   | .925 | .719 | .005 - .010                   | .932 | .869 | .005 - .020                   | .937 | .110 | .050 - .070                   | .938 | .562 | .030 - .050                   |
| .911 | .564 | .030 - .050                   | .920 | .499 | .050 - .070                   | .925 | .725 | .010 - .020                   | .932 | .870 | .010 - .020                   | .937 | .174 | .062 - .080                   | .938 | .563 | .015 - .030                   |
| .911 | .568 | .005 - .010                   | .920 | .504 | .005 - .010                   | .925 | .756 | .010 - .020                   | .933 | .197 | .010 - .020                   | .937 | .257 | .032 - .048                   | .938 | .570 | .070 - .090                   |
| .911 | .615 | .005 - .010                   | .920 | .505 | .090 - .110                   | .925 | .800 | .012 - .025                   | .933 | .415 | .010 - .020                   | .937 | .275 | .030 - .050                   | .938 | .595 | .005 - .010                   |
| .911 | .710 | .030 - .048                   | .920 | .525 | .005 - .010                   | .925 | .817 | .010 - .020                   | .933 | .508 | .032 - .060                   | .937 | .292 | .025 - .040                   | .938 | .596 | .005 - .010                   |
| .911 | .780 | .005 - .010                   | .920 | .550 | .005 - .010                   | .925 | .834 | .020 - .030                   | .933 | .624 | .025 - .040                   | .937 | .315 | .080 - .100                   | .938 | .636 | .030 - .050                   |
| .911 | .815 | .005 - .010                   | .920 | .564 | .015 - .030                   | .926 | .162 | .050 - .070                   | .933 | .688 | .005 - .010                   | .937 | .319 | .025 - .040                   | .938 | .637 | .080 - .104                   |
| .912 | .176 | .005 - .010                   | .920 | .584 | .005 - .010                   | .926 | .399 | .080 - .105                   | .933 | .726 | .005 - .010                   | .937 | .324 | .030 - .060                   | .938 | .690 | .040 - .060                   |
| .912 | .549 | .070 - .105                   | .920 | .590 | .005 - .010                   | .926 | .438 | .045 - .060                   | .933 | .775 | .010 - .020                   | .937 | .330 | .156 - .187                   | .938 | .721 | .020 - .040                   |
| .912 | .563 | .010 - .020                   | .920 | .608 | .005 - .010                   | .926 | .670 | .010 - .020                   | .933 | .836 | .005 - .010                   | .937 | .341 | .050 - .075                   | .938 | .730 | .070 - .090                   |
| .912 | .596 | .005 - .010                   | .920 | .618 | .005 - .010                   | .926 | .689 | .015 - .030                   | .934 | .094 | .005 - .010                   | .937 | .350 | .020 - .030                   | .938 | .752 | .015 - .090                   |
| .912 | .636 | .060 - .070                   | .920 | .628 | .030 - .050                   | .926 | .724 | .015 - .030                   | .934 | .190 | .010 - .020                   | .937 | .375 | .010 - .020                   | .938 | .760 | .005 - .010                   |
| .912 | .656 | .105 - .120                   | .920 | .629 | .010 - .020                   | .927 | .171 | .100 - .125                   | .934 | .414 | .025 - .040                   | .937 | .381 | .025 - .040                   | .938 | .761 | .015 - .030                   |
| .912 | .683 | .015 - .030                   | .920 | .630 | .015 - .060                   | .927 | .264 | .005 - .010                   | .934 | .508 | .020 - .040                   | .937 | .390 | .005 - .010                   | .938 | .766 | .020 - .030                   |
| .912 | .805 | .005 - .010                   | .920 | .687 | .020 - .040                   | .927 | .397 | .005 - .010                   | .934 | .513 | .005 - .010                   | .937 | .399 | .156 - .187                   | .938 | .770 | .030 - .050                   |
| .913 | .493 | .015 - .030                   | .920 | .690 | .090 - .105                   | .927 | .476 | .090 - .110                   | .934 | .563 | .048 - .078                   | .937 | .410 | .015 - .030                   | .938 | .784 | .015 - .030                   |
| .913 | .507 | .020 - .030                   | .920 | .705 | .005 - .010                   | .927 | .512 | .008 - .016                   | .934 | .743 | .020 - .040                   | .937 | .431 | .050 - .075                   | .938 | .831 | .005 - .010                   |
| .913 | .510 | .020 - .040                   | .920 | .720 | .040 - .060                   | .927 | .627 | .005 - .010                   | .934 | .753 | .005 - .010                   | .937 | .437 | .156 - .18                    |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .939 | .630 | .020 - .040                   | .942 | .504 | .030 - .050                   | .945 | .673 | .015 - .030                   | .950 | .512 | .100 - .125                   | .960 | .650 | .032 - .050                   | .969 | .656 | .060 - .080                   |
| .939 | .633 | .015 - .030                   | .942 | .508 | .090 - .120                   | .945 | .686 | .060 - .105                   | .950 | .531 | .060 - .080                   | .960 | .705 | .030 - .060                   | .969 | .661 | .060 - .080                   |
| .939 | .640 | .015 - .025                   | .942 | .515 | .015 - .035                   | .945 | .708 | .060 - .080                   | .950 | .567 | .030 - .050                   | .960 | .728 | .040 - .060                   | .969 | .750 | .005 - .010                   |
| .939 | .656 | .030 - .040                   | .942 | .530 | .005 - .010                   | .945 | .710 | .030 - .050                   | .950 | .640 | .030 - .125                   | .960 | .740 | .090 - .105                   | .969 | .770 | .010 - .048                   |
| .939 | .660 | .050 - .070                   | .942 | .628 | .060 - .080                   | .945 | .714 | .060 - .080                   | .950 | .645 | .090 - .105                   | .960 | .750 | .030 - .060                   | .969 | .792 | .025 - .048                   |
| .939 | .678 | .040 - .060                   | .942 | .693 | .005 - .010                   | .945 | .719 | .070 - .090                   | .950 | .680 | .110 - .130                   | .960 | .751 | .050 - .075                   | .969 | .802 | .015 - .030                   |
| .939 | .700 | .005 - .010                   | .942 | .724 | .100 - .125                   | .945 | .737 | .005 - .010                   | .950 | .696 | .030 - .040                   | .960 | .758 | .005 - .010                   | .970 | .092 | .025 - .048                   |
| .939 | .739 | .050 - .070                   | .942 | .744 | .005 - .010                   | .945 | .831 | .015 - .030                   | .950 | .747 | .005 - .010                   | .960 | .774 | .005 - .010                   | .970 | .230 | .005 - .010                   |
| .939 | .783 | .040 - .060                   | .942 | .794 | .005 - .010                   | .945 | .845 | .005 - .015                   | .950 | .760 | .030 - .050                   | .960 | .783 | .020 - .030                   | .970 | .262 | .100 - .125                   |
| .939 | .799 | .030 - .050                   | .942 | .798 | .020 - .030                   | .946 | .354 | .005 - .010                   | .950 | .775 | .020 - .035                   | .960 | .820 | .005 - .010                   | .970 | .345 | .020 - .040                   |
| .939 | .869 | .015 - .025                   | .943 | .406 | .005 - .010                   | .946 | .386 | .040 - .060                   | .950 | .807 | .010 - .020                   | .961 | .438 | .050 - .070                   | .970 | .380 | .025 - .040                   |
| .940 | .186 | .031 - .048                   | .943 | .418 | .120 - .140                   | .946 | .398 | .010 - .020                   | .950 | .815 | .005 - .010                   | .961 | .500 | .040 - .050                   | .970 | .418 | .070 - .080                   |
| .940 | .194 | .010 - .020                   | .943 | .426 | .020 - .040                   | .946 | .473 | .005 - .010                   | .951 | .104 | .005 - .010                   | .961 | .621 | .005 - .010                   | .970 | .440 | .005 - .010                   |
| .940 | .231 | .005 - .010                   | .943 | .442 | .010 - .030                   | .946 | .506 | .050 - .070                   | .951 | .156 | .015 - .030                   | .961 | .676 | .020 - .030                   | .970 | .515 | .080 - .100                   |
| .940 | .253 | .007 - .015                   | .943 | .473 | .075 - .090                   | .946 | .513 | .105 - .125                   | .951 | .285 | .010 - .020                   | .961 | .730 | .005 - .010                   | .970 | .550 | .010 - .020                   |
| .940 | .315 | .010 - .075                   | .943 | .475 | .005 - .010                   | .946 | .602 | .025 - .042                   | .951 | .376 | .010 - .020                   | .961 | .820 | .010 - .020                   | .970 | .631 | .156 - .187                   |
| .940 | .400 | .160 - .190                   | .943 | .517 | .005 - .010                   | .946 | .678 | .005 - .010                   | .951 | .377 | .020 - .030                   | .961 | .844 | .010 - .020                   | .970 | .670 | .005 - .010                   |
| .940 | .407 | .090 - .120                   | .943 | .547 | .030 - .050                   | .946 | .686 | .062 - .070                   | .951 | .380 | .040 - .060                   | .961 | .878 | .005 - .010                   | .970 | .679 | .010 - .020                   |
| .940 | .437 | .005 - .010                   | .943 | .568 | .080 - .100                   | .946 | .717 | .060 - .080                   | .951 | .388 | .010 - .020                   | .962 | .045 | .015 - .025                   | .970 | .723 | .005 - .010                   |
| .940 | .440 | .110 - .130                   | .943 | .596 | .030 - .050                   | .946 | .755 | .040 - .060                   | .951 | .500 | .010 - .020                   | .962 | .055 | .005 - .010                   | .970 | .754 | .040 - .060                   |
| .940 | .441 | .040 - .060                   | .943 | .597 | .005 - .012                   | .946 | .786 | .050 - .070                   | .951 | .586 | .015 - .025                   | .962 | .766 | .005 - .010                   | .970 | .769 | .005 - .010                   |
| .940 | .481 | .050 - .075                   | .943 | .736 | .070 - .090                   | .947 | .128 | .005 - .010                   | .951 | .661 | .005 - .010                   | .962 | .769 | .035 - .062                   | .970 | .802 | .030 - .048                   |
| .940 | .490 | .075 - .105                   | .944 | .150 | .040 - .060                   | .947 | .397 | .010 - .020                   | .951 | .741 | .020 - .030                   | .962 | .789 | .020 - .030                   | .970 | .882 | .010 - .020                   |
| .940 | .502 | .015 - .030                   | .944 | .238 | .005 - .010                   | .947 | .463 | .060 - .070                   | .952 | .125 | .025 - .040                   | .963 | .271 | .005 - .010                   | .971 | .345 | .105 - .135                   |
| .940 | .508 | .100 - .125                   | .944 | .256 | .005 - .010                   | .947 | .482 | .005 - .010                   | .952 | .166 | .060 - .080                   | .963 | .283 | .030 - .050                   | .971 | .376 | .060 - .080                   |
| .940 | .509 | .050 - .070                   | .944 | .266 | .005 - .010                   | .947 | .484 | .070 - .090                   | .952 | .198 | .048 - .070                   | .963 | .324 | .005 - .010                   | .971 | .408 | .050 - .075                   |
| .940 | .518 | .050 - .070                   | .944 | .281 | .025 - .036                   | .947 | .566 | .030 - .048                   | .952 | .213 | .048 - .070                   | .963 | .400 | .020 - .040                   | .971 | .439 | .020 - .040                   |
| .940 | .520 | .090 - .105                   | .944 | .314 | .080 - .100                   | .947 | .599 | .042 - .060                   | .952 | .376 | .005 - .010                   | .963 | .451 | .030 - .050                   | .971 | .444 | .020 - .030                   |
| .940 | .525 | .040 - .060                   | .944 | .317 | .005 - .020                   | .947 | .730 | .030 - .050                   | .952 | .470 | .005 - .010                   | .963 | .500 | .010 - .020                   | .971 | .515 | .015 - .030                   |
| .940 | .535 | .030 - .040                   | .944 | .319 | .008 - .012                   | .947 | .757 | .010 - .025                   | .952 | .502 | .050 - .070                   | .963 | .504 | .005 - .010                   | .971 | .550 | .030 - .050                   |
| .940 | .553 | .100 - .125                   | .944 | .394 | .005 - .010                   | .947 | .780 | .020 - .040                   | .952 | .555 | .060 - .070                   | .963 | .659 | .080 - .100                   | .971 | .605 | .005 - .010                   |
| .940 | .590 | .015 - .030                   | .944 | .423 | .156 - .187                   | .947 | .783 | .048 - .062                   | .952 | .570 | .080 - .100                   | .963 | .758 | .020 - .030                   | .971 | .631 | .080 - .104                   |
| .940 | .591 | .060 - .070                   | .944 | .432 | .105 - .125                   | .947 | .799 | .010 - .020                   | .952 | .627 | .005 - .010                   | .963 | .800 | .030 - .050                   | .971 | .720 | .104 - .125                   |
| .940 | .607 | .030 - .060                   | .944 | .442 | .005 - .020                   | .947 | .821 | .005 - .010                   | .952 | .685 | .060 - .070                   | .963 | .885 | .010 - .020                   | .971 | .761 | .005 - .020                   |
| .940 | .610 | .030 - .060                   | .944 | .473 | .005 - .010                   | .948 | .059 | .005 - .010                   | .952 | .687 | .005 - .010                   | .964 | .376 | .030 - .050                   | .971 | .837 | .040 - .060                   |
| .940 | .633 | .005 - .010                   | .944 | .475 | .005 - .010                   | .948 | .245 | .005 - .072                   | .953 | .693 | .105 - .125                   | .964 | .500 | .015 - .030                   | .971 | .865 | .030 - .050                   |
| .940 | .640 | .005 - .105                   | .944 | .479 | .020 - .030                   | .948 | .262 | .060 - .080                   | .953 | .710 | .105 - .135                   | .964 | .652 | .090 - .120                   | .972 | .335 | .040 - .060                   |
| .940 | .641 | .025 - .040                   | .944 | .502 | .010 - .020                   | .948 | .390 | .005 - .010                   | .953 | .742 | .090 - .105                   | .965 | .264 | .020 - .040                   | .972 | .365 | .010 - .020                   |
| .940 | .646 | .060 - .080                   | .944 | .595 | .020 - .040                   | .948 | .398 | .005 - .010                   | .954 | .322 | .005 - .010                   | .965 | .423 | .030 - .040                   | .972 | .570 | .100 - .130                   |
| .940 | .656 | .040 - .060                   | .944 | .633 | .005 - .010                   | .948 | .413 | .005 - .010                   | .954 | .630 | .105 - .125                   | .965 | .506 | .060 - .075                   | .972 | .657 | .015 - .105                   |
| .940 | .673 | .005 - .030                   | .944 | .673 | .015 - .025                   | .948 | .439 | .010 - .020                   | .954 | .670 | .060 - .070                   | .965 | .514 | .090 - .120                   | .972 | .746 | .050 - .070                   |
| .940 | .674 | .005 - .010                   | .944 | .694 | .040 - .060                   | .948 | .448 | .060 - .070                   | .954 | .753 | .040 - .060                   | .965 | .580 | .032 - .060                   | .972 | .764 | .050 - .075                   |
| .940 | .686 | .010 - .020                   | .944 | .766 | .020 - .040                   | .948 | .485 | .090 - .110                   | .954 | .826 | .005 - .010                   | .965 | .610 | .020 - .035                   | .973 | .110 | .050 - .072                   |
| .940 | .700 | .015 - .025                   | .944 | .795 | .015 - .030                   | .948 | .493 | .062 - .080                   | .955 | .510 | .025 - .040                   | .965 | .620 | .025 - .040                   | .973 | .567 | .005 - .010                   |
| .940 | .701 | .015 - .030                   | .945 | .221 | .050 - .075                   | .948 | .502 | .006 - .015                   | .955 | .733 | .020 - .040                   | .965 | .644 | .005 - .010                   | .973 | .595 | .005 - .075                   |
| .940 | .704 | .083 - .105                   | .945 | .237 | .005 - .010                   | .948 | .503 | .005 - .010                   | .955 | .825 | .010 - .020                   | .965 | .669 | .080 - .105                   | .974 | .226 | .050 - .075                   |
| .940 | .710 | .030 - .050                   | .945 | .240 | .005 - .010                   | .948 | .506 | .005 - .010                   | .955 | .848 | .005 - .010                   | .965 | .709 | .005 - .010                   | .974 | .260 | .050 - .070                   |
| .940 | .721 | .040 - .060                   | .945 | .249 | .060 - .125                   | .948 | .514 | .050 - .075                   | .956 | .439 | .060 - .125                   | .965 | .754 | .020 - .040                   | .974 | .502 | .005 - .010                   |
| .940 | .730 | .015 - .030                   | .945 | .282 | .040 - .060                   | .948 | .518 | .030 - .060                   | .956 | .635 | .005 - .010                   | .965 | .783 | .020 - .036                   | .974 | .669 | .015 - .025                   |
| .940 | .752 | .005 - .010                   | .945 | .314 | .005 - .010                   | .948 | .576 | .005 - .010                   | .956 | .781 | .005 - .010                   | .966 | .391 | .040 - .060                   | .974 | .699 | .025 - .040                   |
| .940 | .766 | .050 - .075                   | .945 | .315 | .010 - .020                   | .948 | .666 | .035 - .050                   | .956 | .820 | .005 - .010                   | .966 | .542 | .020 - .032                   | .974 | .716 | .120 - .135                   |
| .940 | .776 | .005 - .010                   | .945 | .317 | .005 - .070                   | .948 | .763 | .005 - .010                   | .957 | .295 | .030 - .050                   | .966 | .643 | .080 - .105                   | .974 | .755 | .050 - .070                   |
| .940 | .788 | .020 - .030                   | .945 | .318 | .010 - .020                   | .948 | .780 | .020 - .040                   | .957 | .626 | .040 - .060                   | .966 | .703 | .060 - .075                   | .974 | .768 | .030 - .050                   |
| .940 | .796 | .005 - .010                   | .945 | .322 | .010 - .020                   | .948 | .864 | .025 - .040                   | .957 | .734 | .015 - .030                   | .967 | .265 | .005 - .030                   | .975 | .440 | .005 - .010                   |
| .940 | .830 | .005 - .012                   | .945 | .331 | .070 - .090                   | .949 | .189 | .005 - .010                   | .957 | .812 | .005 - .010                   | .967 | .347 | .090 - .110                   | .975 | .495 | .005 - .010                   |
| .941 | .119 | .030 - .060                   | .945 | .345 | .020 - .040                   | .949 | .380 | .040 - .060                   | .957 | .841 | .015 - .020                   | .967 | .375 | .090 - .125                   | .975 | .503 | .015 - .030                   |
| .941 | .150 | .060 - .070                   | .945 | .378 | .050 - .070                   | .949 | .503 | .005 - .010                   | .958 | .442 | .005 - .010                   | .967 | .542 | .015 - .030                   | .975 | .531 | .010 - .020                   |
| .941 | .256 | .130 - .150                   | .945 | .389 | .050 - .075                   | .949 | .505 | .050 - .070                   | .958 | .606 | .050 - .072                   | .967 | .567 | .070 - .090                   | .975 | .532 | .025 - .040                   |
| .941 | .257 | .010 - .020                   | .945 | .393 | .030 - .050                   | .949 | .507 | .005 - .020                   | .958 | .639 | .020 - .030                   | .967 | .593 | .050 - .075                   | .975 | .550 | .050 - .060                   |
| .941 | .260 | .050 - .070                   | .945 | .394 | .010 - .020                   | .949 | .511 | .010 - .020                   | .958 | .779 | .070 - .080                   | .967 | .719 | .060 - .080                   | .975 | .571 | .050 - .110                   |
| .941 | .459 | .020 - .030                   | .945 | .411 | .005 - .010                   | .949 | .592 | .072 - .090                   | .959 | .300 | .015 - .025                   | .967 | .761 | .050 - .075                   | .975 | .596 | .030 - .040                   |
| .941 | .484 | .005 - .010                   | .945 | .434 | .020 - .040                   | .950 | .102 | .005 - .030                   | .959 | .328 | .030 - .050                   | .968 | .517 | .050 - .075                   | .975 | .630 | .010 - .020                   |
| .941 | .500 | .040 - .060                   | .945 | .434 | .156 - .187                   | .950 | .125 | .005 - .010                   | .959 | .420 | .030 - .050                   | .968 | .625 | .050 - .070                   | .975 | .640 | .005 - .020                   |
| .941 | .532 | .030 - .050                   | .945 | .453 | .156 - .187                   | .950 | .131 | .062 - .080                   | .959 | .641 | .090 - .120                   | .968 | .634 | .005 - .015                   | .975 | .687 | .090 - .100                   |
| .941 | .555 | .005 - .012                   | .945 | .454 | .156 - .187                   | .950 | .186 | .020 - .035                   | .959 | .729 | .020 - .040                   | .968 | .636 | .030 - .050                   | .975 | .697 | .062 - .075                   |
| .941 | .566 | .020 - .040                   | .945 | .472 | .005 - .010                   | .950 | .189 | .005 - .030                   | .960 | .125 | .032 - .060                   | .968 | .655 | .025 - .045                   | .975 | .699 | .005 - .010                   |
| .941 | .632 | .030 - .060                   | .945 | .474 | .010 - .020                   | .950 | .198 | .047 - .070                   | .960 | .133 | .010 - .025                   | .968 | .675 | .015 - .030                   | .975 | .765 | .040 - .050                   |
| .941 | .675 | .005 - .010                   | .945 | .477 | .005 - .010                   | .950 | .204 | .020 - .035                   | .960 | .155 | .050 - .072                   | .968 | .687 | .020 - .040</                 |      |      |                               |

**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To | O.D. | I.D. | Choose Any Thickness* From To |
|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|------|------|-------------------------------|
| .977 | .276 | .015 - .030                   | .982 | .704 | .010 - .020                   | .985 | .506 | .100 - .120                   | .990 | .595 | .105 - .125                   | .994 | .605 | .005 - .010                   | .997 | .327 | .005 - .010                   |
| .977 | .315 | .015 - .040                   | .982 | .752 | .030 - .050                   | .985 | .512 | .030 - .050                   | .990 | .605 | .075 - .090                   | .994 | .625 | .050 - .075                   | .997 | .456 | .005 - .010                   |
| .977 | .485 | .005 - .010                   | .982 | .801 | .005 - .010                   | .985 | .535 | .040 - .060                   | .990 | .625 | .020 - .040                   | .994 | .721 | .005 - .010                   | .997 | .466 | .080 - .100                   |
| .977 | .550 | .020 - .030                   | .982 | .875 | .020 - .040                   | .985 | .548 | .010 - .015                   | .990 | .626 | .050 - .075                   | .994 | .813 | .005 - .010                   | .997 | .503 | .030 - .050                   |
| .977 | .560 | .020 - .040                   | .983 | .090 | .010 - .025                   | .985 | .556 | .040 - .060                   | .990 | .631 | .005 - .010                   | .994 | .900 | .005 - .010                   | .997 | .508 | .050 - .070                   |
| .977 | .626 | .070 - .090                   | .983 | .242 | .040 - .060                   | .985 | .565 | .062 - .105                   | .990 | .635 | .060 - .080                   | .995 | .083 | .005 - .010                   | .997 | .533 | .005 - .010                   |
| .977 | .649 | .010 - .020                   | .983 | .257 | .100 - .125                   | .985 | .580 | .005 - .010                   | .990 | .645 | .005 - .010                   | .995 | .157 | .032 - .042                   | .997 | .537 | .040 - .062                   |
| .977 | .720 | .010 - .040                   | .983 | .280 | .015 - .025                   | .985 | .587 | .020 - .032                   | .990 | .661 | .010 - .020                   | .995 | .160 | .015 - .030                   | .997 | .541 | .005 - .010                   |
| .977 | .778 | .070 - .090                   | .983 | .315 | .005 - .010                   | .985 | .635 | .060 - .080                   | .990 | .693 | .005 - .010                   | .995 | .196 | .005 - .010                   | .997 | .549 | .020 - .040                   |
| .978 | .180 | .020 - .040                   | .983 | .319 | .005 - .010                   | .985 | .669 | .005 - .010                   | .990 | .703 | .020 - .040                   | .995 | .224 | .005 - .010                   | .997 | .563 | .125 - .187                   |
| .978 | .437 | .050 - .075                   | .983 | .323 | .040 - .060                   | .985 | .685 | .100 - .125                   | .990 | .735 | .030 - .050                   | .995 | .272 | .005 - .010                   | .997 | .622 | .005 - .010                   |
| .978 | .503 | .025 - .040                   | .983 | .381 | .015 - .030                   | .985 | .700 | .005 - .015                   | .990 | .758 | .020 - .105                   | .995 | .282 | .025 - .050                   | .997 | .640 | .090 - .105                   |
| .978 | .515 | .005 - .120                   | .983 | .396 | .050 - .075                   | .985 | .721 | .040 - .105                   | .990 | .759 | .080 - .105                   | .995 | .297 | .100 - .125                   | .997 | .689 | .050 - .070                   |
| .978 | .659 | .015 - .020                   | .983 | .398 | .050 - .070                   | .985 | .751 | .005 - .010                   | .990 | .760 | .010 - .042                   | .995 | .374 | .050 - .070                   | .997 | .718 | .005 - .015                   |
| .978 | .690 | .010 - .020                   | .983 | .416 | .005 - .010                   | .985 | .760 | .042 - .062                   | .990 | .770 | .020 - .030                   | .995 | .378 | .005 - .030                   | .997 | .748 | .030 - .050                   |
| .979 | .171 | .015 - .035                   | .983 | .434 | .005 - .010                   | .985 | .789 | .005 - .025                   | .990 | .780 | .005 - .010                   | .995 | .392 | .050 - .070                   | .997 | .756 | .016 - .025                   |
| .979 | .285 | .015 - .030                   | .983 | .471 | .008 - .015                   | .985 | .790 | .005 - .010                   | .990 | .800 | .005 - .010                   | .995 | .410 | .005 - .010                   | .997 | .758 | .005 - .010                   |
| .979 | .340 | .060 - .080                   | .983 | .502 | .005 - .010                   | .985 | .806 | .005 - .010                   | .990 | .810 | .010 - .030                   | .995 | .447 | .005 - .010                   | .997 | .769 | .025 - .040                   |
| .979 | .393 | .005 - .010                   | .983 | .659 | .010 - .020                   | .985 | .825 | .010 - .020                   | .990 | .813 | .005 - .010                   | .995 | .453 | .008 - .016                   | .997 | .819 | .005 - .010                   |
| .979 | .405 | .005 - .010                   | .983 | .670 | .020 - .040                   | .986 | .220 | .070 - .090                   | .990 | .820 | .016 - .032                   | .995 | .494 | .005 - .010                   | .998 | .062 | .030 - .050                   |
| .979 | .517 | .125 - .135                   | .983 | .678 | .060 - .080                   | .986 | .337 | .030 - .050                   | .990 | .842 | .010 - .020                   | .995 | .500 | .070 - .090                   | .998 | .111 | .010 - .020                   |
| .979 | .563 | .070 - .090                   | .983 | .719 | .005 - .010                   | .986 | .408 | .020 - .040                   | .990 | .858 | .025 - .040                   | .995 | .515 | .070 - .090                   | .998 | .125 | .040 - .060                   |
| .979 | .630 | .005 - .010                   | .983 | .753 | .020 - .030                   | .986 | .516 | .050 - .070                   | .990 | .910 | .015 - .025                   | .995 | .517 | .040 - .060                   | .998 | .131 | .015 - .025                   |
| .979 | .674 | .005 - .010                   | .984 | .183 | .050 - .075                   | .986 | .585 | .050 - .070                   | .991 | .071 | .010 - .020                   | .995 | .522 | .005 - .010                   | .998 | .136 | .015 - .030                   |
| .979 | .678 | .025 - .040                   | .984 | .238 | .005 - .010                   | .986 | .631 | .010 - .020                   | .991 | .267 | .060 - .080                   | .995 | .534 | .083 - .105                   | .998 | .138 | .005 - .015                   |
| .979 | .705 | .005 - .010                   | .984 | .239 | .005 - .010                   | .986 | .635 | .060 - .080                   | .991 | .303 | .005 - .010                   | .995 | .535 | .062 - .120                   | .998 | .156 | .050 - .075                   |
| .979 | .710 | .030 - .050                   | .984 | .240 | .015 - .030                   | .986 | .700 | .030 - .050                   | .991 | .316 | .005 - .010                   | .995 | .538 | .015 - .030                   | .998 | .190 | .005 - .010                   |
| .979 | .837 | .010 - .030                   | .984 | .257 | .105 - .125                   | .986 | .710 | .105 - .125                   | .991 | .317 | .090 - .125                   | .995 | .559 | .125 - .187                   | .998 | .202 | .050 - .075                   |
| .979 | .840 | .015 - .030                   | .984 | .284 | .005 - .010                   | .986 | .779 | .005 - .010                   | .991 | .405 | .005 - .010                   | .995 | .564 | .040 - .060                   | .998 | .230 | .008 - .016                   |
| .980 | .198 | .005 - .010                   | .984 | .320 | .010 - .020                   | .986 | .859 | .030 - .050                   | .991 | .406 | .090 - .125                   | .995 | .566 | .030 - .060                   | .998 | .252 | .005 - .020                   |
| .980 | .246 | .015 - .030                   | .984 | .355 | .080 - .104                   | .987 | .348 | .005 - .010                   | .991 | .412 | .005 - .010                   | .995 | .573 | .050 - .070                   | .998 | .270 | .060 - .083                   |
| .980 | .302 | .015 - .030                   | .984 | .394 | .005 - .010                   | .987 | .397 | .005 - .010                   | .991 | .515 | .005 - .010                   | .995 | .630 | .050 - .070                   | .998 | .339 | .005 - .010                   |
| .980 | .347 | .005 - .010                   | .984 | .395 | .100 - .125                   | .987 | .516 | .050 - .070                   | .991 | .605 | .005 - .010                   | .995 | .657 | .025 - .048                   | .998 | .347 | .100 - .125                   |
| .980 | .395 | .015 - .025                   | .984 | .435 | .005 - .010                   | .987 | .748 | .025 - .042                   | .991 | .627 | .105 - .135                   | .995 | .665 | .005 - .012                   | .998 | .348 | .075 - .090                   |
| .980 | .407 | .100 - .125                   | .984 | .469 | .080 - .100                   | .988 | .255 | .025 - .040                   | .991 | .678 | .030 - .050                   | .995 | .666 | .015 - .030                   | .998 | .378 | .080 - .105                   |
| .980 | .445 | .005 - .010                   | .984 | .473 | .005 - .010                   | .988 | .354 | .020 - .040                   | .991 | .751 | .030 - .040                   | .995 | .694 | .020 - .062                   | .998 | .395 | .010 - .030                   |
| .980 | .458 | .020 - .030                   | .984 | .477 | .005 - .010                   | .988 | .499 | .040 - .060                   | .991 | .770 | .015 - .030                   | .995 | .700 | .020 - .040                   | .998 | .435 | .020 - .030                   |
| .980 | .480 | .060 - .080                   | .984 | .481 | .040 - .060                   | .988 | .505 | .090 - .120                   | .991 | .779 | .040 - .060                   | .995 | .717 | .005 - .012                   | .998 | .501 | .040 - .060                   |
| .980 | .481 | .005 - .010                   | .984 | .507 | .070 - .090                   | .988 | .506 | .025 - .040                   | .991 | .796 | .020 - .030                   | .995 | .720 | .030 - .060                   | .998 | .503 | .030 - .125                   |
| .980 | .500 | .010 - .020                   | .984 | .513 | .105 - .125                   | .988 | .597 | .040 - .060                   | .991 | .877 | .005 - .010                   | .995 | .740 | .025 - .040                   | .998 | .504 | .030 - .060                   |
| .980 | .501 | .005 - .010                   | .984 | .530 | .042 - .062                   | .988 | .703 | .005 - .010                   | .991 | .880 | .015 - .060                   | .995 | .750 | .005 - .010                   | .998 | .506 | .005 - .125                   |
| .980 | .514 | .005 - .010                   | .984 | .531 | .005 - .010                   | .988 | .736 | .040 - .060                   | .991 | .887 | .005 - .010                   | .995 | .763 | .005 - .010                   | .998 | .508 | .090 - .110                   |
| .980 | .521 | .025 - .040                   | .984 | .556 | .005 - .010                   | .988 | .758 | .005 - .015                   | .992 | .260 | .005 - .010                   | .995 | .766 | .005 - .010                   | .998 | .509 | .005 - .010                   |
| .980 | .522 | .005 - .010                   | .984 | .572 | .040 - .060                   | .988 | .759 | .030 - .050                   | .992 | .263 | .005 - .010                   | .995 | .873 | .040 - .060                   | .998 | .515 | .080 - .100                   |
| .980 | .531 | .010 - .020                   | .984 | .625 | .040 - .060                   | .988 | .760 | .005 - .010                   | .992 | .270 | .005 - .015                   | .995 | .938 | .010 - .020                   | .998 | .516 | .005 - .010                   |
| .980 | .600 | .030 - .105                   | .984 | .628 | .035 - .060                   | .988 | .877 | .015 - .030                   | .992 | .316 | .110 - .130                   | .996 | .120 | .042 - .062                   | .998 | .534 | .030 - .050                   |
| .980 | .640 | .007 - .015                   | .984 | .630 | .015 - .025                   | .989 | .176 | .005 - .010                   | .992 | .330 | .110 - .130                   | .996 | .170 | .005 - .010                   | .998 | .562 | .015 - .020                   |
| .980 | .647 | .005 - .010                   | .984 | .641 | .080 - .105                   | .989 | .201 | .080 - .100                   | .992 | .387 | .020 - .040                   | .996 | .255 | .005 - .010                   | .998 | .563 | .075 - .100                   |
| .980 | .648 | .050 - .070                   | .984 | .643 | .060 - .080                   | .989 | .253 | .030 - .050                   | .992 | .523 | .025 - .040                   | .996 | .283 | .090 - .125                   | .998 | .573 | .050 - .070                   |
| .980 | .664 | .060 - .083                   | .984 | .648 | .015 - .030                   | .989 | .259 | .060 - .070                   | .992 | .536 | .005 - .010                   | .996 | .318 | .005 - .010                   | .998 | .577 | .005 - .010                   |
| .980 | .668 | .080 - .100                   | .984 | .650 | .100 - .125                   | .989 | .282 | .080 - .100                   | .992 | .582 | .030 - .050                   | .996 | .323 | .005 - .010                   | .998 | .578 | .010 - .020                   |
| .980 | .719 | .040 - .060                   | .984 | .689 | .020 - .030                   | .989 | .390 | .005 - .010                   | .992 | .669 | .005 - .010                   | .996 | .395 | .156 - .187                   | .998 | .580 | .157 - .187                   |
| .980 | .740 | .020 - .040                   | .984 | .715 | .050 - .075                   | .989 | .400 | .100 - .125                   | .992 | .687 | .105 - .135                   | .996 | .396 | .100 - .125                   | .998 | .629 | .005 - .010                   |
| .980 | .757 | .080 - .104                   | .984 | .716 | .025 - .042                   | .989 | .506 | .070 - .090                   | .992 | .688 | .050 - .070                   | .996 | .441 | .020 - .030                   | .998 | .630 | .010 - .020                   |
| .980 | .821 | .040 - .060                   | .984 | .748 | .010 - .020                   | .989 | .515 | .060 - .080                   | .992 | .754 | .040 - .060                   | .996 | .463 | .060 - .080                   | .998 | .637 | .040 - .060                   |
| .980 | .841 | .030 - .050                   | .984 | .749 | .040 - .060                   | .989 | .560 | .025 - .040                   | .992 | .835 | .010 - .015                   | .996 | .511 | .040 - .060                   | .998 | .662 | .050 - .070                   |
| .980 | .851 | .010 - .020                   | .984 | .794 | .070 - .090                   | .989 | .640 | .005 - .010                   | .993 | .249 | .040 - .050                   | .996 | .578 | .075 - .090                   | .998 | .672 | .005 - .012                   |
| .980 | .860 | .005 - .010                   | .984 | .795 | .025 - .042                   | .989 | .736 | .100 - .120                   | .993 | .295 | .062 - .120                   | .996 | .630 | .010 - .015                   | .998 | .678 | .032 - .042                   |
| .980 | .875 | .005 - .010                   | .984 | .798 | .070 - .090                   | .989 | .739 | .005 - .010                   | .993 | .297 | .062 - .120                   | .996 | .666 | .040 - .060                   | .998 | .694 | .020 - .040                   |
| .981 | .396 | .010 - .020                   | .984 | .799 | .040 - .060                   | .989 | .771 | .060 - .075                   | .993 | .316 | .005 - .010                   | .996 | .692 | .010 - .030                   | .998 | .748 | .035 - .060                   |
| .981 | .467 | .020 - .030                   | .984 | .817 | .005 - .010                   | .989 | .789 | .020 - .040                   | .993 | .371 | .070 - .090                   | .996 | .740 | .050 - .070                   | .998 | .793 | .005 - .010                   |
| .981 | .504 | .050 - .060                   | .984 | .838 | .015 - .030                   | .989 | .830 | .015 - .030                   | .993 | .523 | .040 - .060                   | .996 | .758 | .005 - .010                   | .998 | .855 | .005 - .010                   |
| .981 | .512 | .005 - .010                   | .984 | .880 | .015 - .030                   | .989 | .844 | .005 - .020                   | .993 | .605 | .020 - .040                   | .996 | .785 | .050 - .075                   | .998 | .875 | .005 - .010                   |
| .981 | .525 | .015 - .030                   | .985 | .209 | .060 - .080                   | .989 | .879 | .005 - .010                   | .993 | .638 | .040 - .060                   | .996 | .788 | .005 - .010                   | .998 | .877 | .015 - .030                   |
| .981 | .565 | .005 - .010                   | .985 | .215 | .040 - .060                   | .990 | .125 | .040 - .060                   | .993 | .640 | .062 - .090                   | .996 | .798 | .040 - .050                   | .998 | .913 | .005 - .010                   |
| .981 | .577 | .075 - .104                   | .985 | .250 | .040 - .050                   | .990 | .126 | .010 - .020                   | .993 | .655 | .070 - .090                   | .996 | .808 | .040 - .060                   | .999 | .036 | .005 - .010                   |
| .981 | .586 | .005 - .015                   | .985 | .276 | .060 - .080                   | .990 | .355 | .080 - .100                   | .993 | .689 | .010 - .040                   | .996 | .812 | .060 - .080                   | .999 | .096 | .010 - .020                   |
| .981 | .730 | .030 - .050                   | .985 | .316 | .005 - .010                   | .990 | .437 | .010 - .020                   | .993 | .802 | .050 - .070                   | .996 | .813 | .015 - .03                    |      |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D.         | I.D. | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To |
|--------------|------|-------------------------------|-------|------|-------------------------------|-------|------|-------------------------------|-------|------|-------------------------------|-------|------|-------------------------------|-------|------|-------------------------------|
| .999         | .376 | .005 - .010                   | 1.000 | .251 | .105 - .125                   | 1.000 | .452 | .010 - .020                   | 1.000 | .688 | .008 - .016                   | 1.001 | .423 | .050 - .070                   | 1.004 | .750 | .090 - .105                   |
| .999         | .382 | .030 - .050                   | 1.000 | .252 | .005 - .080                   | 1.000 | .457 | .100 - .125                   | 1.000 | .690 | .025 - .048                   | 1.001 | .439 | .170 - .190                   | 1.004 | .760 | .090 - .125                   |
| .999         | .392 | .030 - .050                   | 1.000 | .253 | .030 - .120                   | 1.000 | .459 | .005 - .010                   | 1.000 | .691 | .005 - .010                   | 1.001 | .494 | .005 - .010                   | 1.004 | .780 | .010 - .020                   |
| .999         | .401 | .040 - .060                   | 1.000 | .255 | .060 - .070                   | 1.000 | .465 | .030 - .050                   | 1.000 | .700 | .005 - .060                   | 1.001 | .500 | .010 - .020                   | 1.004 | .781 | .005 - .010                   |
| .999         | .444 | .030 - .050                   | 1.000 | .256 | .020 - .040                   | 1.000 | .468 | .100 - .125                   | 1.000 | .709 | .015 - .030                   | 1.001 | .503 | .005 - .100                   | 1.004 | .873 | .050 - .070                   |
| .999         | .453 | .060 - .070                   | 1.000 | .256 | .170 - .190                   | 1.000 | .471 | .050 - .070                   | 1.000 | .716 | .005 - .010                   | 1.001 | .504 | .005 - .030                   | 1.005 | .210 | .030 - .042                   |
| .999         | .505 | .005 - .010                   | 1.000 | .258 | .030 - .050                   | 1.000 | .475 | .020 - .040                   | 1.000 | .720 | .010 - .020                   | 1.001 | .505 | .015 - .025                   | 1.005 | .257 | .100 - .125                   |
| .999         | .518 | .040 - .060                   | 1.000 | .263 | .005 - .010                   | 1.000 | .476 | .100 - .125                   | 1.000 | .724 | .040 - .060                   | 1.001 | .508 | .005 - .105                   | 1.005 | .262 | .010 - .020                   |
| .999         | .527 | .090 - .105                   | 1.000 | .264 | .042 - .062                   | 1.000 | .480 | .005 - .125                   | 1.000 | .729 | .060 - .080                   | 1.001 | .531 | .170 - .190                   | 1.005 | .263 | .100 - .125                   |
| .999         | .563 | .015 - .030                   | 1.000 | .266 | .005 - .030                   | 1.000 | .482 | .005 - .010                   | 1.000 | .733 | .025 - .040                   | 1.001 | .564 | .170 - .190                   | 1.005 | .480 | .060 - .075                   |
| .999         | .578 | .010 - .020                   | 1.000 | .267 | .050 - .075                   | 1.000 | .485 | .040 - .135                   | 1.000 | .742 | .005 - .010                   | 1.001 | .587 | .020 - .040                   | 1.005 | .510 | .025 - .040                   |
| .999         | .626 | .020 - .134                   | 1.000 | .268 | .030 - .050                   | 1.000 | .499 | .005 - .010                   | 1.000 | .750 | .005 - .125                   | 1.001 | .595 | .050 - .070                   | 1.005 | .536 | .100 - .125                   |
| .999         | .629 | .050 - .070                   | 1.000 | .270 | .005 - .010                   | 1.000 | .500 | .005 - .062                   | 1.000 | .751 | .100 - .125                   | 1.001 | .611 | .040 - .062                   | 1.005 | .650 | .080 - .100                   |
| .999         | .633 | .005 - .010                   | 1.000 | .272 | .030 - .050                   | 1.000 | .501 | .030 - .105                   | 1.000 | .752 | .040 - .105                   | 1.001 | .626 | .005 - .020                   | 1.005 | .758 | .005 - .010                   |
| .999         | .657 | .080 - .100                   | 1.000 | .273 | .135 - .190                   | 1.000 | .502 | .005 - .187                   | 1.000 | .753 | .050 - .070                   | 1.001 | .628 | .040 - .062                   | 1.005 | .801 | .010 - .020                   |
| .999         | .674 | .100 - .134                   | 1.000 | .278 | .050 - .075                   | 1.000 | .504 | .010 - .110                   | 1.000 | .754 | .020 - .075                   | 1.001 | .629 | .050 - .070                   | 1.005 | .840 | .005 - .010                   |
| .999         | .675 | .100 - .134                   | 1.000 | .280 | .040 - .060                   | 1.000 | .505 | .030 - .050                   | 1.000 | .755 | .005 - .125                   | 1.001 | .688 | .006 - .016                   | 1.005 | .900 | .005 - .010                   |
| .999         | .680 | .005 - .010                   | 1.000 | .281 | .005 - .125                   | 1.000 | .506 | .010 - .020                   | 1.000 | .756 | .030 - .050                   | 1.001 | .690 | .050 - .070                   | 1.005 | .950 | .005 - .010                   |
| .999         | .693 | .005 - .010                   | 1.000 | .282 | .006 - .070                   | 1.000 | .507 | .020 - .187                   | 1.000 | .759 | .005 - .040                   | 1.001 | .711 | .080 - .090                   | 1.006 | .516 | .080 - .105                   |
| .999         | .700 | .020 - .030                   | 1.000 | .283 | .040 - .060                   | 1.000 | .508 | .005 - .190                   | 1.000 | .760 | .060 - .080                   | 1.001 | .756 | .025 - .050                   | 1.006 | .584 | .040 - .060                   |
| .999         | .715 | .010 - .020                   | 1.000 | .292 | .005 - .010                   | 1.000 | .510 | .060 - .083                   | 1.000 | .761 | .035 - .050                   | 1.001 | .818 | .080 - .105                   | 1.006 | .881 | .015 - .030                   |
| .999         | .754 | .050 - .070                   | 1.000 | .293 | .080 - .104                   | 1.000 | .511 | .032 - .060                   | 1.000 | .764 | .105 - .125                   | 1.001 | .906 | .005 - .010                   | 1.007 | .203 | .050 - .075                   |
| .999         | .755 | .090 - .105                   | 1.000 | .301 | .005 - .010                   | 1.000 | .513 | .140 - .160                   | 1.000 | .765 | .030 - .050                   | 1.002 | .136 | .050 - .070                   | 1.007 | .414 | .015 - .025                   |
| .999         | .763 | .005 - .010                   | 1.000 | .310 | .062 - .090                   | 1.000 | .515 | .005 - .187                   | 1.000 | .766 | .100 - .125                   | 1.002 | .140 | .042 - .060                   | 1.007 | .448 | .015 - .025                   |
| .999         | .787 | .025 - .040                   | 1.000 | .311 | .150 - .180                   | 1.000 | .517 | .005 - .010                   | 1.000 | .767 | .050 - .075                   | 1.002 | .172 | .010 - .025                   | 1.007 | .528 | .080 - .105                   |
| .999         | .790 | .005 - .010                   | 1.000 | .315 | .031 - .042                   | 1.000 | .518 | .015 - .125                   | 1.000 | .768 | .010 - .020                   | 1.002 | .197 | .005 - .010                   | 1.007 | .569 | .135 - .160                   |
| .999         | .822 | .050 - .070                   | 1.000 | .316 | .005 - .020                   | 1.000 | .520 | .100 - .125                   | 1.000 | .770 | .005 - .060                   | 1.002 | .277 | .010 - .020                   | 1.007 | .641 | .015 - .030                   |
| .999         | .832 | .025 - .040                   | 1.000 | .317 | .005 - .012                   | 1.000 | .531 | .120 - .140                   | 1.000 | .771 | .015 - .030                   | 1.002 | .312 | .135 - .160                   | 1.007 | .647 | .100 - .125                   |
| .999         | .840 | .005 - .010                   | 1.000 | .318 | .050 - .105                   | 1.000 | .534 | .050 - .070                   | 1.000 | .776 | .070 - .090                   | 1.002 | .319 | .060 - .080                   | 1.007 | .725 | .062 - .075                   |
| .999         | .878 | .005 - .010                   | 1.000 | .320 | .010 - .125                   | 1.000 | .535 | .010 - .060                   | 1.000 | .778 | .040 - .060                   | 1.002 | .379 | .005 - .010                   | 1.007 | .752 | .036 - .050                   |
| <b>1.000</b> |      |                               | 1.000 | .323 | .050 - .070                   | 1.000 | .545 | .150 - .190                   | 1.000 | .785 | .100 - .125                   | 1.002 | .384 | .090 - .125                   | 1.007 | .764 | .005 - .010                   |
|              |      |                               | 1.000 | .326 | .090 - .120                   | 1.000 | .549 | .100 - .125                   | 1.000 | .787 | .060 - .070                   | 1.002 | .442 | .050 - .070                   | 1.008 | .469 | .015 - .030                   |
|              |      |                               | 1.000 | .328 | .010 - .060                   | 1.000 | .550 | .030 - .110                   | 1.000 | .791 | .005 - .020                   | 1.002 | .454 | .025 - .042                   | 1.008 | .661 | .060 - .080                   |
|              |      |                               | 1.000 | .330 | .105 - .125                   | 1.000 | .556 | .025 - .040                   | 1.000 | .796 | .010 - .015                   | 1.002 | .470 | .005 - .075                   | 1.008 | .689 | .050 - .060                   |
|              |      |                               | 1.000 | .332 | .005 - .010                   | 1.000 | .562 | .050 - .075                   | 1.000 | .797 | .025 - .125                   | 1.002 | .504 | .100 - .125                   | 1.008 | .778 | .015 - .030                   |
| 1.000        | .028 | .010 - .015                   | 1.000 | .338 | .100 - .125                   | 1.000 | .563 | .005 - .020                   | 1.000 | .798 | .005 - .010                   | 1.002 | .505 | .005 - .010                   | 1.008 | .831 | .030 - .040                   |
| 1.000        | .064 | .010 - .020                   | 1.000 | .340 | .032 - .048                   | 1.000 | .564 | .030 - .050                   | 1.000 | .800 | .012 - .025                   | 1.002 | .507 | .010 - .020                   | 1.008 | .845 | .050 - .070                   |
| 1.000        | .066 | .005 - .010                   | 1.000 | .343 | .050 - .070                   | 1.000 | .567 | .010 - .020                   | 1.000 | .801 | .025 - .040                   | 1.002 | .531 | .035 - .090                   | 1.009 | .195 | .025 - .042                   |
| 1.000        | .073 | .020 - .035                   | 1.000 | .344 | .010 - .020                   | 1.000 | .568 | .005 - .010                   | 1.000 | .805 | .005 - .010                   | 1.002 | .532 | .005 - .010                   | 1.009 | .444 | .060 - .080                   |
| 1.000        | .077 | .015 - .030                   | 1.000 | .354 | .100 - .125                   | 1.000 | .572 | .005 - .080                   | 1.000 | .815 | .005 - .010                   | 1.002 | .534 | .025 - .040                   | 1.009 | .511 | .030 - .050                   |
| 1.000        | .086 | .005 - .010                   | 1.000 | .357 | .010 - .020                   | 1.000 | .578 | .100 - .125                   | 1.000 | .828 | .015 - .025                   | 1.002 | .564 | .062 - .083                   | 1.010 | .130 | .060 - .070                   |
| 1.000        | .093 | .010 - .020                   | 1.000 | .363 | .005 - .010                   | 1.000 | .579 | .020 - .040                   | 1.000 | .837 | .040 - .060                   | 1.002 | .579 | .015 - .030                   | 1.010 | .381 | .050 - .070                   |
| 1.000        | .094 | .030 - .060                   | 1.000 | .372 | .010 - .020                   | 1.000 | .590 | .020 - .125                   | 1.000 | .845 | .030 - .050                   | 1.002 | .581 | .050 - .070                   | 1.010 | .388 | .005 - .010                   |
| 1.000        | .100 | .050 - .070                   | 1.000 | .375 | .060 - .187                   | 1.000 | .594 | .156 - .187                   | 1.000 | .850 | .005 - .010                   | 1.002 | .645 | .015 - .030                   | 1.010 | .420 | .040 - .060                   |
| 1.000        | .116 | .010 - .062                   | 1.000 | .376 | .005 - .010                   | 1.000 | .598 | .060 - .070                   | 1.000 | .851 | .070 - .080                   | 1.002 | .652 | .015 - .030                   | 1.010 | .450 | .005 - .010                   |
| 1.000        | .117 | .040 - .060                   | 1.000 | .377 | .005 - .010                   | 1.000 | .600 | .005 - .010                   | 1.000 | .854 | .010 - .020                   | 1.002 | .658 | .100 - .125                   | 1.010 | .506 | .005 - .010                   |
| 1.000        | .118 | .040 - .060                   | 1.000 | .378 | .005 - .050                   | 1.000 | .605 | .010 - .020                   | 1.000 | .855 | .005 - .010                   | 1.002 | .685 | .060 - .083                   | 1.010 | .510 | .015 - .030                   |
| 1.000        | .129 | .005 - .010                   | 1.000 | .379 | .042 - .134                   | 1.000 | .610 | .005 - .120                   | 1.000 | .857 | .005 - .010                   | 1.002 | .700 | .125 - .135                   | 1.010 | .540 | .015 - .030                   |
| 1.000        | .131 | .015 - .030                   | 1.000 | .381 | .005 - .020                   | 1.000 | .611 | .030 - .060                   | 1.000 | .875 | .016 - .025                   | 1.002 | .703 | .050 - .070                   | 1.010 | .640 | .050 - .060                   |
| 1.000        | .142 | .010 - .062                   | 1.000 | .384 | .060 - .090                   | 1.000 | .623 | .030 - .050                   | 1.000 | .876 | .005 - .010                   | 1.002 | .718 | .020 - .040                   | 1.010 | .664 | .025 - .040                   |
| 1.000        | .143 | .030 - .050                   | 1.000 | .386 | .005 - .010                   | 1.000 | .624 | .005 - .187                   | 1.000 | .879 | .030 - .060                   | 1.002 | .719 | .062 - .083                   | 1.010 | .757 | .015 - .025                   |
| 1.000        | .147 | .005 - .010                   | 1.000 | .386 | .050 - .075                   | 1.000 | .625 | .015 - .030                   | 1.000 | .880 | .010 - .020                   | 1.002 | .767 | .020 - .040                   | 1.011 | .501 | .015 - .030                   |
| 1.000        | .156 | .020 - .040                   | 1.000 | .387 | .007 - .016                   | 1.000 | .626 | .050 - .075                   | 1.000 | .892 | .030 - .050                   | 1.002 | .820 | .020 - .040                   | 1.012 | .315 | .030 - .040                   |
| 1.000        | .157 | .070 - .090                   | 1.000 | .388 | .005 - .010                   | 1.000 | .627 | .105 - .125                   | 1.000 | .900 | .005 - .010                   | 1.002 | .842 | .030 - .050                   | 1.012 | .358 | .010 - .020                   |
| 1.000        | .165 | .020 - .072                   | 1.000 | .389 | .048 - .075                   | 1.000 | .628 | .005 - .030                   | 1.000 | .911 | .020 - .035                   | 1.002 | .897 | .025 - .040                   | 1.012 | .551 | .030 - .040                   |
| 1.000        | .168 | .050 - .070                   | 1.000 | .392 | .075 - .125                   | 1.000 | .629 | .005 - .010                   | 1.000 | .936 | .005 - .010                   | 1.003 | .211 | .010 - .020                   | 1.012 | .849 | .015 - .030                   |
| 1.000        | .170 | .030 - .050                   | 1.000 | .395 | .010 - .020                   | 1.000 | .630 | .030 - .060                   | 1.000 | .957 | .015 - .025                   | 1.003 | .377 | .005 - .015                   | 1.012 | .869 | .020 - .040                   |
| 1.000        | .172 | .090 - .120                   | 1.000 | .400 | .010 - .020                   | 1.000 | .631 | .134 - .156                   | 1.000 | .958 | .005 - .010                   | 1.003 | .410 | .005 - .020                   | 1.012 | .896 | .010 - .020                   |
| 1.000        | .178 | .005 - .010                   | 1.000 | .403 | .105 - .125                   | 1.000 | .632 | .090 - .110                   | 1.001 | .164 | .005 - .010                   | 1.003 | .441 | .030 - .050                   | 1.013 | .755 | .005 - .010                   |
| 1.000        | .180 | .030 - .125                   | 1.000 | .405 | .042 - .100                   | 1.000 | .633 | .015 - .030                   | 1.001 | .203 | .025 - .040                   | 1.003 | .445 | .010 - .020                   | 1.013 | .806 | .040 - .060                   |
| 1.000        | .192 | .050 - .075                   | 1.000 | .406 | .020 - .030                   | 1.000 | .634 | .025 - .060                   | 1.001 | .218 | .005 - .010                   | 1.003 | .455 | .062 - .080                   | 1.013 | .848 | .042 - .060                   |
| 1.000        | .195 | .010 - .110                   | 1.000 | .407 | .156 - .187                   | 1.000 | .636 | .060 - .075                   | 1.001 | .247 | .090 - .105                   | 1.003 | .498 | .005 - .015                   | 1.014 | .503 | .060 - .080                   |
| 1.000        | .196 | .025 - .090                   | 1.000 | .409 | .120 - .134                   | 1.000 | .638 | .100 - .125                   | 1.001 | .250 | .062 - .120                   | 1.003 | .508 | .005 - .010                   | 1.014 | .642 | .020 - .040                   |
| 1.000        | .198 | .070 - .090                   | 1.000 | .410 | .005 - .010                   | 1.000 | .640 | .020 - .080                   | 1.001 | .251 | .005 - .010                   | 1.003 | .628 | .045 - .060                   | 1.014 | .692 | .040 - .060                   |
| 1.000        | .199 | .008 - .080                   | 1.000 | .414 | .100 - .125                   | 1.000 | .641 | .005 - .156                   |       |      |                               |       |      |                               |       |      |                               |



# BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED

| O.D.  | I.D. | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To |
|-------|------|-------------------------------|-------|------|-------------------------------|-------|------|-------------------------------|-------|------|-------------------------------|-------|------|-------------------------------|-------|------|-------------------------------|
| 1.016 | .505 | .050 - .070                   | 1.023 | .869 | .010 - .020                   | 1.030 | .194 | .030 - .050                   | 1.040 | .378 | .005 - .120                   | 1.050 | .440 | .010 - .020                   | 1.056 | .205 | .005 - .010                   |
| 1.016 | .522 | .015 - .030                   | 1.023 | .885 | .010 - .020                   | 1.030 | .273 | .060 - .075                   | 1.040 | .544 | .090 - .110                   | 1.050 | .500 | .005 - .030                   | 1.056 | .634 | .050 - .075                   |
| 1.016 | .650 | .005 - .010                   | 1.023 | .887 | .010 - .020                   | 1.030 | .336 | .156 - .187                   | 1.040 | .560 | .030 - .050                   | 1.050 | .503 | .005 - .020                   | 1.056 | .659 | .005 - .010                   |
| 1.016 | .750 | .005 - .010                   | 1.023 | .893 | .015 - .030                   | 1.030 | .377 | .020 - .030                   | 1.040 | .627 | .020 - .040                   | 1.050 | .504 | .005 - .008                   | 1.056 | .676 | .040 - .060                   |
| 1.016 | .761 | .015 - .030                   | 1.023 | .909 | .005 - .010                   | 1.030 | .383 | .015 - .030                   | 1.040 | .714 | .120 - .140                   | 1.050 | .564 | .005 - .020                   | 1.056 | .719 | .032 - .060                   |
| 1.016 | .920 | .005 - .010                   | 1.024 | .394 | .010 - .020                   | 1.030 | .384 | .010 - .015                   | 1.040 | .809 | .012 - .025                   | 1.050 | .567 | .100 - .120                   | 1.056 | .726 | .005 - .010                   |
| 1.016 | .929 | .005 - .010                   | 1.024 | .395 | .005 - .010                   | 1.030 | .417 | .030 - .050                   | 1.040 | .831 | .025 - .035                   | 1.050 | .570 | .015 - .030                   | 1.056 | .841 | .005 - .040                   |
| 1.017 | .301 | .050 - .075                   | 1.024 | .398 | .005 - .010                   | 1.030 | .505 | .050 - .070                   | 1.040 | .869 | .005 - .010                   | 1.050 | .615 | .020 - .040                   | 1.056 | .875 | .010 - .020                   |
| 1.017 | .627 | .005 - .008                   | 1.024 | .454 | .040 - .060                   | 1.030 | .510 | .062 - .080                   | 1.040 | .875 | .025 - .040                   | 1.050 | .626 | .005 - .050                   | 1.056 | .877 | .015 - .030                   |
| 1.017 | .754 | .005 - .015                   | 1.024 | .473 | .005 - .010                   | 1.030 | .533 | .110 - .130                   | 1.040 | .915 | .010 - .020                   | 1.050 | .629 | .005 - .010                   | 1.057 | .350 | .005 - .010                   |
| 1.017 | .825 | .005 - .060                   | 1.024 | .476 | .005 - .010                   | 1.030 | .542 | .015 - .030                   | 1.040 | .926 | .020 - .030                   | 1.050 | .635 | .005 - .010                   | 1.057 | .838 | .005 - .010                   |
| 1.017 | .865 | .005 - .010                   | 1.024 | .568 | .050 - .070                   | 1.030 | .585 | .005 - .010                   | 1.041 | .788 | .015 - .030                   | 1.050 | .712 | .032 - .060                   | 1.058 | .251 | .005 - .010                   |
| 1.017 | .878 | .048 - .062                   | 1.024 | .629 | .005 - .010                   | 1.030 | .626 | .140 - .160                   | 1.041 | .909 | .005 - .010                   | 1.050 | .722 | .032 - .042                   | 1.058 | .428 | .040 - .050                   |
| 1.018 | .203 | .008 - .015                   | 1.024 | .694 | .015 - .030                   | 1.030 | .649 | .005 - .010                   | 1.041 | .919 | .005 - .010                   | 1.050 | .754 | .005 - .020                   | 1.058 | .501 | .010 - .020                   |
| 1.018 | .317 | .010 - .020                   | 1.024 | .709 | .060 - .080                   | 1.030 | .688 | .050 - .060                   | 1.042 | .544 | .090 - .120                   | 1.050 | .760 | .030 - .050                   | 1.058 | .520 | .040 - .060                   |
| 1.018 | .688 | .050 - .070                   | 1.024 | .717 | .070 - .090                   | 1.030 | .690 | .090 - .125                   | 1.042 | .773 | .015 - .030                   | 1.050 | .765 | .010 - .020                   | 1.058 | .532 | .060 - .075                   |
| 1.018 | .696 | .050 - .070                   | 1.024 | .801 | .030 - .050                   | 1.030 | .719 | .100 - .125                   | 1.042 | .789 | .015 - .030                   | 1.050 | .771 | .110 - .120                   | 1.058 | .583 | .090 - .110                   |
| 1.018 | .747 | .048 - .062                   | 1.024 | .874 | .010 - .020                   | 1.030 | .749 | .040 - .060                   | 1.043 | .473 | .105 - .135                   | 1.050 | .798 | .025 - .048                   | 1.058 | .601 | .005 - .010                   |
| 1.018 | .807 | .010 - .020                   | 1.024 | .881 | .010 - .020                   | 1.030 | .815 | .020 - .030                   | 1.043 | .676 | .070 - .090                   | 1.050 | .804 | .005 - .010                   | 1.058 | .626 | .005 - .030                   |
| 1.018 | .824 | .020 - .040                   | 1.025 | .243 | .005 - .010                   | 1.030 | .850 | .030 - .050                   | 1.044 | .191 | .032 - .060                   | 1.050 | .820 | .030 - .050                   | 1.058 | .628 | .005 - .010                   |
| 1.018 | .826 | .005 - .010                   | 1.025 | .315 | .005 - .010                   | 1.030 | .894 | .050 - .075                   | 1.044 | .193 | .007 - .015                   | 1.050 | .826 | .005 - .010                   | 1.058 | .640 | .050 - .070                   |
| 1.018 | .832 | .020 - .040                   | 1.025 | .318 | .005 - .010                   | 1.030 | .952 | .005 - .015                   | 1.044 | .378 | .020 - .040                   | 1.050 | .828 | .005 - .010                   | 1.058 | .676 | .005 - .030                   |
| 1.019 | .166 | .015 - .030                   | 1.025 | .330 | .020 - .040                   | 1.030 | .967 | .020 - .030                   | 1.044 | .512 | .020 - .030                   | 1.050 | .850 | .005 - .010                   | 1.058 | .688 | .105 - .125                   |
| 1.019 | .415 | .020 - .030                   | 1.025 | .337 | .060 - .080                   | 1.031 | .377 | .015 - .030                   | 1.044 | .750 | .100 - .125                   | 1.050 | .876 | .005 - .010                   | 1.058 | .735 | .050 - .083                   |
| 1.019 | .613 | .015 - .030                   | 1.025 | .375 | .030 - .040                   | 1.031 | .385 | .005 - .010                   | 1.044 | .828 | .025 - .042                   | 1.050 | .877 | .050 - .070                   | 1.058 | .757 | .030 - .050                   |
| 1.019 | .665 | .030 - .050                   | 1.025 | .394 | .010 - .020                   | 1.031 | .408 | .105 - .135                   | 1.044 | .987 | .010 - .020                   | 1.050 | .878 | .010 - .090                   | 1.058 | .762 | .075 - .100                   |
| 1.019 | .757 | .005 - .010                   | 1.025 | .395 | .005 - .010                   | 1.031 | .485 | .020 - .040                   | 1.045 | .210 | .030 - .042                   | 1.050 | .896 | .005 - .010                   | 1.058 | .872 | .050 - .070                   |
| 1.019 | .766 | .010 - .030                   | 1.025 | .410 | .036 - .060                   | 1.031 | .520 | .005 - .010                   | 1.045 | .230 | .008 - .016                   | 1.050 | .900 | .030 - .050                   | 1.058 | .897 | .060 - .080                   |
| 1.019 | .769 | .050 - .070                   | 1.025 | .433 | .050 - .070                   | 1.031 | .846 | .005 - .010                   | 1.045 | .252 | .005 - .010                   | 1.050 | .950 | .030 - .040                   | 1.059 | .058 | .010 - .020                   |
| 1.019 | .794 | .010 - .020                   | 1.025 | .440 | .090 - .110                   | 1.031 | .864 | .080 - .100                   | 1.045 | .288 | .030 - .042                   | 1.050 | .970 | .005 - .010                   | 1.059 | .153 | .015 - .030                   |
| 1.020 | .316 | .050 - .075                   | 1.025 | .470 | .005 - .010                   | 1.031 | .910 | .010 - .020                   | 1.045 | .300 | .005 - .010                   | 1.050 | .984 | .005 - .010                   | 1.059 | .188 | .040 - .060                   |
| 1.020 | .378 | .015 - .030                   | 1.025 | .475 | .005 - .010                   | 1.031 | .958 | .010 - .020                   | 1.045 | .407 | .030 - .050                   | 1.051 | .264 | .090 - .110                   | 1.059 | .347 | .060 - .070                   |
| 1.020 | .510 | .135 - .160                   | 1.025 | .477 | .005 - .010                   | 1.032 | .175 | .100 - .125                   | 1.045 | .465 | .005 - .010                   | 1.051 | .315 | .008 - .015                   | 1.059 | .450 | .090 - .120                   |
| 1.020 | .552 | .134 - .156                   | 1.025 | .505 | .005 - .020                   | 1.032 | .259 | .062 - .090                   | 1.045 | .619 | .010 - .020                   | 1.051 | .500 | .010 - .020                   | 1.059 | .514 | .015 - .030                   |
| 1.020 | .641 | .005 - .010                   | 1.025 | .550 | .005 - .012                   | 1.032 | .378 | .010 - .020                   | 1.045 | .704 | .030 - .050                   | 1.051 | .502 | .015 - .030                   | 1.059 | .582 | .030 - .050                   |
| 1.020 | .667 | .010 - .020                   | 1.025 | .606 | .048 - .062                   | 1.032 | .529 | .100 - .125                   | 1.045 | .750 | .005 - .032                   | 1.051 | .503 | .015 - .025                   | 1.059 | .596 | .050 - .070                   |
| 1.020 | .700 | .005 - .008                   | 1.025 | .632 | .010 - .020                   | 1.032 | .566 | .010 - .020                   | 1.045 | .783 | .015 - .030                   | 1.051 | .504 | .005 - .010                   | 1.059 | .634 | .005 - .010                   |
| 1.020 | .744 | .010 - .020                   | 1.025 | .704 | .032 - .042                   | 1.032 | .633 | .080 - .100                   | 1.045 | .830 | .005 - .010                   | 1.051 | .596 | .005 - .010                   | 1.059 | .750 | .050 - .070                   |
| 1.020 | .750 | .040 - .060                   | 1.025 | .720 | .035 - .050                   | 1.032 | .656 | .100 - .125                   | 1.045 | .880 | .025 - .040                   | 1.051 | .752 | .110 - .130                   | 1.059 | .768 | .020 - .040                   |
| 1.020 | .775 | .050 - .070                   | 1.025 | .749 | .005 - .035                   | 1.032 | .788 | .020 - .030                   | 1.045 | .894 | .050 - .060                   | 1.051 | .881 | .060 - .080                   | 1.059 | .890 | .040 - .060                   |
| 1.020 | .787 | .030 - .048                   | 1.025 | .754 | .040 - .060                   | 1.032 | .849 | .070 - .090                   | 1.046 | .138 | .005 - .010                   | 1.051 | .964 | .005 - .010                   | 1.059 | .965 | .015 - .025                   |
| 1.020 | .805 | .060 - .075                   | 1.025 | .775 | .010 - .020                   | 1.032 | .925 | .015 - .030                   | 1.046 | .345 | .070 - .090                   | 1.051 | .988 | .005 - .010                   | 1.060 | .150 | .060 - .080                   |
| 1.020 | .861 | .025 - .048                   | 1.025 | .776 | .020 - .040                   | 1.032 | .955 | .020 - .040                   | 1.046 | .517 | .035 - .050                   | 1.052 | .253 | .010 - .020                   | 1.060 | .172 | .010 - .020                   |
| 1.020 | .960 | .015 - .030                   | 1.025 | .787 | .030 - .050                   | 1.033 | .483 | .080 - .100                   | 1.046 | .861 | .010 - .020                   | 1.052 | .595 | .005 - .010                   | 1.060 | .180 | .030 - .050                   |
| 1.020 | .962 | .005 - .020                   | 1.025 | .788 | .010 - .020                   | 1.033 | .757 | .005 - .010                   | 1.046 | .908 | .005 - .010                   | 1.052 | .696 | .040 - .060                   | 1.060 | .210 | .010 - .020                   |
| 1.021 | .257 | .050 - .075                   | 1.025 | .804 | .040 - .050                   | 1.033 | .811 | .050 - .075                   | 1.046 | .943 | .020 - .035                   | 1.052 | .715 | .005 - .010                   | 1.060 | .258 | .025 - .035                   |
| 1.021 | .316 | .040 - .060                   | 1.025 | .877 | .010 - .020                   | 1.033 | .836 | .015 - .030                   | 1.047 | .287 | .005 - .010                   | 1.052 | .760 | .105 - .125                   | 1.060 | .283 | .156 - .187                   |
| 1.021 | .575 | .005 - .010                   | 1.025 | .893 | .020 - .040                   | 1.033 | .883 | .015 - .030                   | 1.047 | .480 | .005 - .010                   | 1.052 | .765 | .060 - .070                   | 1.060 | .284 | .040 - .062                   |
| 1.021 | .668 | .015 - .020                   | 1.025 | .926 | .020 - .040                   | 1.033 | .925 | .032 - .050                   | 1.047 | .499 | .006 - .015                   | 1.052 | .846 | .040 - .060                   | 1.060 | .318 | .005 - .010                   |
| 1.021 | .726 | .005 - .010                   | 1.026 | .239 | .005 - .010                   | 1.034 | .130 | .005 - .015                   | 1.047 | .522 | .005 - .010                   | 1.052 | .881 | .050 - .075                   | 1.060 | .341 | .010 - .020                   |
| 1.021 | .750 | .025 - .040                   | 1.026 | .480 | .030 - .050                   | 1.034 | .350 | .020 - .040                   | 1.047 | .627 | .070 - .090                   | 1.053 | .530 | .075 - .090                   | 1.060 | .378 | .105 - .135                   |
| 1.021 | .766 | .015 - .030                   | 1.026 | .630 | .060 - .080                   | 1.034 | .381 | .075 - .090                   | 1.047 | .840 | .010 - .020                   | 1.053 | .627 | .070 - .090                   | 1.060 | .394 | .100 - .125                   |
| 1.021 | .878 | .020 - .030                   | 1.026 | .781 | .040 - .060                   | 1.034 | .500 | .070 - .090                   | 1.047 | .916 | .005 - .010                   | 1.053 | .662 | .025 - .050                   | 1.060 | .396 | .025 - .048                   |
| 1.021 | .930 | .015 - .030                   | 1.026 | .917 | .005 - .010                   | 1.034 | .654 | .005 - .010                   | 1.048 | .163 | .005 - .010                   | 1.053 | .752 | .110 - .130                   | 1.060 | .429 | .005 - .010                   |
| 1.022 | .219 | .005 - .010                   | 1.027 | .203 | .005 - .010                   | 1.034 | .731 | .015 - .030                   | 1.048 | .282 | .090 - .105                   | 1.053 | .893 | .005 - .020                   | 1.060 | .451 | .105 - .125                   |
| 1.022 | .318 | .005 - .010                   | 1.027 | .294 | .070 - .090                   | 1.034 | .827 | .005 - .010                   | 1.048 | .378 | .100 - .125                   | 1.054 | .503 | .005 - .010                   | 1.060 | .469 | .105 - .125                   |
| 1.022 | .354 | .005 - .010                   | 1.027 | .382 | .005 - .010                   | 1.034 | .830 | .005 - .012                   | 1.048 | .431 | .042 - .062                   | 1.054 | .560 | .030 - .050                   | 1.060 | .479 | .005 - .010                   |
| 1.022 | .394 | .005 - .010                   | 1.027 | .417 | .075 - .090                   | 1.035 | .660 | .070 - .090                   | 1.048 | .504 | .006 - .012                   | 1.054 | .649 | .005 - .010                   | 1.060 | .510 | .020 - .035                   |
| 1.022 | .468 | .030 - .050                   | 1.027 | .418 | .070 - .090                   | 1.035 | .820 | .020 - .030                   | 1.048 | .517 | .020 - .040                   | 1.054 | .725 | .015 - .030                   | 1.060 | .512 | .156 - .188                   |
| 1.022 | .477 | .010 - .020                   | 1.027 | .439 | .005 - .010                   | 1.035 | .832 | .030 - .050                   | 1.048 | .629 | .008 - .015                   | 1.054 | .749 | .005 - .010                   | 1.060 | .513 | .105 - .135                   |
| 1.022 | .552 | .005 - .010                   | 1.027 | .542 | .070 - .090                   | 1.035 | .858 | .040 - .060                   | 1.048 | .657 | .010 - .020                   | 1.054 | .840 | .008 - .012                   | 1.060 | .531 | .010 - .020                   |
| 1.022 | .590 | .015 - .030                   | 1.027 | .635 | .020 - .070                   | 1.035 | .874 | .060 - .080                   | 1.048 | .688 | .005 - .010                   | 1.054 | .879 | .015 - .025                   | 1.060 | .563 | .015 - .030                   |
| 1.022 | .626 | .030 - .050                   | 1.027 | .637 | .010 - .030                   | 1.035 | .948 | .010 - .020                   | 1.048 | .882 | .005 - .015                   | 1.055 | .153 | .050 - .070                   | 1.060 | .573 | .060 - .080                   |
| 1.022 | .786 | .100 - .125                   | 1.027 | .669 | .075 - .100                   | 1.035 | .954 | .020 - .030                   | 1     |      |                               |       |      |                               |       |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|------|-------------------------------|-------|-------|-------------------------------|
| 1.060 | .881  | .025 - .040                   | 1.063 | .142 | .090 - .105                   | 1.067 | .515  | .080 - .100                   | 1.078 | .687  | .030 - .040                   | 1.090 | .355 | .015 - .030                   | 1.097 | .883  | .005 - .010                   |
| 1.060 | .882  | .010 - .020                   | 1.063 | .190 | .005 - .010                   | 1.067 | .535  | .050 - .075                   | 1.078 | .749  | .020 - .040                   | 1.090 | .433 | .030 - .060                   | 1.097 | .900  | .030 - .050                   |
| 1.060 | .883  | .010 - .020                   | 1.063 | .204 | .075 - .090                   | 1.067 | .664  | .010 - .020                   | 1.078 | .781  | .031 - .042                   | 1.090 | .500 | .100 - .125                   | 1.097 | .901  | .040 - .060                   |
| 1.060 | .888  | .010 - .020                   | 1.063 | .315 | .005 - .010                   | 1.068 | .205  | .030 - .050                   | 1.078 | .830  | .030 - .050                   | 1.090 | .502 | .040 - .060                   | 1.097 | .949  | .050 - .060                   |
| 1.060 | .896  | .010 - .020                   | 1.063 | .317 | .005 - .010                   | 1.068 | .254  | .010 - .020                   | 1.078 | .840  | .010 - .020                   | 1.090 | .505 | .025 - .040                   | 1.097 | 1.003 | .010 - .030                   |
| 1.060 | .905  | .040 - .060                   | 1.063 | .321 | .090 - .120                   | 1.068 | .341  | .100 - .125                   | 1.078 | .870  | .015 - .030                   | 1.090 | .534 | .030 - .060                   | 1.098 | .220  | .005 - .010                   |
| 1.061 | .128  | .010 - .020                   | 1.063 | .329 | .080 - .100                   | 1.068 | .636  | .090 - .105                   | 1.079 | .114  | .005 - .010                   | 1.090 | .595 | .090 - .120                   | 1.098 | .375  | .070 - .090                   |
| 1.061 | .267  | .125 - .135                   | 1.063 | .343 | .100 - .125                   | 1.068 | .750  | .040 - .050                   | 1.079 | .257  | .005 - .010                   | 1.090 | .932 | .060 - .080                   | 1.098 | .377  | .010 - .020                   |
| 1.061 | .316  | .005 - .010                   | 1.063 | .394 | .005 - .010                   | 1.068 | .813  | .030 - .050                   | 1.079 | .509  | .030 - .050                   | 1.091 | .625 | .032 - .062                   | 1.098 | .396  | .120 - .140                   |
| 1.061 | .386  | .080 - .100                   | 1.063 | .437 | .005 - .030                   | 1.069 | .153  | .005 - .010                   | 1.079 | .567  | .025 - .040                   | 1.091 | .655 | .035 - .010                   | 1.098 | .420  | .005 - .010                   |
| 1.061 | .442  | .005 - .020                   | 1.063 | .442 | .005 - .010                   | 1.069 | .390  | .005 - .010                   | 1.079 | .587  | .025 - .040                   | 1.091 | .850 | .070 - .090                   | 1.098 | .504  | .010 - .020                   |
| 1.061 | .500  | .050 - .070                   | 1.063 | .472 | .015 - .030                   | 1.069 | .600  | .170 - .190                   | 1.079 | .760  | .025 - .040                   | 1.091 | .991 | .015 - .030                   | 1.098 | .597  | .030 - .040                   |
| 1.061 | .505  | .010 - .025                   | 1.063 | .500 | .090 - .105                   | 1.069 | .936  | .025 - .040                   | 1.079 | .933  | .005 - .010                   | 1.092 | .070 | .005 - .010                   | 1.098 | .600  | .005 - .010                   |
| 1.061 | .510  | .070 - .090                   | 1.063 | .503 | .005 - .010                   | 1.070 | .255  | .105 - .125                   | 1.079 | .955  | .005 - .010                   | 1.092 | .239 | .005 - .020                   | 1.098 | .660  | .105 - .125                   |
| 1.061 | .531  | .005 - .010                   | 1.063 | .506 | .062 - .083                   | 1.070 | .266  | .020 - .030                   | 1.080 | .088  | .005 - .010                   | 1.092 | .433 | .040 - .105                   | 1.098 | .671  | .005 - .010                   |
| 1.061 | .533  | .035 - .050                   | 1.063 | .540 | .135 - .156                   | 1.070 | .318  | .020 - .040                   | 1.080 | .276  | .020 - .040                   | 1.092 | .615 | .020 - .030                   | 1.098 | .752  | .120 - .140                   |
| 1.061 | .562  | .005 - .125                   | 1.063 | .545 | .005 - .010                   | 1.070 | .320  | .090 - .110                   | 1.080 | .320  | .040 - .060                   | 1.092 | .695 | .025 - .040                   | 1.098 | .754  | .120 - .156                   |
| 1.061 | .574  | .005 - .010                   | 1.063 | .563 | .015 - .030                   | 1.070 | .619  | .005 - .010                   | 1.080 | .328  | .015 - .030                   | 1.092 | .750 | .015 - .025                   | 1.098 | .761  | .005 - .010                   |
| 1.061 | .657  | .170 - .190                   | 1.063 | .573 | .005 - .010                   | 1.070 | .755  | .030 - .040                   | 1.080 | .505  | .005 - .020                   | 1.092 | .753 | .048 - .070                   | 1.098 | .846  | .110 - .130                   |
| 1.061 | .750  | .030 - .050                   | 1.063 | .578 | .060 - .075                   | 1.070 | .794  | .070 - .080                   | 1.080 | .571  | .070 - .090                   | 1.092 | .791 | .010 - .020                   | 1.098 | .929  | .005 - .010                   |
| 1.061 | .783  | .025 - .040                   | 1.063 | .579 | .060 - .080                   | 1.070 | .906  | .005 - .010                   | 1.080 | .623  | .020 - .040                   | 1.092 | .811 | .005 - .010                   | 1.098 | .939  | .005 - .010                   |
| 1.061 | .922  | .025 - .040                   | 1.063 | .611 | .005 - .010                   | 1.070 | .961  | .020 - .035                   | 1.080 | .738  | .060 - .080                   | 1.092 | .812 | .015 - .030                   | 1.099 | .253  | .005 - .010                   |
| 1.061 | .943  | .050 - .062                   | 1.063 | .638 | .050 - .070                   | 1.071 | .259  | .040 - .062                   | 1.080 | .760  | .020 - .040                   | 1.093 | .239 | .012 - .020                   | 1.099 | .318  | .005 - .010                   |
| 1.061 | 1.004 | .010 - .020                   | 1.063 | .640 | .080 - .100                   | 1.071 | .266  | .010 - .030                   | 1.080 | .770  | .050 - .075                   | 1.093 | .405 | .030 - .060                   | 1.099 | .377  | .005 - .010                   |
| 1.062 | .061  | .015 - .020                   | 1.063 | .645 | .025 - .040                   | 1.071 | .323  | .015 - .030                   | 1.080 | .773  | .030 - .060                   | 1.093 | .421 | .050 - .070                   | 1.099 | .378  | .010 - .015                   |
| 1.062 | .073  | .020 - .040                   | 1.063 | .657 | .040 - .062                   | 1.071 | .626  | .005 - .010                   | 1.080 | .780  | .005 - .010                   | 1.093 | .500 | .050 - .075                   | 1.099 | .436  | .020 - .040                   |
| 1.062 | .120  | .010 - .020                   | 1.063 | .674 | .005 - .010                   | 1.071 | .884  | .015 - .030                   | 1.080 | .856  | .020 - .035                   | 1.093 | .641 | .015 - .030                   | 1.099 | .440  | .005 - .010                   |
| 1.062 | .128  | .048 - .062                   | 1.063 | .687 | .040 - .060                   | 1.072 | .256  | .005 - .010                   | 1.080 | .906  | .005 - .010                   | 1.093 | .681 | .010 - .030                   | 1.099 | .500  | .005 - .010                   |
| 1.062 | .137  | .080 - .100                   | 1.063 | .749 | .005 - .010                   | 1.072 | .381  | .005 - .010                   | 1.080 | .935  | .005 - .010                   | 1.093 | .830 | .030 - .050                   | 1.099 | .508  | .005 - .020                   |
| 1.062 | .188  | .020 - .040                   | 1.063 | .780 | .050 - .070                   | 1.072 | .712  | .005 - .010                   | 1.080 | .973  | .030 - .050                   | 1.093 | .871 | .025 - .040                   | 1.099 | .555  | .010 - .020                   |
| 1.062 | .200  | .042 - .062                   | 1.063 | .781 | .060 - .080                   | 1.072 | .750  | .075 - .100                   | 1.081 | .341  | .030 - .050                   | 1.093 | .876 | .025 - .050                   | 1.099 | .558  | .010 - .020                   |
| 1.062 | .211  | .050 - .083                   | 1.063 | .787 | .050 - .070                   | 1.072 | 1.001 | .005 - .010                   | 1.081 | .793  | .030 - .050                   | 1.093 | .878 | .050 - .075                   | 1.099 | .633  | .020 - .030                   |
| 1.062 | .218  | .020 - .035                   | 1.063 | .798 | .030 - .050                   | 1.073 | .347  | .060 - .080                   | 1.081 | .797  | .005 - .010                   | 1.093 | .883 | .035 - .050                   | 1.099 | .650  | .110 - .130                   |
| 1.062 | .252  | .030 - .040                   | 1.063 | .883 | .005 - .010                   | 1.073 | .474  | .005 - .010                   | 1.083 | .253  | .050 - .075                   | 1.093 | .957 | .005 - .010                   | 1.099 | .788  | .010 - .050                   |
| 1.062 | .259  | .045 - .060                   | 1.063 | .889 | .005 - .010                   | 1.073 | .510  | .015 - .030                   | 1.083 | .475  | .010 - .020                   | 1.094 | .313 | .005 - .010                   | 1.099 | .816  | .015 - .025                   |
| 1.062 | .262  | .007 - .025                   | 1.064 | .470 | .010 - .020                   | 1.073 | .546  | .005 - .010                   | 1.083 | .670  | .010 - .020                   | 1.094 | .395 | .040 - .060                   | 1.099 | .840  | .015 - .025                   |
| 1.062 | .318  | .008 - .016                   | 1.064 | .512 | .005 - .010                   | 1.073 | .572  | .070 - .090                   | 1.083 | .890  | .015 - .030                   | 1.094 | .559 | .020 - .030                   | 1.099 | .902  | .010 - .030                   |
| 1.062 | .328  | .040 - .060                   | 1.064 | .563 | .005 - .020                   | 1.073 | .656  | .040 - .060                   | 1.083 | 1.016 | .020 - .030                   | 1.094 | .668 | .080 - .100                   | 1.100 | .128  | .005 - .010                   |
| 1.062 | .378  | .015 - .125                   | 1.064 | .594 | .005 - .020                   | 1.073 | .672  | .005 - .010                   | 1.084 | .631  | .080 - .100                   | 1.094 | .782 | .025 - .040                   | 1.100 | .162  | .030 - .042                   |
| 1.062 | .436  | .005 - .010                   | 1.064 | .687 | .048 - .062                   | 1.073 | .890  | .050 - .070                   | 1.084 | .645  | .025 - .040                   | 1.094 | .846 | .030 - .050                   | 1.100 | .253  | .005 - .010                   |
| 1.062 | .440  | .080 - .104                   | 1.064 | .712 | .030 - .050                   | 1.074 | .680  | .135 - .156                   | 1.084 | .721  | .050 - .070                   | 1.094 | .885 | .030 - .040                   | 1.100 | .312  | .010 - .020                   |
| 1.062 | .454  | .020 - .040                   | 1.064 | .751 | .010 - .020                   | 1.074 | .720  | .020 - .040                   | 1.084 | .725  | .040 - .060                   | 1.094 | .900 | .005 - .010                   | 1.100 | .316  | .005 - .010                   |
| 1.062 | .472  | .005 - .010                   | 1.064 | .762 | .005 - .010                   | 1.074 | .971  | .015 - .025                   | 1.084 | .728  | .040 - .050                   | 1.094 | .993 | .020 - .030                   | 1.100 | .346  | .050 - .070                   |
| 1.062 | .480  | .015 - .030                   | 1.064 | .790 | .005 - .010                   | 1.075 | .350  | .005 - .010                   | 1.084 | .765  | .040 - .060                   | 1.095 | .375 | .025 - .080                   | 1.100 | .354  | .070 - .090                   |
| 1.062 | .484  | .032 - .060                   | 1.064 | .822 | .040 - .062                   | 1.075 | .525  | .100 - .120                   | 1.084 | .800  | .015 - .030                   | 1.095 | .405 | .025 - .048                   | 1.100 | .377  | .010 - .020                   |
| 1.062 | .515  | .005 - .010                   | 1.064 | .847 | .060 - .070                   | 1.075 | .689  | .075 - .100                   | 1.084 | .848  | .005 - .010                   | 1.095 | .591 | .010 - .125                   | 1.100 | .378  | .015 - .030                   |
| 1.062 | .521  | .005 - .010                   | 1.064 | .865 | .010 - .020                   | 1.075 | .694  | .050 - .060                   | 1.084 | .871  | .005 - .010                   | 1.095 | .625 | .010 - .020                   | 1.100 | .380  | .005 - .010                   |
| 1.062 | .531  | .100 - .125                   | 1.064 | .945 | .030 - .040                   | 1.075 | .804  | .005 - .010                   | 1.084 | .926  | .005 - .010                   | 1.095 | .655 | .042 - .062                   | 1.100 | .398  | .050 - .070                   |
| 1.062 | .537  | .005 - .105                   | 1.064 | .951 | .015 - .030                   | 1.075 | .810  | .005 - .010                   | 1.084 | .927  | .010 - .020                   | 1.095 | .700 | .060 - .090                   | 1.100 | .416  | .015 - .030                   |
| 1.062 | .564  | .062 - .090                   | 1.065 | .165 | .025 - .040                   | 1.075 | .814  | .005 - .010                   | 1.085 | .245  | .030 - .050                   | 1.095 | .749 | .040 - .060                   | 1.100 | .426  | .157 - .187                   |
| 1.062 | .580  | .005 - .010                   | 1.065 | .395 | .062 - .083                   | 1.075 | .834  | .005 - .020                   | 1.085 | .283  | .050 - .075                   | 1.095 | .755 | .040 - .050                   | 1.100 | .439  | .005 - .010                   |
| 1.062 | .625  | .020 - .030                   | 1.065 | .434 | .005 - .010                   | 1.076 | .348  | .050 - .075                   | 1.085 | .476  | .005 - .010                   | 1.095 | .790 | .060 - .080                   | 1.100 | .440  | .005 - .020                   |
| 1.062 | .626  | .048 - .062                   | 1.065 | .444 | .005 - .010                   | 1.076 | .367  | .075 - .090                   | 1.085 | .572  | .070 - .090                   | 1.095 | .808 | .015 - .030                   | 1.100 | .452  | .005 - .010                   |
| 1.062 | .635  | .100 - .156                   | 1.065 | .510 | .015 - .036                   | 1.076 | .398  | .005 - .010                   | 1.085 | .650  | .015 - .030                   | 1.095 | .809 | .025 - .040                   | 1.100 | .454  | .050 - .125                   |
| 1.062 | .638  | .050 - .070                   | 1.065 | .562 | .010 - .020                   | 1.076 | .499  | .015 - .030                   | 1.085 | .722  | .005 - .010                   | 1.095 | .813 | .105 - .135                   | 1.100 | .478  | .005 - .010                   |
| 1.062 | .642  | .060 - .080                   | 1.065 | .626 | .156 - .187                   | 1.076 | .508  | .083 - .104                   | 1.085 | .749  | .050 - .070                   | 1.095 | .818 | .050 - .075                   | 1.100 | .485  | .010 - .020                   |
| 1.062 | .656  | .075 - .090                   | 1.065 | .634 | .075 - .090                   | 1.076 | .515  | .015 - .025                   | 1.085 | 1.022 | .005 - .010                   | 1.095 | .906 | .005 - .010                   | 1.100 | .500  | .005 - .010                   |
| 1.062 | .657  | .075 - .090                   | 1.065 | .697 | .030 - .040                   | 1.076 | .535  | .060 - .080                   | 1.086 | .643  | .050 - .030                   | 1.096 | .375 | .030 - .060                   | 1.100 | .502  | .005 - .010                   |
| 1.062 | .687  | .100 - .187                   | 1.065 | .735 | .005 - .010                   | 1.076 | .537  | .060 - .090                   | 1.086 | .820  | .010 - .020                   | 1.096 | .398 | .050 - .083                   | 1.100 | .503  | .005 - .010                   |
| 1.062 | .718  | .015 - .032                   | 1.065 | .760 | .010 - .020                   | 1.076 | .643  | .075 - .090                   | 1.086 | .915  | .020 - .035                   | 1.096 | .441 | .060 - .075                   | 1.100 | .504  | .005 - .020                   |
| 1.062 | .721  | .050 - .070                   | 1.065 | .767 | .005 - .010                   | 1.076 | .690  | .080 - .104                   | 1.086 | .948  | .032 - .050                   | 1.096 | .450 | .060 - .070                   | 1.100 | .505  | .005 - .010                   |
| 1.062 | .727  | .060 - .080                   | 1.065 | .814 | .042 - .060                   | 1.076 | .915  | .015 - .025                   | 1.087 | .281  | .030 - .050                   | 1.096 | .500 | .070 - .090                   | 1.100 | .506  | .005 - .010                   |
| 1.062 | .750  | .100 - .125                   | 1.065 | .826 | .040 - .060                   | 1.077 | .380  | .060 - .080                   | 1.087 | .562  | .036 - .060                   | 1.096 | .577 | .015 - .030                   | 1.100 | .515  | .100 - .125                   |
| 1.062 | .755  | .005 - .015                   | 1.065 | .875 | .010 - .025                   | 1.077 | .511  | .050 - .070                   |       |       |                               |       |      |                               |       |       |                               |















**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 1.303 | .899  | .040 - .060                   | 1.311 | .202  | .020 - .040                   | 1.313 | .660  | .090 - .125                   | 1.321 | .804  | .005 - .010                   | 1.332 | .770  | .125 - .156                   | 1.340 | 1.000 | .105 - .125                   |
| 1.304 | .250  | .040 - .050                   | 1.311 | .261  | .020 - .040                   | 1.313 | .687  | .105 - .125                   | 1.321 | .973  | .010 - .020                   | 1.333 | .397  | .040 - .060                   | 1.340 | 1.004 | .042 - .060                   |
| 1.304 | .470  | .075 - .125                   | 1.311 | .335  | .080 - .100                   | 1.313 | .751  | .025 - .040                   | 1.322 | .758  | .080 - .104                   | 1.333 | .950  | .005 - .010                   | 1.340 | 1.034 | .005 - .010                   |
| 1.304 | .504  | .090 - .120                   | 1.311 | .380  | .030 - .050                   | 1.313 | .759  | .080 - .100                   | 1.322 | 1.175 | .040 - .060                   | 1.334 | .239  | .015 - .030                   | 1.340 | 1.104 | .070 - .080                   |
| 1.304 | 1.189 | .005 - .016                   | 1.311 | .389  | .025 - .040                   | 1.313 | .874  | .020 - .040                   | 1.323 | .212  | .005 - .010                   | 1.334 | .325  | .005 - .010                   | 1.340 | 1.118 | .050 - .083                   |
| 1.305 | .080  | .005 - .008                   | 1.311 | .500  | .025 - .040                   | 1.313 | .951  | .070 - .090                   | 1.323 | .244  | .020 - .040                   | 1.334 | .771  | .010 - .020                   | 1.340 | 1.120 | .010 - .020                   |
| 1.305 | .255  | .040 - .050                   | 1.311 | .573  | .005 - .010                   | 1.313 | 1.015 | .060 - .083                   | 1.323 | .351  | .005 - .015                   | 1.334 | .886  | .105 - .125                   | 1.340 | 1.143 | .005 - .020                   |
| 1.305 | .514  | .100 - .120                   | 1.311 | .593  | .075 - .090                   | 1.313 | 1.063 | .040 - .060                   | 1.323 | .394  | .015 - .030                   | 1.334 | .906  | .060 - .075                   | 1.340 | 1.263 | .010 - .020                   |
| 1.305 | .705  | .062 - .120                   | 1.311 | .635  | .005 - .010                   | 1.313 | 1.118 | .015 - .035                   | 1.323 | .551  | .050 - .070                   | 1.335 | .380  | .020 - .035                   | 1.341 | .479  | .005 - .010                   |
| 1.305 | .734  | .020 - .030                   | 1.311 | .655  | .090 - .110                   | 1.313 | 1.148 | .020 - .030                   | 1.323 | .640  | .060 - .075                   | 1.335 | .632  | .035 - .060                   | 1.341 | .537  | .105 - .135                   |
| 1.305 | .803  | .040 - .060                   | 1.311 | .676  | .005 - .010                   | 1.313 | 1.164 | .025 - .040                   | 1.323 | .666  | .100 - .125                   | 1.335 | .650  | .050 - .070                   | 1.341 | .871  | .010 - .020                   |
| 1.305 | .825  | .040 - .060                   | 1.311 | .688  | .156 - .187                   | 1.314 | .268  | .030 - .060                   | 1.323 | 1.001 | .015 - .030                   | 1.335 | .906  | .020 - .030                   | 1.341 | .893  | .040 - .060                   |
| 1.305 | .826  | .100 - .125                   | 1.311 | .858  | .005 - .010                   | 1.314 | .341  | .060 - .080                   | 1.323 | 1.063 | .050 - .070                   | 1.335 | 1.106 | .062 - .080                   | 1.342 | .380  | .120 - .156                   |
| 1.305 | .942  | .020 - .040                   | 1.311 | .875  | .020 - .040                   | 1.314 | .392  | .040 - .060                   | 1.323 | 1.194 | .020 - .040                   | 1.335 | 1.131 | .050 - .075                   | 1.342 | .457  | .100 - .125                   |
| 1.305 | 1.006 | .015 - .030                   | 1.311 | .884  | .050 - .135                   | 1.314 | .439  | .050 - .075                   | 1.324 | .320  | .010 - .020                   | 1.335 | 1.134 | .005 - .010                   | 1.342 | .876  | .125 - .156                   |
| 1.305 | 1.011 | .005 - .010                   | 1.311 | .890  | .030 - .050                   | 1.314 | .441  | .105 - .135                   | 1.324 | .529  | .105 - .135                   | 1.335 | 1.146 | .005 - .010                   | 1.342 | .922  | .040 - .060                   |
| 1.305 | 1.016 | .060 - .070                   | 1.311 | .905  | .020 - .040                   | 1.314 | .522  | .015 - .030                   | 1.324 | .687  | .005 - .030                   | 1.336 | .907  | .005 - .010                   | 1.342 | 1.015 | .005 - .010                   |
| 1.305 | 1.140 | .070 - .080                   | 1.311 | .947  | .020 - .040                   | 1.314 | .593  | .015 - .030                   | 1.324 | .808  | .105 - .125                   | 1.336 | 1.004 | .005 - .010                   | 1.343 | .630  | .025 - .040                   |
| 1.305 | 1.201 | .010 - .020                   | 1.311 | .995  | .030 - .050                   | 1.314 | .626  | .100 - .125                   | 1.324 | 1.001 | .020 - .040                   | 1.336 | 1.006 | .030 - .050                   | 1.343 | .871  | .050 - .075                   |
| 1.305 | 1.205 | .010 - .020                   | 1.311 | 1.001 | .005 - .010                   | 1.314 | .673  | .015 - .025                   | 1.325 | .125  | .010 - .020                   | 1.336 | 1.038 | .080 - .100                   | 1.343 | .907  | .042 - .062                   |
| 1.306 | .758  | .040 - .060                   | 1.311 | 1.005 | .030 - .048                   | 1.314 | .827  | .010 - .020                   | 1.325 | .139  | .040 - .060                   | 1.336 | 1.131 | .040 - .062                   | 1.343 | 1.100 | .080 - .105                   |
| 1.306 | .970  | .015 - .025                   | 1.311 | 1.009 | .030 - .040                   | 1.314 | .885  | .070 - .100                   | 1.325 | .141  | .010 - .020                   | 1.337 | .319  | .005 - .010                   | 1.343 | 1.126 | .030 - .050                   |
| 1.306 | .996  | .007 - .015                   | 1.311 | 1.057 | .005 - .010                   | 1.314 | .969  | .040 - .060                   | 1.325 | .157  | .010 - .020                   | 1.337 | .396  | .005 - .010                   | 1.343 | 1.150 | .072 - .090                   |
| 1.306 | 1.007 | .050 - .090                   | 1.311 | 1.190 | .005 - .010                   | 1.314 | 1.062 | .006 - .016                   | 1.325 | .171  | .005 - .015                   | 1.337 | .440  | .042 - .062                   | 1.343 | 1.261 | .020 - .040                   |
| 1.306 | 1.070 | .015 - .030                   | 1.312 | .197  | .025 - .040                   | 1.314 | 1.090 | .042 - .062                   | 1.325 | .172  | .010 - .020                   | 1.337 | .475  | .005 - .010                   | 1.344 | .258  | .100 - .135                   |
| 1.306 | 1.167 | .005 - .010                   | 1.312 | .234  | .050 - .075                   | 1.314 | 1.188 | .005 - .010                   | 1.325 | .204  | .010 - .020                   | 1.337 | .500  | .100 - .125                   | 1.344 | .260  | .060 - .090                   |
| 1.306 | 1.184 | .005 - .010                   | 1.312 | .251  | .050 - .070                   | 1.315 | .177  | .005 - .010                   | 1.325 | .218  | .010 - .020                   | 1.337 | .502  | .005 - .020                   | 1.344 | .376  | .100 - .120                   |
| 1.307 | .502  | .010 - .020                   | 1.312 | .314  | .075 - .090                   | 1.315 | .253  | .080 - .104                   | 1.325 | .251  | .010 - .020                   | 1.337 | .747  | .025 - .040                   | 1.344 | .752  | .100 - .125                   |
| 1.307 | .655  | .005 - .010                   | 1.312 | .320  | .030 - .050                   | 1.315 | .522  | .010 - .020                   | 1.325 | .270  | .010 - .020                   | 1.337 | .748  | .010 - .020                   | 1.344 | .812  | .040 - .062                   |
| 1.307 | 1.068 | .075 - .090                   | 1.312 | .374  | .020 - .040                   | 1.315 | .560  | .005 - .010                   | 1.325 | .281  | .040 - .060                   | 1.337 | .856  | .010 - .020                   | 1.344 | 1.000 | .015 - .030                   |
| 1.308 | .125  | .040 - .060                   | 1.312 | .377  | .020 - .030                   | 1.315 | .626  | .100 - .125                   | 1.325 | .295  | .080 - .104                   | 1.337 | .884  | .005 - .010                   | 1.344 | 1.002 | .050 - .075                   |
| 1.308 | .220  | .050 - .070                   | 1.312 | .392  | .030 - .060                   | 1.315 | .703  | .010 - .020                   | 1.325 | .301  | .012 - .025                   | 1.337 | .945  | .060 - .080                   | 1.344 | 1.009 | .080 - .100                   |
| 1.308 | .251  | .005 - .010                   | 1.312 | .505  | .010 - .015                   | 1.315 | .923  | .020 - .030                   | 1.325 | .350  | .010 - .020                   | 1.337 | .984  | .005 - .040                   | 1.344 | 1.050 | .005 - .010                   |
| 1.308 | .619  | .005 - .010                   | 1.312 | .507  | .042 - .062                   | 1.315 | 1.177 | .005 - .010                   | 1.325 | .381  | .010 - .020                   | 1.337 | 1.001 | .070 - .090                   | 1.344 | 1.068 | .015 - .030                   |
| 1.308 | .751  | .050 - .075                   | 1.312 | .553  | .005 - .010                   | 1.316 | .655  | .005 - .010                   | 1.325 | .410  | .010 - .015                   | 1.337 | 1.094 | .005 - .010                   | 1.345 | .341  | .090 - .105                   |
| 1.308 | .762  | .070 - .090                   | 1.312 | .563  | .005 - .010                   | 1.316 | .704  | .050 - .070                   | 1.325 | .440  | .010 - .134                   | 1.338 | .255  | .005 - .010                   | 1.345 | .408  | .005 - .010                   |
| 1.308 | .902  | .005 - .010                   | 1.312 | .564  | .020 - .040                   | 1.316 | .745  | .080 - .100                   | 1.325 | .500  | .010 - .015                   | 1.338 | .259  | .005 - .010                   | 1.345 | .661  | .050 - .070                   |
| 1.309 | .311  | .105 - .125                   | 1.312 | .565  | .090 - .110                   | 1.316 | .881  | .020 - .040                   | 1.325 | .600  | .010 - .015                   | 1.338 | .320  | .005 - .010                   | 1.345 | .818  | .050 - .070                   |
| 1.309 | .377  | .005 - .015                   | 1.312 | .566  | .005 - .010                   | 1.316 | .885  | .025 - .050                   | 1.325 | .640  | .010 - .015                   | 1.338 | .394  | .005 - .020                   | 1.345 | .836  | .005 - .010                   |
| 1.309 | .392  | .030 - .048                   | 1.312 | .594  | .075 - .090                   | 1.316 | .940  | .010 - .015                   | 1.325 | .669  | .040 - .060                   | 1.338 | .396  | .010 - .020                   | 1.345 | .907  | .060 - .090                   |
| 1.309 | .607  | .025 - .040                   | 1.312 | .625  | .100 - .125                   | 1.316 | .978  | .042 - .060                   | 1.325 | .700  | .010 - .015                   | 1.338 | .434  | .100 - .120                   | 1.345 | .967  | .100 - .125                   |
| 1.309 | .635  | .010 - .020                   | 1.312 | .634  | .040 - .062                   | 1.317 | .502  | .030 - .050                   | 1.325 | .750  | .010 - .015                   | 1.338 | .473  | .005 - .010                   | 1.345 | 1.001 | .010 - .020                   |
| 1.309 | .751  | .050 - .070                   | 1.312 | .655  | .015 - .030                   | 1.317 | .744  | .005 - .010                   | 1.325 | .810  | .010 - .020                   | 1.338 | .475  | .010 - .020                   | 1.345 | 1.039 | .025 - .040                   |
| 1.309 | .791  | .005 - .010                   | 1.312 | .687  | .025 - .035                   | 1.317 | 1.051 | .010 - .020                   | 1.325 | .900  | .050 - .075                   | 1.338 | .477  | .005 - .010                   | 1.345 | 1.040 | .015 - .030                   |
| 1.309 | .813  | .020 - .035                   | 1.312 | .689  | .050 - .060                   | 1.317 | 1.115 | .080 - .100                   | 1.325 | .920  | .010 - .015                   | 1.338 | .505  | .005 - .020                   | 1.345 | 1.173 | .015 - .030                   |
| 1.309 | .816  | .007 - .016                   | 1.312 | .703  | .100 - .125                   | 1.317 | 1.198 | .020 - .035                   | 1.325 | 1.055 | .080 - .104                   | 1.338 | .552  | .005 - .015                   | 1.345 | 1.174 | .015 - .025                   |
| 1.309 | .878  | .060 - .083                   | 1.312 | .720  | .050 - .070                   | 1.317 | 1.250 | .020 - .032                   | 1.325 | 1.118 | .015 - .030                   | 1.338 | .582  | .005 - .010                   | 1.346 | .201  | .060 - .080                   |
| 1.309 | .883  | .050 - .080                   | 1.312 | .748  | .050 - .062                   | 1.318 | .180  | .005 - .010                   | 1.325 | 1.179 | .080 - .100                   | 1.338 | .751  | .100 - .134                   | 1.346 | .443  | .005 - .025                   |
| 1.309 | 1.000 | .020 - .040                   | 1.312 | .755  | .105 - .125                   | 1.318 | .746  | .050 - .075                   | 1.326 | .314  | .025 - .040                   | 1.338 | .867  | .020 - .030                   | 1.347 | .441  | .005 - .010                   |
| 1.309 | 1.031 | .100 - .120                   | 1.312 | .765  | .090 - .120                   | 1.318 | 1.005 | .040 - .125                   | 1.326 | .570  | .015 - .070                   | 1.338 | .937  | .025 - .040                   | 1.347 | .500  | .005 - .010                   |
| 1.309 | 1.128 | .030 - .050                   | 1.312 | .766  | .050 - .075                   | 1.318 | 1.006 | .015 - .030                   | 1.326 | .751  | .010 - .020                   | 1.338 | .983  | .010 - .020                   | 1.347 | .502  | .005 - .010                   |
| 1.310 | .190  | .050 - .070                   | 1.312 | .781  | .020 - .125                   | 1.319 | .387  | .090 - .125                   | 1.326 | 1.022 | .005 - .010                   | 1.338 | 1.121 | .020 - .030                   | 1.347 | 1.075 | .015 - .030                   |
| 1.310 | .205  | .040 - .060                   | 1.312 | .782  | .060 - .083                   | 1.319 | .715  | .005 - .010                   | 1.327 | .680  | .030 - .050                   | 1.339 | .220  | .040 - .060                   | 1.347 | 1.140 | .015 - .030                   |
| 1.310 | .231  | .080 - .100                   | 1.312 | .783  | .040 - .070                   | 1.319 | .716  | .005 - .010                   | 1.328 | .126  | .016 - .025                   | 1.339 | .272  | .015 - .030                   | 1.348 | .441  | .005 - .010                   |
| 1.310 | .379  | .005 - .010                   | 1.312 | .812  | .070 - .090                   | 1.319 | .851  | .040 - .060                   | 1.328 | .415  | .156 - .187                   | 1.339 | .274  | .010 - .020                   | 1.348 | .500  | .005 - .015                   |
| 1.310 | .380  | .080 - .100                   | 1.312 | .825  | .010 - .020                   | 1.319 | 1.070 | .015 - .030                   | 1.328 | 1.020 | .025 - .040                   | 1.339 | .316  | .005 - .010                   | 1.348 | .566  | .080 - .100                   |
| 1.310 | .385  | .170 - .190                   | 1.312 | .843  | .005 - .010                   | 1.319 | 1.075 | .050 - .070                   | 1.329 | .175  | .050 - .083                   | 1.339 | .474  | .005 - .010                   | 1.348 | .677  | .030 - .050                   |
| 1.310 | .407  | .090 - .120                   | 1.312 | .878  | .060 - .080                   | 1.319 | 1.104 | .030 - .040                   | 1.329 | .680  | .015 - .030                   | 1.339 | .640  | .100 - .125                   | 1.348 | .700  | .005 - .010                   |
| 1.310 | .416  | .110 - .130                   | 1.312 | .890  | .090 - .125                   | 1.319 | 1.130 | .005 - .010                   | 1.329 | .791  | .105 - .125                   | 1.339 | .671  | .070 - .090                   | 1.348 | .717  | .075 - .090                   |
| 1.310 | .505  | .010 - .020                   | 1.312 | .892  | .020 - .040                   | 1.320 | .183  | .005 - .010                   | 1.329 | .900  | .050 - .075                   | 1.339 | .762  | .005 - .010                   | 1.348 | .818  | .005 - .015                   |
| 1.310 | .510  | .012 - .020                   | 1.312 | .893  | .060 - .080                   | 1.320 | .210  | .005 - .010                   | 1.329 | .990  | .105 - .134                   | 1.339 | .828  | .105 - .125                   | 1.348 | 1.095 | .010 - .025                   |
| 1.310 | .516  | .040 - .060                   | 1.312 | .906  | .062 - .080                   | 1.320 | .318  | .105 - .125                   | 1.329 | 1.001 | .080 - .100                   | 1.339 | .983  | .005 - .010                   | 1.348 | 1.145 | .010 - .025                   |
| 1.310 | .529  | .040 - .060                   | 1.312 | .926  | .005 - .010                   | 1.320 | .476  | .010 - .020                   | 1.329 | 1.142 | .0                            |       |       |                               |       |       |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|------|-------------------------------|
| 1.350 | .500  | .005 - .020                   | 1.359 | .860  | .130 - .150                   | 1.365 | 1.262 | .020 - .030                   | 1.370 | .948  | .062 - .080                   | 1.373 | .625  | .020 - .190                   | 1.375 | .310 | .062 - .080                   |
| 1.350 | .503  | .005 - .025                   | 1.359 | .888  | .005 - .010                   | 1.366 | .070  | .015 - .030                   | 1.370 | .950  | .005 - .015                   | 1.373 | .627  | .010 - .020                   | 1.375 | .312 | .050 - .083                   |
| 1.350 | .506  | .005 - .020                   | 1.359 | 1.025 | .100 - .125                   | 1.366 | .191  | .105 - .125                   | 1.370 | .960  | .032 - .050                   | 1.373 | .639  | .040 - .050                   | 1.375 | .316 | .050 - .100                   |
| 1.350 | .562  | .005 - .010                   | 1.359 | 1.028 | .100 - .125                   | 1.366 | .542  | .025 - .050                   | 1.370 | .990  | .020 - .040                   | 1.373 | .641  | .125 - .156                   | 1.375 | .318 | .100 - .125                   |
| 1.350 | .564  | .010 - .020                   | 1.359 | 1.126 | .060 - .080                   | 1.366 | .690  | .078 - .105                   | 1.370 | 1.000 | .042 - .062                   | 1.373 | .737  | .010 - .020                   | 1.375 | .321 | .060 - .080                   |
| 1.350 | .626  | .005 - .020                   | 1.360 | .204  | .050 - .075                   | 1.366 | .760  | .020 - .030                   | 1.370 | 1.056 | .005 - .015                   | 1.373 | .749  | .005 - .010                   | 1.375 | .328 | .025 - .070                   |
| 1.350 | .634  | .020 - .040                   | 1.360 | .338  | .005 - .010                   | 1.366 | .761  | .005 - .010                   | 1.370 | 1.065 | .005 - .015                   | 1.373 | .750  | .005 - .010                   | 1.375 | .329 | .105 - .134                   |
| 1.350 | .669  | .090 - .110                   | 1.360 | .344  | .050 - .070                   | 1.366 | .763  | .005 - .010                   | 1.370 | 1.126 | .005 - .010                   | 1.373 | .765  | .010 - .020                   | 1.375 | .332 | .005 - .010                   |
| 1.350 | .675  | .005 - .010                   | 1.360 | .629  | .010 - .020                   | 1.366 | .883  | .080 - .100                   | 1.370 | 1.127 | .040 - .060                   | 1.373 | .785  | .005 - .010                   | 1.375 | .343 | .100 - .125                   |
| 1.350 | .700  | .030 - .060                   | 1.360 | .639  | .015 - .030                   | 1.366 | .892  | .005 - .020                   | 1.370 | 1.130 | .005 - .020                   | 1.373 | .890  | .030 - .050                   | 1.375 | .355 | .070 - .100                   |
| 1.350 | .750  | .005 - .030                   | 1.360 | .656  | .100 - .125                   | 1.366 | .997  | .025 - .040                   | 1.370 | 1.136 | .020 - .030                   | 1.373 | .906  | .005 - .020                   | 1.375 | .373 | .100 - .125                   |
| 1.350 | .751  | .005 - .010                   | 1.360 | .791  | .090 - .105                   | 1.366 | 1.028 | .070 - .090                   | 1.370 | 1.163 | .040 - .060                   | 1.373 | .912  | .040 - .090                   | 1.375 | .375 | .062 - .120                   |
| 1.350 | .755  | .010 - .020                   | 1.360 | .878  | .050 - .070                   | 1.366 | 1.030 | .050 - .075                   | 1.370 | 1.188 | .060 - .070                   | 1.373 | .996  | .005 - .010                   | 1.375 | .382 | .050 - .075                   |
| 1.350 | .760  | .005 - .040                   | 1.360 | .928  | .080 - .105                   | 1.366 | 1.070 | .030 - .105                   | 1.370 | 1.199 | .005 - .010                   | 1.373 | 1.000 | .008 - .060                   | 1.375 | .391 | .090 - .105                   |
| 1.350 | .777  | .025 - .040                   | 1.360 | .986  | .060 - .080                   | 1.366 | 1.133 | .050 - .070                   | 1.370 | 1.245 | .010 - .020                   | 1.373 | 1.095 | .042 - .062                   | 1.375 | .395 | .062 - .080                   |
| 1.350 | .779  | .040 - .060                   | 1.360 | 1.003 | .005 - .010                   | 1.366 | 1.140 | .020 - .030                   | 1.370 | 1.255 | .010 - .015                   | 1.373 | 1.126 | .020 - .040                   | 1.375 | .420 | .048 - .062                   |
| 1.350 | .804  | .005 - .010                   | 1.360 | 1.026 | .050 - .075                   | 1.366 | 1.144 | .005 - .010                   | 1.371 | .148  | .005 - .010                   | 1.373 | 1.207 | .025 - .040                   | 1.375 | .422 | .060 - .070                   |
| 1.350 | .819  | .050 - .070                   | 1.360 | 1.060 | .090 - .105                   | 1.366 | 1.153 | .010 - .020                   | 1.371 | .234  | .090 - .125                   | 1.373 | 1.209 | .030 - .060                   | 1.375 | .439 | .170 - .190                   |
| 1.350 | .850  | .005 - .010                   | 1.360 | 1.128 | .015 - .035                   | 1.366 | 1.221 | .005 - .010                   | 1.371 | .281  | .005 - .010                   | 1.373 | 1.218 | .040 - .060                   | 1.375 | .440 | .075 - .090                   |
| 1.350 | .860  | .015 - .030                   | 1.360 | 1.146 | .030 - .060                   | 1.367 | .758  | .070 - .090                   | 1.371 | .525  | .020 - .030                   | 1.373 | 1.236 | .010 - .020                   | 1.375 | .444 | .050 - .070                   |
| 1.350 | .863  | .005 - .030                   | 1.361 | .219  | .060 - .080                   | 1.367 | .760  | .110 - .130                   | 1.371 | .595  | .010 - .020                   | 1.373 | 1.255 | .005 - .020                   | 1.375 | .445 | .015 - .030                   |
| 1.350 | .905  | .050 - .070                   | 1.361 | .875  | .075 - .125                   | 1.367 | .763  | .110 - .130                   | 1.371 | .627  | .050 - .075                   | 1.374 | .155  | .005 - .010                   | 1.375 | .452 | .156 - .187                   |
| 1.350 | .910  | .015 - .030                   | 1.361 | .884  | .075 - .100                   | 1.367 | .884  | .080 - .104                   | 1.371 | .641  | .105 - .125                   | 1.374 | .190  | .060 - .080                   | 1.375 | .500 | .100 - .125                   |
| 1.350 | .977  | .036 - .048                   | 1.361 | .890  | .050 - .075                   | 1.367 | .885  | .040 - .060                   | 1.371 | .651  | .030 - .050                   | 1.374 | .245  | .050 - .070                   | 1.375 | .502 | .005 - .060                   |
| 1.350 | .978  | .010 - .020                   | 1.361 | 1.032 | .005 - .010                   | 1.367 | .911  | .010 - .020                   | 1.371 | .698  | .040 - .062                   | 1.374 | .251  | .160 - .180                   | 1.375 | .505 | .030 - .050                   |
| 1.350 | 1.000 | .050 - .070                   | 1.362 | .230  | .005 - .010                   | 1.367 | 1.010 | .040 - .060                   | 1.371 | .759  | .100 - .125                   | 1.374 | .253  | .083 - .104                   | 1.375 | .515 | .060 - .080                   |
| 1.350 | 1.054 | .012 - .020                   | 1.362 | .439  | .015 - .030                   | 1.367 | 1.030 | .060 - .080                   | 1.371 | .760  | .005 - .010                   | 1.374 | .318  | .050 - .060                   | 1.375 | .526 | .070 - .090                   |
| 1.350 | 1.067 | .015 - .030                   | 1.362 | .525  | .010 - .020                   | 1.367 | 1.067 | .040 - .060                   | 1.371 | .820  | .008 - .040                   | 1.374 | .340  | .010 - .020                   | 1.375 | .530 | .005 - .075                   |
| 1.350 | 1.108 | .050 - .070                   | 1.362 | .625  | .110 - .120                   | 1.367 | 1.112 | .025 - .040                   | 1.371 | .886  | .005 - .025                   | 1.374 | .341  | .090 - .110                   | 1.375 | .556 | .005 - .060                   |
| 1.350 | 1.139 | .005 - .010                   | 1.362 | .641  | .062 - .090                   | 1.367 | 1.153 | .020 - .030                   | 1.371 | 1.000 | .120 - .135                   | 1.374 | .378  | .050 - .070                   | 1.375 | .560 | .005 - .010                   |
| 1.350 | 1.209 | .010 - .020                   | 1.362 | .656  | .100 - .125                   | 1.367 | 1.180 | .005 - .015                   | 1.371 | 1.020 | .005 - .010                   | 1.374 | .389  | .060 - .070                   | 1.375 | .563 | .120 - .135                   |
| 1.351 | .561  | .010 - .030                   | 1.362 | .750  | .010 - .060                   | 1.368 | .498  | .005 - .010                   | 1.371 | 1.073 | .005 - .010                   | 1.374 | .518  | .134 - .187                   | 1.375 | .564 | .010 - .020                   |
| 1.351 | .750  | .020 - .030                   | 1.362 | .762  | .100 - .125                   | 1.368 | .510  | .075 - .090                   | 1.371 | 1.102 | .005 - .010                   | 1.374 | .562  | .015 - .025                   | 1.375 | .571 | .060 - .070                   |
| 1.351 | 1.026 | .060 - .080                   | 1.362 | 1.002 | .005 - .025                   | 1.368 | .596  | .030 - .050                   | 1.371 | 1.123 | .020 - .040                   | 1.374 | .563  | .005 - .010                   | 1.375 | .590 | .105 - .125                   |
| 1.351 | 1.049 | .010 - .020                   | 1.362 | 1.101 | .005 - .010                   | 1.368 | .635  | .005 - .010                   | 1.371 | 1.138 | .070 - .090                   | 1.374 | .568  | .005 - .010                   | 1.375 | .619 | .020 - .040                   |
| 1.351 | 1.091 | .025 - .040                   | 1.362 | 1.203 | .005 - .010                   | 1.368 | .792  | .040 - .060                   | 1.371 | 1.178 | .070 - .090                   | 1.374 | .575  | .090 - .110                   | 1.375 | .630 | .005 - .007                   |
| 1.351 | 1.164 | .015 - .030                   | 1.362 | 1.262 | .015 - .030                   | 1.368 | .874  | .050 - .070                   | 1.371 | 1.200 | .010 - .020                   | 1.374 | .577  | .020 - .042                   | 1.375 | .634 | .005 - .010                   |
| 1.351 | 1.209 | .010 - .020                   | 1.363 | .941  | .060 - .080                   | 1.368 | .918  | .100 - .125                   | 1.371 | 1.212 | .005 - .015                   | 1.374 | .641  | .050 - .070                   | 1.375 | .636 | .010 - .020                   |
| 1.351 | 1.212 | .010 - .020                   | 1.363 | 1.004 | .015 - .030                   | 1.368 | .980  | .050 - .070                   | 1.371 | 1.257 | .005 - .010                   | 1.374 | .700  | .156 - .187                   | 1.375 | .641 | .157 - .187                   |
| 1.351 | 1.214 | .005 - .010                   | 1.363 | 1.190 | .030 - .050                   | 1.368 | 1.044 | .030 - .050                   | 1.372 | .141  | .070 - .090                   | 1.374 | .701  | .005 - .010                   | 1.375 | .644 | .005 - .010                   |
| 1.351 | 1.253 | .005 - .010                   | 1.363 | 1.249 | .015 - .025                   | 1.368 | 1.069 | .070 - .090                   | 1.372 | .191  | .070 - .090                   | 1.374 | .710  | .005 - .010                   | 1.375 | .656 | .040 - .062                   |
| 1.352 | .670  | .180 - .190                   | 1.364 | .414  | .070 - .090                   | 1.368 | 1.072 | .030 - .080                   | 1.372 | .378  | .030 - .050                   | 1.374 | .717  | .005 - .010                   | 1.375 | .700 | .120 - .135                   |
| 1.352 | .776  | .050 - .075                   | 1.364 | .505  | .025 - .040                   | 1.368 | 1.073 | .080 - .090                   | 1.372 | .564  | .080 - .125                   | 1.374 | .750  | .100 - .125                   | 1.375 | .709 | .050 - .070                   |
| 1.353 | .988  | .075 - .090                   | 1.364 | .539  | .070 - .090                   | 1.368 | 1.112 | .025 - .040                   | 1.372 | .637  | .020 - .032                   | 1.374 | .756  | .020 - .030                   | 1.375 | .719 | .010 - .020                   |
| 1.353 | 1.070 | .050 - .070                   | 1.364 | .664  | .005 - .010                   | 1.368 | 1.113 | .050 - .075                   | 1.372 | .690  | .010 - .030                   | 1.374 | .762  | .070 - .090                   | 1.375 | .750 | .020 - .050                   |
| 1.354 | .315  | .020 - .040                   | 1.364 | .665  | .070 - .090                   | 1.368 | 1.174 | .040 - .062                   | 1.372 | .730  | .105 - .187                   | 1.374 | .770  | .040 - .060                   | 1.375 | .751 | .050 - .060                   |
| 1.354 | .538  | .005 - .010                   | 1.364 | .701  | .040 - .060                   | 1.369 | .312  | .025 - .040                   | 1.372 | .750  | .020 - .032                   | 1.374 | .800  | .010 - .020                   | 1.375 | .753 | .100 - .125                   |
| 1.355 | .263  | .090 - .120                   | 1.364 | .780  | .135 - .156                   | 1.369 | .329  | .010 - .020                   | 1.372 | .812  | .020 - .032                   | 1.374 | .807  | .090 - .100                   | 1.375 | .754 | .060 - .080                   |
| 1.355 | .501  | .110 - .130                   | 1.364 | .788  | .070 - .090                   | 1.369 | .505  | .065 - .080                   | 1.372 | .891  | .070 - .090                   | 1.374 | .825  | .040 - .060                   | 1.375 | .757 | .090 - .110                   |
| 1.355 | .687  | .015 - .025                   | 1.364 | .911  | .070 - .090                   | 1.369 | .670  | .090 - .105                   | 1.372 | .908  | .050 - .075                   | 1.374 | .829  | .010 - .020                   | 1.375 | .758 | .048 - .062                   |
| 1.355 | .746  | .015 - .030                   | 1.364 | .912  | .080 - .100                   | 1.369 | .761  | .010 - .020                   | 1.372 | .940  | .030 - .050                   | 1.374 | .880  | .025 - .040                   | 1.375 | .762 | .005 - .010                   |
| 1.355 | .795  | .090 - .105                   | 1.364 | 1.002 | .008 - .016                   | 1.369 | .803  | .040 - .060                   | 1.372 | .948  | .005 - .010                   | 1.374 | .881  | .110 - .135                   | 1.375 | .763 | .156 - .187                   |
| 1.355 | .899  | .050 - .070                   | 1.364 | 1.011 | .030 - .050                   | 1.369 | .832  | .005 - .010                   | 1.372 | .949  | .090 - .125                   | 1.374 | .884  | .025 - .040                   | 1.375 | .770 | .005 - .010                   |
| 1.355 | 1.010 | .060 - .105                   | 1.364 | 1.042 | .080 - .100                   | 1.369 | .885  | .005 - .015                   | 1.372 | .973  | .005 - .015                   | 1.374 | .901  | .030 - .050                   | 1.375 | .782 | .156 - .187                   |
| 1.355 | 1.064 | .015 - .030                   | 1.364 | 1.182 | .005 - .010                   | 1.369 | .893  | .125 - .156                   | 1.372 | .983  | .025 - .040                   | 1.374 | .905  | .010 - .020                   | 1.375 | .803 | .090 - .100                   |
| 1.355 | 1.073 | .005 - .010                   | 1.364 | 1.184 | .005 - .010                   | 1.369 | 1.001 | .015 - .030                   | 1.372 | 1.003 | .040 - .060                   | 1.374 | .912  | .010 - .025                   | 1.375 | .812 | .005 - .120                   |
| 1.355 | 1.129 | .050 - .060                   | 1.364 | 1.191 | .010 - .020                   | 1.369 | 1.145 | .090 - .105                   | 1.372 | 1.011 | .105 - .120                   | 1.374 | .942  | .050 - .070                   | 1.375 | .824 | .005 - .020                   |
| 1.356 | .444  | .025 - .042                   | 1.364 | 1.193 | .050 - .070                   | 1.369 | 1.188 | .010 - .015                   | 1.372 | 1.065 | .012 - .025                   | 1.374 | .999  | .025 - .040                   | 1.375 | .827 | .105 - .135                   |
| 1.356 | 1.000 | .015 - .030                   | 1.364 | 1.194 | .030 - .060                   | 1.369 | 1.207 | .005 - .010                   | 1.372 | 1.135 | .050 - .070                   | 1.374 | 1.011 | .090 - .120                   | 1.375 | .829 | .048 - .075                   |
| 1.356 | 1.030 | .015 - .030                   | 1.364 | 1.237 | .010 - .025                   | 1.370 | .144  | .030 - .050                   | 1.372 | 1.145 | .050 - .105                   | 1.374 | 1.049 | .005 - .010                   | 1.375 | .860 | .006 - .100                   |
| 1.357 | .190  | .020 - .040                   | 1.364 | 1.252 | .005 - .010                   | 1.370 | .192  | .030 - .050                   | 1.372 | 1.153 | .030 - .050                   | 1.374 | 1.059 | .030 - .050                   | 1.375 | .875 | .100 - .125                   |
| 1.357 | .350  | .005 - .010                   | 1.364 | 1.281 | .005 - .010                   | 1.370 | .234  | .100 - .125                   | 1.372 | 1.189 | .030 - .050                   | 1.374 | 1.078 | .010 - .020                   | 1.375 | .876 | .032 - .048                   |
| 1.357 | .500  | .100 - .125                   | 1.364 | 1.282 | .005 - .012                   | 1     |       |                               |       |       |                               |       |       |                               |       |      |                               |

**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 1.375 | 1.031 | .080 - .105                   | 1.378 | .313  | .020 - .032                   | 1.385 | 1.015 | .075 - .090                   | 1.400 | .754  | .015 - .030                   | 1.410 | 1.147 | .080 - .100                   | 1.418 | .886  | .030 - .050                   |
| 1.375 | 1.045 | .025 - .040                   | 1.378 | .315  | .010 - .020                   | 1.385 | 1.220 | .005 - .010                   | 1.400 | .755  | .005 - .010                   | 1.410 | 1.187 | .005 - .010                   | 1.418 | .887  | .005 - .010                   |
| 1.375 | 1.065 | .035 - .050                   | 1.378 | .316  | .005 - .010                   | 1.385 | 1.269 | .005 - .010                   | 1.400 | .756  | .050 - .070                   | 1.410 | 1.189 | .005 - .008                   | 1.418 | .889  | .010 - .020                   |
| 1.375 | 1.078 | .040 - .060                   | 1.378 | .324  | .005 - .010                   | 1.385 | 1.339 | .005 - .010                   | 1.400 | .822  | .005 - .010                   | 1.410 | 1.202 | .005 - .010                   | 1.418 | .945  | .030 - .050                   |
| 1.375 | 1.110 | .005 - .010                   | 1.378 | .402  | .156 - .187                   | 1.386 | .474  | .080 - .105                   | 1.400 | .879  | .005 - .010                   | 1.411 | .836  | .005 - .010                   | 1.418 | .983  | .120 - .135                   |
| 1.375 | 1.124 | .005 - .010                   | 1.378 | .492  | .005 - .010                   | 1.386 | .655  | .170 - .190                   | 1.400 | .885  | .005 - .020                   | 1.411 | 1.265 | .010 - .025                   | 1.418 | .985  | .015 - .030                   |
| 1.375 | 1.130 | .015 - .080                   | 1.378 | .500  | .010 - .020                   | 1.386 | 1.084 | .060 - .080                   | 1.400 | .887  | .010 - .020                   | 1.412 | .201  | .040 - .060                   | 1.418 | 1.165 | .010 - .020                   |
| 1.375 | 1.131 | .005 - .010                   | 1.378 | .657  | .060 - .080                   | 1.386 | 1.124 | .005 - .010                   | 1.400 | .901  | .015 - .030                   | 1.412 | .836  | .105 - .120                   | 1.418 | 1.181 | .100 - .125                   |
| 1.375 | 1.136 | .050 - .070                   | 1.378 | .660  | .105 - .135                   | 1.386 | 1.187 | .030 - .045                   | 1.400 | 1.000 | .010 - .105                   | 1.412 | 1.070 | .040 - .060                   | 1.418 | 1.188 | .070 - .090                   |
| 1.375 | 1.146 | .025 - .040                   | 1.378 | .736  | .100 - .125                   | 1.387 | 1.065 | .060 - .080                   | 1.400 | 1.017 | .090 - .105                   | 1.412 | 1.193 | .030 - .050                   | 1.418 | 1.307 | .010 - .020                   |
| 1.375 | 1.154 | .005 - .010                   | 1.378 | .754  | .005 - .010                   | 1.387 | 1.212 | .020 - .040                   | 1.400 | 1.050 | .070 - .080                   | 1.412 | 1.246 | .005 - .010                   | 1.419 | .253  | .005 - .010                   |
| 1.375 | 1.159 | .005 - .010                   | 1.378 | .780  | .025 - .050                   | 1.388 | .662  | .120 - .134                   | 1.400 | 1.076 | .025 - .042                   | 1.413 | .634  | .100 - .125                   | 1.419 | .407  | .156 - .187                   |
| 1.375 | 1.188 | .005 - .010                   | 1.378 | .783  | .040 - .060                   | 1.388 | .785  | .015 - .030                   | 1.400 | 1.150 | .005 - .010                   | 1.413 | .995  | .005 - .010                   | 1.419 | .435  | .160 - .180                   |
| 1.375 | 1.189 | .030 - .050                   | 1.378 | .787  | .100 - .120                   | 1.388 | .825  | .020 - .040                   | 1.400 | 1.158 | .005 - .010                   | 1.413 | 1.118 | .005 - .010                   | 1.419 | .506  | .005 - .010                   |
| 1.375 | 1.195 | .005 - .025                   | 1.378 | .858  | .032 - .050                   | 1.388 | 1.016 | .090 - .110                   | 1.400 | 1.200 | .080 - .090                   | 1.414 | .434  | .170 - .190                   | 1.419 | .677  | .080 - .100                   |
| 1.375 | 1.200 | .020 - .032                   | 1.378 | .861  | .080 - .100                   | 1.389 | .474  | .080 - .105                   | 1.400 | 1.258 | .020 - .030                   | 1.414 | .563  | .160 - .190                   | 1.419 | .797  | .005 - .010                   |
| 1.375 | 1.201 | .025 - .040                   | 1.378 | .865  | .100 - .125                   | 1.389 | 1.052 | .030 - .050                   | 1.400 | 1.260 | .030 - .042                   | 1.414 | .595  | .090 - .110                   | 1.419 | .800  | .005 - .010                   |
| 1.375 | 1.247 | .040 - .060                   | 1.378 | .876  | .090 - .125                   | 1.389 | 1.073 | .005 - .010                   | 1.401 | .195  | .005 - .010                   | 1.414 | .794  | .005 - .010                   | 1.419 | 1.003 | .005 - .010                   |
| 1.375 | 1.251 | .010 - .020                   | 1.378 | .878  | .060 - .120                   | 1.390 | .368  | .060 - .083                   | 1.401 | .986  | .045 - .060                   | 1.415 | .319  | .005 - .010                   | 1.419 | 1.070 | .090 - .125                   |
| 1.375 | 1.253 | .005 - .030                   | 1.378 | .957  | .105 - .125                   | 1.390 | .430  | .080 - .134                   | 1.401 | 1.102 | .010 - .020                   | 1.415 | .320  | .005 - .020                   | 1.420 | .285  | .110 - .135                   |
| 1.375 | 1.265 | .005 - .010                   | 1.378 | .984  | .010 - .020                   | 1.390 | .552  | .010 - .020                   | 1.401 | 1.169 | .010 - .020                   | 1.415 | .382  | .040 - .062                   | 1.420 | .378  | .010 - .020                   |
| 1.376 | .258  | .005 - .010                   | 1.378 | 1.060 | .005 - .010                   | 1.390 | .780  | .005 - .010                   | 1.401 | 1.186 | .015 - .025                   | 1.415 | .396  | .005 - .020                   | 1.420 | .380  | .030 - .050                   |
| 1.376 | .267  | .134 - .187                   | 1.378 | 1.061 | .012 - .020                   | 1.390 | 1.094 | .005 - .008                   | 1.401 | 1.258 | .005 - .030                   | 1.415 | .398  | .005 - .010                   | 1.420 | .405  | .010 - .020                   |
| 1.376 | .383  | .005 - .015                   | 1.378 | 1.075 | .030 - .050                   | 1.390 | 1.147 | .015 - .030                   | 1.401 | 1.295 | .005 - .010                   | 1.415 | .477  | .005 - .010                   | 1.420 | .487  | .005 - .010                   |
| 1.376 | .406  | .050 - .075                   | 1.378 | 1.143 | .050 - .070                   | 1.390 | 1.187 | .015 - .030                   | 1.402 | .295  | .030 - .050                   | 1.415 | .521  | .020 - .030                   | 1.420 | .504  | .105 - .134                   |
| 1.376 | .503  | .090 - .125                   | 1.378 | 1.186 | .060 - .080                   | 1.390 | 1.203 | .010 - .020                   | 1.402 | .504  | .005 - .010                   | 1.415 | .567  | .010 - .025                   | 1.420 | .507  | .012 - .020                   |
| 1.376 | .513  | .005 - .010                   | 1.378 | 1.201 | .005 - .010                   | 1.391 | .888  | .010 - .035                   | 1.402 | .505  | .008 - .015                   | 1.415 | .820  | .040 - .060                   | 1.420 | .611  | .075 - .090                   |
| 1.376 | .530  | .156 - .187                   | 1.379 | .203  | .020 - .040                   | 1.391 | .983  | .040 - .060                   | 1.402 | .509  | .105 - .135                   | 1.415 | .896  | .060 - .070                   | 1.420 | .679  | .005 - .010                   |
| 1.376 | .534  | .010 - .020                   | 1.379 | .453  | .010 - .040                   | 1.391 | 1.056 | .005 - .010                   | 1.402 | .518  | .005 - .008                   | 1.415 | 1.000 | .005 - .010                   | 1.420 | .690  | .050 - .070                   |
| 1.376 | .620  | .005 - .010                   | 1.379 | .510  | .070 - .080                   | 1.392 | 1.055 | .100 - .120                   | 1.402 | .760  | .005 - .015                   | 1.415 | 1.044 | .015 - .030                   | 1.420 | .752  | .080 - .100                   |
| 1.376 | .650  | .100 - .125                   | 1.379 | .564  | .005 - .010                   | 1.393 | .611  | .060 - .080                   | 1.402 | 1.224 | .050 - .070                   | 1.415 | 1.100 | .010 - .020                   | 1.420 | .853  | .050 - .060                   |
| 1.376 | .657  | .005 - .010                   | 1.379 | .599  | .015 - .030                   | 1.393 | .719  | .080 - .104                   | 1.402 | 1.341 | .015 - .030                   | 1.415 | 1.122 | .030 - .042                   | 1.420 | 1.004 | .005 - .010                   |
| 1.376 | .700  | .010 - .020                   | 1.379 | .787  | .070 - .090                   | 1.393 | 1.281 | .005 - .010                   | 1.403 | .250  | .042 - .075                   | 1.415 | 1.126 | .005 - .010                   | 1.420 | 1.005 | .010 - .020                   |
| 1.376 | .703  | .005 - .010                   | 1.379 | .812  | .005 - .010                   | 1.394 | .654  | .005 - .010                   | 1.403 | .430  | .100 - .125                   | 1.416 | .169  | .030 - .050                   | 1.420 | 1.100 | .005 - .010                   |
| 1.376 | .760  | .060 - .140                   | 1.379 | .835  | .005 - .010                   | 1.394 | .724  | .070 - .090                   | 1.403 | .672  | .110 - .130                   | 1.416 | .324  | .135 - .156                   | 1.420 | 1.137 | .050 - .070                   |
| 1.376 | .761  | .090 - .105                   | 1.379 | 1.069 | .090 - .120                   | 1.395 | .132  | .025 - .035                   | 1.403 | 1.022 | .010 - .020                   | 1.416 | .473  | .005 - .010                   | 1.420 | 1.199 | .080 - .100                   |
| 1.376 | .765  | .090 - .105                   | 1.379 | 1.075 | .015 - .025                   | 1.395 | .420  | .105 - .125                   | 1.404 | .128  | .050 - .070                   | 1.416 | .474  | .020 - .030                   | 1.420 | 1.252 | .030 - .050                   |
| 1.376 | .780  | .110 - .130                   | 1.379 | 1.089 | .030 - .050                   | 1.395 | .550  | .050 - .083                   | 1.404 | .508  | .090 - .120                   | 1.416 | .502  | .005 - .030                   | 1.420 | 1.270 | .010 - .020                   |
| 1.376 | .815  | .060 - .080                   | 1.380 | .254  | .040 - .060                   | 1.395 | 1.157 | .040 - .060                   | 1.404 | 1.196 | .020 - .040                   | 1.416 | .505  | .005 - .020                   | 1.420 | 1.271 | .032 - .050                   |
| 1.376 | .847  | .005 - .010                   | 1.380 | .282  | .062 - .190                   | 1.396 | .563  | .060 - .080                   | 1.404 | 1.283 | .020 - .040                   | 1.416 | .567  | .005 - .010                   | 1.420 | 1.280 | .030 - .050                   |
| 1.376 | .903  | .025 - .040                   | 1.380 | .300  | .005 - .008                   | 1.396 | .611  | .105 - .125                   | 1.405 | .610  | .010 - .020                   | 1.416 | .590  | .160 - .190                   | 1.421 | .495  | .080 - .100                   |
| 1.376 | .906  | .030 - .060                   | 1.380 | .339  | .005 - .010                   | 1.396 | 1.190 | .015 - .025                   | 1.405 | .630  | .005 - .010                   | 1.416 | .629  | .005 - .010                   | 1.421 | .518  | .090 - .120                   |
| 1.376 | .984  | .030 - .050                   | 1.380 | .346  | .120 - .134                   | 1.396 | 1.220 | .010 - .020                   | 1.405 | 1.008 | .015 - .030                   | 1.416 | .635  | .050 - .070                   | 1.421 | 1.186 | .100 - .120                   |
| 1.376 | 1.003 | .010 - .020                   | 1.380 | .398  | .005 - .010                   | 1.397 | .381  | .115 - .130                   | 1.405 | 1.265 | .005 - .010                   | 1.416 | .709  | .040 - .060                   | 1.421 | 1.190 | .010 - .020                   |
| 1.376 | 1.015 | .110 - .120                   | 1.380 | .405  | .100 - .125                   | 1.397 | .419  | .060 - .125                   | 1.406 | .139  | .030 - .048                   | 1.416 | .793  | .005 - .010                   | 1.422 | .408  | .005 - .020                   |
| 1.376 | 1.016 | .050 - .070                   | 1.380 | .596  | .100 - .125                   | 1.397 | .545  | .005 - .010                   | 1.406 | .390  | .005 - .010                   | 1.416 | .965  | .040 - .060                   | 1.422 | .697  | .065 - .080                   |
| 1.376 | 1.022 | .005 - .010                   | 1.380 | .694  | .120 - .135                   | 1.397 | .705  | .060 - .090                   | 1.406 | .954  | .050 - .070                   | 1.416 | 1.030 | .100 - .120                   | 1.422 | .880  | .060 - .090                   |
| 1.376 | 1.135 | .080 - .105                   | 1.380 | .752  | .020 - .030                   | 1.397 | .710  | .050 - .075                   | 1.406 | 1.010 | .060 - .070                   | 1.416 | 1.039 | .040 - .060                   | 1.422 | .945  | .090 - .105                   |
| 1.376 | 1.157 | .010 - .020                   | 1.380 | .880  | .020 - .040                   | 1.397 | .815  | .005 - .020                   | 1.406 | 1.091 | .025 - .040                   | 1.416 | 1.111 | .005 - .030                   | 1.422 | 1.058 | .042 - .060                   |
| 1.376 | 1.225 | .025 - .040                   | 1.380 | .901  | .005 - .060                   | 1.397 | .981  | .015 - .030                   | 1.406 | 1.249 | .020 - .030                   | 1.416 | 1.141 | .040 - .060                   | 1.422 | 1.235 | .005 - .010                   |
| 1.376 | 1.246 | .050 - .070                   | 1.380 | .902  | .080 - .100                   | 1.397 | 1.068 | .005 - .030                   | 1.407 | .290  | .025 - .040                   | 1.416 | 1.226 | .025 - .040                   | 1.423 | .156  | .030 - .050                   |
| 1.376 | 1.247 | .005 - .010                   | 1.380 | 1.004 | .005 - .010                   | 1.397 | 1.201 | .020 - .040                   | 1.407 | .390  | .005 - .030                   | 1.416 | 1.338 | .010 - .020                   | 1.423 | .157  | .080 - .104                   |
| 1.377 | .269  | .040 - .060                   | 1.380 | 1.009 | .105 - .125                   | 1.398 | .505  | .005 - .015                   | 1.407 | .624  | .005 - .010                   | 1.417 | .125  | .010 - .020                   | 1.423 | .864  | .020 - .040                   |
| 1.377 | .318  | .100 - .125                   | 1.380 | 1.021 | .050 - .075                   | 1.398 | .717  | .005 - .010                   | 1.407 | .634  | .060 - .090                   | 1.417 | .413  | .060 - .080                   | 1.423 | .880  | .010 - .020                   |
| 1.377 | .336  | .075 - .090                   | 1.380 | 1.105 | .005 - .010                   | 1.398 | .872  | .025 - .040                   | 1.407 | .705  | .005 - .010                   | 1.417 | .474  | .005 - .020                   | 1.423 | .882  | .005 - .030                   |
| 1.377 | .346  | .100 - .125                   | 1.380 | 1.180 | .005 - .010                   | 1.398 | .906  | .030 - .050                   | 1.407 | 1.112 | .015 - .030                   | 1.417 | .477  | .005 - .020                   | 1.423 | 1.000 | .031 - .042                   |
| 1.377 | .376  | .105 - .125                   | 1.380 | 1.186 | .080 - .100                   | 1.398 | 1.160 | .010 - .020                   | 1.407 | 1.125 | .005 - .010                   | 1.417 | .511  | .105 - .125                   | 1.423 | 1.288 | .005 - .010                   |
| 1.377 | .377  | .080 - .105                   | 1.380 | 1.253 | .005 - .010                   | 1.398 | 1.161 | .030 - .050                   | 1.407 | 1.188 | .020 - .030                   | 1.417 | .519  | .080 - .104                   | 1.423 | 1.289 | .010 - .030                   |
| 1.377 | .383  | .005 - .010                   | 1.381 | .561  | .080 - .100                   | 1.399 | .377  | .005 - .020                   | 1.407 | 1.195 | .005 - .010                   | 1.417 | .548  | .050 - .070                   | 1.424 | .440  | .060 - .070                   |
| 1.377 | .384  | .030 - .050                   | 1.381 | .689  | .050 - .070                   | 1.399 | .524  | .005 - .060                   | 1.407 | 1.252 | .005 - .010                   | 1.417 | .580  | .075 - .090                   | 1.424 | .505  | .005 - .010                   |
| 1.377 | .505  | .005 - .020                   | 1.381 | 1.200 | .025 - .040                   | 1.399 | .630  | .005 - .020                   | 1.408 | .902  | .032 - .050                   | 1.417 | .632  | .005 - .010                   | 1.424 | .506  | .010 - .020                   |
| 1.377 | .515  | .050 - .075                   | 1.382 | .542  | .010 - .030                   | 1.399 | .654  | .010 - .020                   | 1.408 | 1.004 | .005 - .010                   | 1.417 | .825  | .050 - .070                   | 1.425 | .316  | .015 - .030                   |
|       |       |                               |       |       |                               |       |       |                               |       |       |                               |       |       |                               |       |       |                               |

## NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 1.426 | 1.291 | .005 - .015                   | 1.436 | 1.154 | .015 - .025                   | 1.440 | .235  | .020 - .035                   | 1.450 | .157  | .020 - .035                   | 1.460 | 1.394 | .020 - .025                   | 1.474 | 1.010 | .040 - .060                   |
| 1.427 | .250  | .050 - .075                   | 1.436 | 1.195 | .032 - .050                   | 1.440 | .250  | .060 - .070                   | 1.450 | .201  | .025 - .040                   | 1.461 | .180  | .070 - .080                   | 1.474 | 1.180 | .005 - .010                   |
| 1.427 | 1.141 | .060 - .070                   | 1.436 | 1.198 | .005 - .010                   | 1.440 | .332  | .005 - .010                   | 1.450 | .208  | .050 - .075                   | 1.461 | .875  | .030 - .050                   | 1.474 | 1.357 | .005 - .010                   |
| 1.427 | 1.218 | .020 - .040                   | 1.436 | 1.250 | .040 - .060                   | 1.440 | .375  | .090 - .120                   | 1.450 | .220  | .020 - .030                   | 1.461 | 1.172 | .050 - .070                   | 1.474 | 1.358 | .015 - .025                   |
| 1.427 | 1.253 | .075 - .093                   | 1.436 | 1.265 | .020 - .030                   | 1.440 | .377  | .005 - .010                   | 1.450 | .262  | .020 - .030                   | 1.461 | 1.34  | .005 - .010                   | 1.475 | .499  | .005 - .010                   |
| 1.427 | 1.257 | .025 - .040                   | 1.436 | 1.320 | .005 - .010                   | 1.440 | .392  | .005 - .010                   | 1.450 | .282  | .040 - .060                   | 1.461 | 1.362 | .020 - .030                   | 1.475 | .500  | .110 - .130                   |
| 1.428 | 1.014 | .060 - .080                   | 1.437 | .186  | .010 - .020                   | 1.440 | .395  | .005 - .010                   | 1.450 | .380  | .005 - .020                   | 1.462 | .502  | .080 - .100                   | 1.475 | .504  | .006 - .015                   |
| 1.428 | 1.066 | .015 - .032                   | 1.437 | .206  | .025 - .125                   | 1.440 | .438  | .040 - .060                   | 1.450 | .442  | .005 - .020                   | 1.462 | .563  | .048 - .062                   | 1.475 | .526  | .080 - .100                   |
| 1.428 | 1.249 | .005 - .010                   | 1.437 | .255  | .005 - .010                   | 1.440 | .504  | .005 - .020                   | 1.450 | .449  | .010 - .020                   | 1.462 | 1.070 | .080 - .100                   | 1.475 | .620  | .005 - .010                   |
| 1.429 | .418  | .005 - .010                   | 1.437 | .297  | .070 - .090                   | 1.440 | .610  | .005 - .010                   | 1.450 | .450  | .005 - .010                   | 1.462 | 1.247 | .008 - .075                   | 1.475 | .626  | .005 - .020                   |
| 1.429 | .783  | .010 - .020                   | 1.437 | .356  | .040 - .060                   | 1.440 | .762  | .005 - .010                   | 1.450 | .505  | .005 - .020                   | 1.463 | .480  | .090 - .110                   | 1.475 | .751  | .005 - .020                   |
| 1.429 | 1.100 | .020 - .030                   | 1.437 | .376  | .005 - .025                   | 1.440 | .780  | .040 - .060                   | 1.450 | .531  | .080 - .100                   | 1.463 | .813  | .090 - .110                   | 1.475 | .828  | .062 - .090                   |
| 1.429 | 1.126 | .020 - .040                   | 1.437 | .378  | .015 - .035                   | 1.440 | .891  | .015 - .025                   | 1.450 | .626  | .010 - .020                   | 1.463 | 1.211 | .015 - .025                   | 1.475 | .834  | .005 - .010                   |
| 1.429 | 1.194 | .040 - .060                   | 1.437 | .383  | .005 - .060                   | 1.440 | 1.015 | .020 - .040                   | 1.450 | .631  | .005 - .010                   | 1.463 | 1.224 | .015 - .030                   | 1.475 | 1.169 | .040 - .060                   |
| 1.430 | .192  | .030 - .050                   | 1.437 | .397  | .020 - .040                   | 1.440 | 1.070 | .020 - .030                   | 1.450 | .650  | .050 - .062                   | 1.464 | .590  | .005 - .010                   | 1.475 | 1.360 | .010 - .020                   |
| 1.430 | .376  | .015 - .030                   | 1.437 | .410  | .005 - .010                   | 1.440 | 1.083 | .005 - .010                   | 1.450 | .755  | .005 - .020                   | 1.464 | .741  | .042 - .062                   | 1.476 | .255  | .005 - .010                   |
| 1.430 | .519  | .005 - .010                   | 1.437 | .420  | .080 - .104                   | 1.440 | 1.120 | .050 - .075                   | 1.450 | .760  | .030 - .060                   | 1.464 | 1.189 | .015 - .025                   | 1.476 | .500  | .005 - .030                   |
| 1.430 | .640  | .100 - .125                   | 1.437 | .479  | .005 - .020                   | 1.440 | 1.137 | .005 - .010                   | 1.450 | .770  | .005 - .010                   | 1.465 | .377  | .030 - .060                   | 1.476 | .650  | .005 - .010                   |
| 1.430 | .698  | .005 - .010                   | 1.437 | .493  | .156 - .187                   | 1.441 | .720  | .050 - .083                   | 1.450 | .830  | .020 - .040                   | 1.465 | .378  | .010 - .050                   | 1.476 | 1.359 | .010 - .020                   |
| 1.430 | .716  | .010 - .020                   | 1.437 | .500  | .032 - .048                   | 1.441 | 1.140 | .050 - .075                   | 1.450 | .952  | .040 - .060                   | 1.465 | .812  | .105 - .134                   | 1.477 | .617  | .010 - .020                   |
| 1.430 | .749  | .010 - .020                   | 1.437 | .504  | .062 - .080                   | 1.441 | 1.142 | .050 - .075                   | 1.450 | 1.019 | .105 - .135                   | 1.465 | 1.095 | .050 - .075                   | 1.477 | 1.201 | .010 - .040                   |
| 1.430 | .755  | .015 - .030                   | 1.437 | .552  | .005 - .015                   | 1.441 | 1.250 | .010 - .020                   | 1.450 | 1.031 | .083 - .120                   | 1.465 | 1.190 | .025 - .040                   | 1.478 | 1.099 | .080 - .100                   |
| 1.430 | .827  | .010 - .020                   | 1.437 | .639  | .015 - .025                   | 1.441 | 1.258 | .005 - .010                   | 1.450 | 1.085 | .050 - .075                   | 1.465 | 1.262 | .060 - .080                   | 1.478 | 1.310 | .025 - .042                   |
| 1.430 | 1.063 | .060 - .070                   | 1.437 | .680  | .100 - .125                   | 1.441 | 1.311 | .020 - .040                   | 1.450 | 1.100 | .005 - .010                   | 1.465 | 1.306 | .035 - .050                   | 1.479 | .470  | .080 - .110                   |
| 1.430 | 1.065 | .005 - .010                   | 1.437 | .761  | .105 - .125                   | 1.442 | .411  | .062 - .080                   | 1.450 | 1.140 | .005 - .010                   | 1.465 | 1.325 | .015 - .030                   | 1.479 | .600  | .020 - .030                   |
| 1.430 | 1.128 | .050 - .075                   | 1.437 | .764  | .020 - .030                   | 1.442 | .541  | .005 - .010                   | 1.450 | 1.225 | .030 - .040                   | 1.466 | .379  | .030 - .050                   | 1.479 | .786  | .134 - .156                   |
| 1.430 | 1.129 | .050 - .070                   | 1.437 | .765  | .050 - .075                   | 1.442 | .881  | .080 - .105                   | 1.450 | 1.265 | .010 - .020                   | 1.466 | .596  | .005 - .010                   | 1.479 | 1.133 | .015 - .030                   |
| 1.430 | 1.148 | .075 - .090                   | 1.437 | .766  | .015 - .025                   | 1.442 | 1.002 | .006 - .012                   | 1.450 | 1.379 | .010 - .020                   | 1.466 | 1.064 | .005 - .010                   | 1.479 | 1.147 | .005 - .010                   |
| 1.430 | 1.186 | .005 - .010                   | 1.437 | .783  | .005 - .010                   | 1.442 | 1.130 | .030 - .040                   | 1.451 | .503  | .005 - .010                   | 1.466 | 1.072 | .030 - .050                   | 1.479 | 1.361 | .005 - .020                   |
| 1.431 | .716  | .005 - .010                   | 1.437 | .792  | .100 - .125                   | 1.443 | .626  | .015 - .030                   | 1.451 | 1.016 | .050 - .070                   | 1.466 | 1.155 | .020 - .040                   | 1.480 | .221  | .062 - .080                   |
| 1.431 | 1.129 | .010 - .020                   | 1.437 | .795  | .020 - .040                   | 1.443 | .880  | .070 - .090                   | 1.451 | 1.140 | .005 - .015                   | 1.466 | 1.268 | .030 - .050                   | 1.480 | .511  | .105 - .125                   |
| 1.431 | 1.253 | .060 - .080                   | 1.437 | .850  | .075 - .090                   | 1.443 | .948  | .040 - .060                   | 1.451 | 1.196 | .010 - .020                   | 1.466 | 1.272 | .005 - .010                   | 1.480 | .632  | .100 - .125                   |
| 1.432 | .936  | .090 - .105                   | 1.437 | .873  | .156 - .190                   | 1.443 | .979  | .015 - .030                   | 1.451 | 1.271 | .036 - .060                   | 1.467 | .841  | .015 - .030                   | 1.480 | .640  | .156 - .188                   |
| 1.432 | .995  | .100 - .125                   | 1.437 | .879  | .070 - .090                   | 1.443 | 1.179 | .040 - .050                   | 1.452 | .266  | .020 - .040                   | 1.467 | .939  | .075 - .090                   | 1.480 | .677  | .005 - .010                   |
| 1.432 | 1.045 | .030 - .050                   | 1.437 | .886  | .050 - .075                   | 1.444 | .136  | .005 - .010                   | 1.452 | .270  | .005 - .010                   | 1.467 | 1.038 | .030 - .050                   | 1.480 | .702  | .015 - .060                   |
| 1.432 | 1.094 | .050 - .060                   | 1.437 | .895  | .040 - .060                   | 1.444 | 1.006 | .030 - .050                   | 1.452 | .441  | .010 - .020                   | 1.467 | 1.126 | .075 - .100                   | 1.480 | .707  | .090 - .105                   |
| 1.432 | 1.139 | .040 - .060                   | 1.437 | .950  | .050 - .070                   | 1.444 | 1.055 | .005 - .010                   | 1.453 | .104  | .005 - .010                   | 1.468 | .310  | .010 - .020                   | 1.480 | .769  | .005 - .010                   |
| 1.432 | 1.160 | .020 - .062                   | 1.437 | 1.000 | .030 - .040                   | 1.445 | .132  | .040 - .062                   | 1.453 | .760  | .030 - .050                   | 1.468 | .384  | .080 - .105                   | 1.480 | .774  | .110 - .130                   |
| 1.433 | .316  | .005 - .010                   | 1.437 | 1.001 | .156 - .187                   | 1.445 | .312  | .010 - .020                   | 1.453 | 1.234 | .010 - .020                   | 1.468 | .391  | .050 - .070                   | 1.480 | .776  | .050 - .070                   |
| 1.433 | .510  | .008 - .030                   | 1.437 | 1.008 | .075 - .104                   | 1.445 | .322  | .060 - .090                   | 1.454 | .568  | .080 - .100                   | 1.468 | .440  | .010 - .020                   | 1.480 | .784  | .075 - .090                   |
| 1.433 | .563  | .005 - .010                   | 1.437 | 1.031 | .050 - .070                   | 1.445 | .350  | .032 - .060                   | 1.454 | .756  | .020 - .030                   | 1.468 | .640  | .050 - .075                   | 1.480 | .824  | .105 - .135                   |
| 1.433 | .760  | .040 - .060                   | 1.437 | 1.093 | .035 - .048                   | 1.445 | .690  | .090 - .120                   | 1.454 | 1.014 | .015 - .030                   | 1.468 | .820  | .005 - .010                   | 1.480 | .984  | .070 - .090                   |
| 1.433 | 1.039 | .005 - .010                   | 1.437 | 1.103 | .080 - .100                   | 1.445 | .934  | .050 - .060                   | 1.454 | 1.102 | .005 - .010                   | 1.468 | .988  | .005 - .010                   | 1.480 | 1.049 | .120 - .156                   |
| 1.433 | 1.050 | .040 - .060                   | 1.437 | 1.123 | .005 - .030                   | 1.445 | 1.044 | .045 - .060                   | 1.454 | 1.282 | .050 - .070                   | 1.468 | 1.235 | .010 - .020                   | 1.480 | 1.120 | .010 - .020                   |
| 1.433 | 1.095 | .020 - .030                   | 1.437 | 1.132 | .030 - .050                   | 1.446 | .179  | .005 - .010                   | 1.455 | .475  | .125 - .135                   | 1.468 | 1.250 | .005 - .010                   | 1.480 | 1.134 | .110 - .125                   |
| 1.433 | 1.350 | .010 - .020                   | 1.437 | 1.172 | .005 - .010                   | 1.446 | .240  | .090 - .120                   | 1.455 | .637  | .040 - .050                   | 1.468 | 1.310 | .020 - .032                   | 1.480 | 1.154 | .030 - .060                   |
| 1.434 | .361  | .005 - .010                   | 1.437 | 1.185 | .015 - .070                   | 1.446 | .250  | .050 - .070                   | 1.455 | .638  | .085 - .100                   | 1.469 | .665  | .100 - .120                   | 1.480 | 1.232 | .005 - .010                   |
| 1.434 | .751  | .100 - .125                   | 1.437 | 1.201 | .060 - .080                   | 1.446 | .253  | .105 - .135                   | 1.455 | .754  | .005 - .010                   | 1.469 | .750  | .080 - .090                   | 1.480 | 1.269 | .080 - .105                   |
| 1.434 | .753  | .005 - .010                   | 1.437 | 1.250 | .005 - .010                   | 1.446 | .254  | .100 - .125                   | 1.455 | 1.000 | .015 - .030                   | 1.469 | .808  | .005 - .010                   | 1.480 | 1.276 | .040 - .060                   |
| 1.434 | .873  | .120 - .135                   | 1.437 | 1.281 | .025 - .040                   | 1.446 | .315  | .100 - .125                   | 1.455 | 1.065 | .040 - .060                   | 1.470 | .171  | .005 - .010                   | 1.480 | 1.279 | .005 - .010                   |
| 1.434 | .936  | .090 - .120                   | 1.437 | 1.313 | .005 - .010                   | 1.446 | .318  | .105 - .125                   | 1.455 | 1.101 | .040 - .050                   | 1.470 | .203  | .010 - .020                   | 1.481 | .269  | .042 - .062                   |
| 1.434 | 1.125 | .015 - .030                   | 1.438 | .258  | .105 - .125                   | 1.446 | 1.062 | .005 - .015                   | 1.456 | .315  | .020 - .030                   | 1.470 | .610  | .100 - .125                   | 1.481 | .622  | .010 - .020                   |
| 1.434 | 1.315 | .010 - .020                   | 1.438 | .281  | .120 - .135                   | 1.447 | .406  | .100 - .125                   | 1.456 | .826  | .105 - .135                   | 1.470 | .752  | .005 - .010                   | 1.481 | .936  | .005 - .010                   |
| 1.435 | .207  | .100 - .125                   | 1.438 | .345  | .040 - .060                   | 1.447 | .596  | .005 - .010                   | 1.456 | 1.066 | .030 - .050                   | 1.470 | .782  | .100 - .125                   | 1.481 | 1.108 | .025 - .042                   |
| 1.435 | .270  | .005 - .010                   | 1.438 | .377  | .010 - .030                   | 1.447 | .837  | .100 - .125                   | 1.456 | 1.082 | .015 - .030                   | 1.470 | .820  | .010 - .020                   | 1.482 | .250  | .015 - .030                   |
| 1.435 | .316  | .015 - .030                   | 1.438 | .562  | .005 - .010                   | 1.447 | 1.064 | .080 - .100                   | 1.457 | .502  | .005 - .010                   | 1.470 | .833  | .100 - .156                   | 1.482 | .632  | .135 - .156                   |
| 1.435 | .377  | .005 - .010                   | 1.438 | .669  | .020 - .030                   | 1.447 | 1.136 | .105 - .125                   | 1.457 | .505  | .005 - .020                   | 1.470 | 1.062 | .048 - .075                   | 1.482 | .774  | .120 - .135                   |
| 1.435 | .379  | .020 - .040                   | 1.438 | .682  | .060 - .080                   | 1.447 | 1.203 | .032 - .060                   | 1.457 | .675  | .050 - .070                   | 1.470 | 1.094 | .015 - .030                   | 1.482 | .882  | .020 - .040                   |
| 1.435 | .500  | .005 - .010                   | 1.438 | .751  | .100 - .125                   | 1.448 | .125  | .030 - .050                   | 1.457 | 1.022 | .005 - .010                   | 1.470 | 1.111 | .040 - .050                   | 1.482 | .884  | .020 - .040                   |
| 1.435 | .563  | .010 - .020                   | 1.438 | .765  | .005 - .010                   | 1.448 | .390  | .040 - .050                   | 1.457 | 1.200 | .015 - .025                   | 1.470 | 1.150 | .025 - .042                   | 1.482 | 1.222 | .050 - .070                   |
| 1.435 | .665  | .005 - .010                   | 1.438 | .811  | .125 - .156                   | 1.448 | .441  | .010 - .020                   | 1.457 | 1.295 | .020 - .030                   | 1.470 | 1.226 | .040 - .060                   | 1.483 | .755  | .105 - .125                   |
| 1.435 | .750  | .020 - .030                   | 1.438 | .881  | .080 - .100                   | 1.448 | .575  | .050 - .070                   | 1.457 | 1.345 | .020 - .040                   | 1.470 | 1.375 | .005 - .010                   | 1.483 | 1.063 | .110 - .130                   |

**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.   | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|--------|-------------------------------|-------|-------|-------------------------------|-------|------|-------------------------------|
| 1.485 | .771  | .050 - .070                   | 1.492 | 1.118 | .005 - .010                   | 1.496 | .625  | .050 - .080                   | 1.498 | .502   | .005 - .010                   | 1.499 | .967  | .105 - .125                   | 1.500 | .411 | .020 - .050                   |
| 1.485 | .794  | .005 - .010                   | 1.492 | 1.130 | .015 - .030                   | 1.496 | .630  | .005 - .075                   | 1.498 | .521   | .015 - .025                   | 1.499 | .995  | .005 - .010                   | 1.500 | .413 | .075 - .090                   |
| 1.485 | .846  | .005 - .020                   | 1.493 | .433  | .105 - .125                   | 1.496 | .720  | .010 - .020                   | 1.498 | .607   | .005 - .010                   | 1.499 | 1.000 | .015 - .030                   | 1.500 | .437 | .040 - .125                   |
| 1.485 | .901  | .134 - .156                   | 1.493 | .521  | .005 - .010                   | 1.496 | .762  | .005 - .010                   | 1.498 | .625   | .040 - .060                   | 1.499 | 1.003 | .005 - .012                   | 1.500 | .438 | .180 - .187                   |
| 1.485 | .919  | .030 - .040                   | 1.493 | .748  | .015 - .030                   | 1.496 | .767  | .010 - .020                   | 1.498 | .687   | .030 - .125                   | 1.499 | 1.011 | .110 - .130                   | 1.500 | .440 | .005 - .080                   |
| 1.485 | .970  | .032 - .042                   | 1.493 | .758  | .032 - .060                   | 1.496 | .783  | .100 - .125                   | 1.498 | .688   | .105 - .125                   | 1.499 | 1.046 | .050 - .075                   | 1.500 | .442 | .005 - .032                   |
| 1.485 | 1.108 | .050 - .070                   | 1.493 | .776  | .020 - .030                   | 1.496 | .900  | .005 - .010                   | 1.498 | .690   | .100 - .125                   | 1.499 | 1.047 | .040 - .060                   | 1.500 | .450 | .100 - .125                   |
| 1.485 | 1.166 | .015 - .030                   | 1.493 | .810  | .005 - .010                   | 1.496 | .946  | .005 - .010                   | 1.498 | .754   | .020 - .030                   | 1.499 | 1.052 | .050 - .070                   | 1.500 | .451 | .005 - .010                   |
| 1.485 | 1.223 | .015 - .030                   | 1.493 | 1.008 | .050 - .070                   | 1.496 | .994  | .010 - .020                   | 1.498 | .757   | .040 - .060                   | 1.499 | 1.059 | .070 - .090                   | 1.500 | .453 | .170 - .190                   |
| 1.485 | 1.250 | .005 - .012                   | 1.493 | 1.062 | .030 - .050                   | 1.496 | 1.002 | .015 - .030                   | 1.498 | .771   | .005 - .048                   | 1.499 | 1.098 | .030 - .050                   | 1.500 | .454 | .100 - .125                   |
| 1.485 | 1.357 | .015 - .025                   | 1.493 | 1.136 | .010 - .025                   | 1.496 | 1.003 | .040 - .060                   | 1.498 | .819   | .005 - .010                   | 1.499 | 1.117 | .040 - .060                   | 1.500 | .479 | .156 - .187                   |
| 1.486 | .139  | .005 - .010                   | 1.493 | 1.191 | .030 - .050                   | 1.496 | 1.007 | .005 - .010                   | 1.498 | .825   | .005 - .010                   | 1.499 | 1.123 | .080 - .100                   | 1.500 | .497 | .105 - .125                   |
| 1.486 | .650  | .100 - .125                   | 1.493 | 1.229 | .005 - .010                   | 1.496 | 1.014 | .060 - .080                   | 1.498 | .844   | .100 - .125                   | 1.499 | 1.135 | .040 - .060                   | 1.500 | .498 | .070 - .090                   |
| 1.486 | .803  | .005 - .010                   | 1.493 | 1.242 | .005 - .010                   | 1.496 | 1.017 | .050 - .075                   | 1.498 | .867   | .005 - .010                   | 1.499 | 1.142 | .005 - .012                   | 1.500 | .500 | .005 - .060                   |
| 1.486 | .830  | .040 - .062                   | 1.493 | 1.259 | .010 - .020                   | 1.496 | 1.060 | .005 - .010                   | 1.498 | .902   | .025 - .040                   | 1.499 | 1.150 | .040 - .060                   | 1.500 | .502 | .005 - .030                   |
| 1.486 | .893  | .005 - .010                   | 1.493 | 1.273 | .060 - .070                   | 1.496 | 1.066 | .005 - .010                   | 1.498 | .979   | .050 - .070                   | 1.499 | 1.202 | .005 - .015                   | 1.500 | .505 | .005 - .050                   |
| 1.486 | .906  | .005 - .010                   | 1.493 | 1.299 | .005 - .010                   | 1.496 | 1.102 | .070 - .090                   | 1.498 | .997   | .030 - .050                   | 1.499 | 1.250 | .050 - .075                   | 1.500 | .506 | .005 - .125                   |
| 1.486 | 1.090 | .050 - .075                   | 1.493 | 1.314 | .005 - .010                   | 1.496 | 1.114 | .010 - .020                   | 1.498 | 1.000  | .060 - .080                   | 1.499 | 1.256 | .030 - .040                   | 1.500 | .512 | .060 - .156                   |
| 1.486 | 1.229 | .070 - .090                   | 1.494 | .271  | .015 - .030                   | 1.496 | 1.162 | .005 - .010                   | 1.498 | 1.012  | .040 - .060                   | 1.499 | 1.260 | .040 - .060                   | 1.500 | .513 | .100 - .125                   |
| 1.486 | 1.330 | .005 - .015                   | 1.494 | .330  | .005 - .020                   | 1.496 | 1.181 | .010 - .020                   | 1.498 | 1.014  | .100 - .125                   |       |       |                               | 1.500 | .515 | .100 - .125                   |
| 1.486 | 1.380 | .015 - .030                   | 1.494 | .474  | .005 - .010                   | 1.496 | 1.189 | .005 - .010                   | 1.498 | 1.015  | .005 - .015                   |       |       |                               | 1.500 | .519 | .080 - .104                   |
| 1.487 | .949  | .080 - .104                   | 1.494 | .477  | .005 - .010                   | 1.496 | 1.216 | .010 - .020                   | 1.498 | 1.021  | .005 - .010                   |       |       |                               | 1.500 | .521 | .105 - .125                   |
| 1.487 | 1.128 | .005 - .010                   | 1.494 | .637  | .005 - .010                   | 1.496 | 1.221 | .040 - .060                   | 1.498 | 1.032  | .020 - .040                   |       |       |                               | 1.500 | .530 | .015 - .125                   |
| 1.487 | 1.233 | .015 - .030                   | 1.494 | .650  | .007 - .020                   | 1.496 | 1.245 | .020 - .040                   | 1.498 | 1.033  | .005 - .010                   |       |       |                               | 1.500 | .536 | .006 - .134                   |
| 1.487 | 1.368 | .020 - .030                   | 1.494 | .760  | .060 - .080                   | 1.496 | 1.253 | .050 - .070                   | 1.498 | 1.040  | .105 - .135                   |       |       |                               | 1.500 | .537 | .030 - .048                   |
| 1.487 | 1.374 | .010 - .020                   | 1.494 | .857  | .080 - .104                   | 1.496 | 1.255 | .040 - .060                   | 1.498 | 1.065  | .005 - .012                   | 1.500 | .084  | .020 - .035                   | 1.500 | .550 | .090 - .125                   |
| 1.488 | .390  | .020 - .030                   | 1.494 | .937  | .030 - .050                   | 1.496 | 1.260 | .005 - .075                   | 1.498 | 1.066  | .030 - .050                   | 1.500 | .094  | .005 - .010                   | 1.500 | .560 | .005 - .015                   |
| 1.488 | .550  | .100 - .125                   | 1.494 | 1.024 | .030 - .050                   | 1.496 | 1.270 | .005 - .010                   | 1.498 | 1.071  | .015 - .030                   | 1.500 | .126  | .040 - .060                   | 1.500 | .562 | .050 - .190                   |
| 1.488 | .804  | .050 - .070                   | 1.494 | 1.057 | .080 - .104                   | 1.496 | 1.311 | .010 - .020                   | 1.498 | 1.072  | .110 - .130                   | 1.500 | .130  | .020 - .032                   | 1.500 | .563 | .015 - .030                   |
| 1.488 | .880  | .005 - .010                   | 1.494 | 1.060 | .064 - .078                   | 1.497 | .145  | .020 - .040                   | 1.498 | 1.098  | .030 - .060                   | 1.500 | .135  | .090 - .104                   | 1.500 | .564 | .100 - .120                   |
| 1.488 | 1.043 | .005 - .010                   | 1.494 | 1.075 | .050 - .060                   | 1.497 | .195  | .025 - .042                   | 1.498 | 1.125  | .090 - .120                   | 1.500 | .150  | .040 - .062                   | 1.500 | .571 | .025 - .040                   |
| 1.488 | 1.217 | .010 - .020                   | 1.494 | 1.092 | .040 - .060                   | 1.497 | .375  | .050 - .083                   | 1.498 | 1.130  | .100 - .120                   | 1.500 | .156  | .030 - .125                   | 1.500 | .577 | .010 - .015                   |
| 1.488 | 1.313 | .030 - .042                   | 1.494 | 1.175 | .015 - .025                   | 1.497 | .377  | .105 - .125                   | 1.498 | 1.169  | .025 - .040                   | 1.500 | .157  | .030 - .050                   | 1.500 | .579 | .110 - .130                   |
| 1.488 | 1.330 | .030 - .042                   | 1.494 | 1.201 | .035 - .050                   | 1.497 | .379  | .042 - .062                   | 1.498 | 1.178  | .010 - .020                   | 1.500 | .161  | .100 - .125                   | 1.500 | .605 | .050 - .070                   |
| 1.488 | 1.350 | .005 - .010                   | 1.494 | 1.265 | .005 - .010                   | 1.497 | .386  | .062 - .080                   | 1.498 | 1.268  | .040 - .060                   | 1.500 | .163  | .010 - .040                   | 1.500 | .625 | .030 - .050                   |
| 1.489 | .383  | .070 - .090                   | 1.494 | 1.270 | .010 - .015                   | 1.497 | .421  | .156 - .187                   | 1.498 | 1.305  | .030 - .050                   | 1.500 | .185  | .050 - .083                   | 1.500 | .626 | .010 - .125                   |
| 1.489 | 1.004 | .050 - .070                   | 1.494 | 1.305 | .005 - .010                   | 1.497 | .477  | .005 - .010                   | 1.498 | 1.319  | .005 - .010                   | 1.500 | .188  | .005 - .010                   | 1.500 | .634 | .005 - .010                   |
| 1.489 | 1.165 | .015 - .030                   | 1.494 | 1.338 | .010 - .020                   | 1.497 | .515  | .100 - .125                   | 1.498 | 1.321  | .030 - .048                   | 1.500 | .194  | .025 - .042                   | 1.500 | .636 | .060 - .180                   |
| 1.489 | 1.260 | .050 - .075                   | 1.494 | 1.342 | .008 - .015                   | 1.497 | .559  | .100 - .125                   | 1.498 | 1.378  | .005 - .010                   | 1.500 | .195  | .048 - .075                   | 1.500 | .638 | .020 - .040                   |
| 1.490 | .170  | .025 - .042                   | 1.494 | 1.414 | .015 - .025                   | 1.497 | .612  | .020 - .030                   | 1.498 | 1.396  | .015 - .025                   | 1.500 | .200  | .010 - .030                   | 1.500 | .640 | .110 - .130                   |
| 1.490 | .171  | .030 - .050                   | 1.494 | 1.425 | .025 - .040                   | 1.497 | .620  | .010 - .060                   | 1.499 | .098   | .050 - .075                   | 1.500 | .209  | .105 - .125                   | 1.500 | .655 | .005 - .020                   |
| 1.490 | .243  | .080 - .100                   | 1.495 | .263  | .005 - .010                   | 1.497 | .632  | .010 - .020                   | 1.499 | .127   | .080 - .090                   | 1.500 | .219  | .050 - .070                   | 1.500 | .656 | .075 - .130                   |
| 1.490 | .325  | .156 - .187                   | 1.495 | .276  | .005 - .010                   | 1.497 | .655  | .075 - .100                   | 1.499 | .167   | .005 - .010                   | 1.500 | .245  | .032 - .060                   | 1.500 | .660 | .040 - .060                   |
| 1.490 | .511  | .105 - .125                   | 1.495 | .294  | .020 - .032                   | 1.497 | .723  | .060 - .083                   | 1.499 | .187   | .020 - .040                   | 1.500 | .250  | .010 - .020                   | 1.500 | .665 | .005 - .010                   |
| 1.490 | .580  | .015 - .030                   | 1.495 | .295  | .100 - .125                   | 1.497 | .753  | .025 - .040                   | 1.499 | .197   | .125 - .156                   | 1.500 | .259  | .060 - .090                   | 1.500 | .687 | .030 - .050                   |
| 1.490 | .630  | .010 - .020                   | 1.495 | .354  | .105 - .135                   | 1.497 | .755  | .025 - .042                   | 1.499 | .213   | .005 - .010                   | 1.500 | .265  | .100 - .125                   | 1.500 | .688 | .050 - .070                   |
| 1.490 | .688  | .080 - .100                   | 1.495 | .355  | .005 - .010                   | 1.497 | .757  | .010 - .030                   | 1.499 | .268   | .070 - .090                   | 1.500 | .266  | .015 - .025                   | 1.500 | .690 | .120 - .135                   |
| 1.490 | .760  | .020 - .030                   | 1.495 | .375  | .030 - .050                   | 1.497 | .763  | .005 - .015                   | 1.499 | .281   | .100 - .125                   | 1.500 | .267  | .005 - .010                   | 1.500 | .694 | .005 - .010                   |
| 1.490 | .764  | .030 - .050                   | 1.495 | .459  | .156 - .187                   | 1.497 | .772  | .030 - .048                   | 1.499 | .303   | .040 - .060                   | 1.500 | .269  | .030 - .048                   | 1.500 | .700 | .070 - .090                   |
| 1.490 | .820  | .040 - .060                   | 1.495 | .500  | .105 - .125                   | 1.497 | .810  | .005 - .010                   | 1.499 | .314   | .010 - .020                   | 1.500 | .275  | .080 - .090                   | 1.500 | .701 | .050 - .070                   |
| 1.490 | .875  | .100 - .125                   | 1.495 | .510  | .070 - .090                   | 1.497 | .891  | .005 - .010                   | 1.499 | .374   | .030 - .050                   | 1.500 | .280  | .040 - .060                   | 1.500 | .703 | .005 - .010                   |
| 1.490 | 1.004 | .005 - .010                   | 1.495 | .545  | .010 - .020                   | 1.497 | .906  | .100 - .120                   | 1.499 | .385   | .135 - .156                   | 1.500 | .281  | .156 - .187                   | 1.500 | .713 | .005 - .010                   |
| 1.490 | 1.063 | .080 - .100                   | 1.495 | .629  | .040 - .050                   | 1.497 | 1.060 | .100 - .125                   | 1.499 | .391   | .156 - .190                   | 1.500 | .282  | .008 - .015                   | 1.500 | .715 | .005 - .020                   |
| 1.490 | 1.125 | .005 - .010                   | 1.495 | .682  | .010 - .020                   | 1.497 | 1.113 | .030 - .050                   | 1.499 | .399   | .005 - .010                   | 1.500 | .283  | .005 - .010                   | 1.500 | .721 | .104 - .125                   |
| 1.490 | 1.130 | .010 - .025                   | 1.495 | 1.010 | .015 - .030                   | 1.497 | 1.119 | .040 - .060                   | 1.499 | .420   | .005 - .010                   | 1.500 | .303  | .005 - .010                   | 1.500 | .725 | .070 - .090                   |
| 1.490 | 1.140 | .025 - .050                   | 1.495 | 1.028 | .060 - .080                   | 1.497 | 1.126 | .135 - .156                   | 1.499 | .474   | .005 - .010                   | 1.500 | .311  | .104 - .134                   | 1.500 | .749 | .010 - .025                   |
| 1.490 | 1.170 | .015 - .030                   | 1.495 | 1.058 | .005 - .010                   | 1.497 | 1.137 | .005 - .010                   | 1.499 | .485   | .050 - .075                   | 1.500 | .312  | .160 - .190                   | 1.500 | .753 | .010 - .125                   |
| 1.490 | 1.190 | .005 - .010                   | 1.495 | 1.086 | .005 - .010                   | 1.497 | 1.150 | .090 - .110                   | 1.499 | .504   | .005 - .020                   | 1.500 | .313  | .062 - .080                   | 1.500 | .754 | .040 - .060                   |
| 1.490 | 1.192 | .005 - .010                   | 1.495 | 1.116 | .090 - .104                   | 1.497 | 1.154 | .025 - .040                   | 1.499 | .533   | .005 - .010                   | 1.500 | .315  | .008 - .110                   | 1.500 | .758 | .105 - .125                   |
| 1.490 | 1.193 | .010 - .020                   | 1.495 | 1.120 | .005 - .010                   | 1.497 | 1.242 | .030 - .050                   | 1.499 | .561   | .005 - .010                   | 1.500 | .325  | .048 - .075                   | 1.500 | .760 | .030 - .050                   |
| 1.490 | 1.242 | .090 - .125                   | 1.495 | 1.182 | .060 - .080                   | 1.497 | 1.252 | .005 - .012                   | 1.499 | .562   | .015 - .025                   | 1.500 | .327  | .005 - .010                   | 1.500 | .761 | .100 - .125                   |
| 1.490 | 1.272 | .060 - .080                   | 1.495 | 1.185 | .020 - .030                   | 1.497 | 1.267 | .040 - .062                   | 1.499 | .563   | .010 - .020                   | 1.500 | .330  | .120 - .135                   | 1.500 | .765 | .020 - .080                   |
| 1.490 | 1.280 | .005 - .010                   | 1.495 | 1.201 | .010 - .025                   | 1.497 | 1.283 | .005 - .010                   | 1.499 | .574</ |                               |       |       |                               |       |      |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 1.500 | .871  | .010 - .020                   | 1.500 | 1.266 | .010 - .020                   | 1.504 | 1.230 | .062 - .090                   | 1.524 | .329  | .110 - .130                   | 1.535 | .788  | .050 - .070                   | 1.550 | .438  | .005 - .030                   |
| 1.500 | .873  | .170 - .190                   | 1.500 | 1.274 | .010 - .020                   | 1.504 | 1.287 | .040 - .060                   | 1.524 | .432  | .100 - .125                   | 1.535 | .867  | .105 - .125                   | 1.550 | .440  | .005 - .010                   |
| 1.500 | .874  | .020 - .040                   | 1.500 | 1.275 | .008 - .018                   | 1.504 | 1.378 | .010 - .020                   | 1.524 | .435  | .040 - .060                   | 1.535 | .904  | .100 - .125                   | 1.550 | .449  | .010 - .020                   |
| 1.500 | .876  | .100 - .125                   | 1.500 | 1.277 | .090 - .125                   | 1.505 | .408  | .015 - .030                   | 1.524 | .560  | .040 - .060                   | 1.535 | 1.064 | .080 - .104                   | 1.550 | .500  | .050 - .070                   |
| 1.500 | .877  | .100 - .125                   | 1.500 | 1.282 | .008 - .016                   | 1.505 | .440  | .156 - .187                   | 1.524 | 1.274 | .042 - .060                   | 1.535 | 1.138 | .005 - .020                   | 1.550 | .502  | .005 - .010                   |
| 1.500 | .880  | .010 - .020                   | 1.500 | 1.298 | .010 - .025                   | 1.505 | .510  | .105 - .125                   | 1.524 | 1.416 | .040 - .060                   | 1.535 | 1.140 | .030 - .040                   | 1.550 | .505  | .010 - .020                   |
| 1.500 | .882  | .110 - .134                   | 1.500 | 1.300 | .050 - .075                   | 1.505 | .845  | .025 - .035                   | 1.525 | .250  | .050 - .070                   | 1.535 | 1.290 | .005 - .010                   | 1.550 | .522  | .005 - .010                   |
| 1.500 | .883  | .040 - .125                   | 1.500 | 1.301 | .050 - .070                   | 1.505 | 1.003 | .015 - .030                   | 1.525 | .265  | .005 - .010                   | 1.535 | 1.300 | .060 - .080                   | 1.550 | .626  | .005 - .020                   |
| 1.500 | .886  | .156 - .187                   | 1.500 | 1.316 | .010 - .020                   | 1.505 | 1.109 | .040 - .060                   | 1.525 | .268  | .005 - .010                   | 1.535 | 1.344 | .012 - .025                   | 1.550 | .629  | .005 - .010                   |
| 1.500 | .892  | .105 - .120                   | 1.500 | 1.332 | .025 - .040                   | 1.505 | 1.310 | .015 - .025                   | 1.525 | .501  | .005 - .010                   | 1.535 | 1.378 | .020 - .035                   | 1.550 | .635  | .015 - .035                   |
| 1.500 | .893  | .062 - .090                   | 1.500 | 1.358 | .050 - .070                   | 1.506 | 1.249 | .050 - .075                   | 1.525 | .617  | .050 - .060                   | 1.536 | .188  | .090 - .120                   | 1.550 | .704  | .005 - .010                   |
| 1.500 | .900  | .040 - .060                   | 1.500 | 1.376 | .015 - .060                   | 1.507 | 1.324 | .005 - .010                   | 1.525 | .657  | .005 - .010                   | 1.536 | .501  | .010 - .020                   | 1.550 | .750  | .020 - .040                   |
| 1.500 | .904  | .104 - .125                   | 1.500 | 1.389 | .030 - .050                   | 1.508 | .315  | .105 - .125                   | 1.525 | .685  | .040 - .060                   | 1.536 | .576  | .015 - .030                   | 1.550 | .752  | .105 - .125                   |
| 1.500 | .908  | .026 - .048                   | 1.501 | .125  | .075 - .090                   | 1.508 | .910  | .080 - .105                   | 1.525 | .800  | .010 - .020                   | 1.536 | .651  | .015 - .030                   | 1.550 | .755  | .010 - .020                   |
| 1.500 | .910  | .140 - .160                   | 1.501 | .188  | .020 - .040                   | 1.509 | .301  | .090 - .120                   | 1.525 | 1.231 | .005 - .010                   | 1.536 | .694  | .015 - .020                   | 1.550 | 1.221 | .005 - .010                   |
| 1.500 | .934  | .040 - .060                   | 1.501 | .190  | .005 - .010                   | 1.509 | .781  | .090 - .105                   | 1.525 | 1.310 | .025 - .040                   | 1.536 | .710  | .005 - .010                   | 1.550 | 1.235 | .050 - .075                   |
| 1.500 | .935  | .030 - .040                   | 1.501 | .200  | .100 - .125                   | 1.510 | .510  | .060 - .080                   | 1.525 | 1.316 | .070 - .090                   | 1.536 | .712  | .030 - .050                   | 1.550 | 1.250 | .005 - .010                   |
| 1.500 | .937  | .050 - .075                   | 1.501 | .280  | .060 - .090                   | 1.510 | .900  | .030 - .050                   | 1.525 | 1.335 | .040 - .060                   | 1.536 | .811  | .005 - .010                   | 1.550 | 1.255 | .015 - .025                   |
| 1.500 | .938  | .093 - .109                   | 1.501 | .336  | .105 - .125                   | 1.510 | 1.032 | .015 - .030                   | 1.526 | 1.280 | .040 - .060                   | 1.536 | 1.009 | .050 - .070                   | 1.550 | 1.321 | .010 - .020                   |
| 1.500 | .942  | .105 - .134                   | 1.501 | .372  | .050 - .070                   | 1.510 | 1.089 | .015 - .030                   | 1.526 | 1.310 | .025 - .042                   | 1.536 | 1.024 | .135 - .156                   | 1.550 | 1.415 | .005 - .010                   |
| 1.500 | .954  | .050 - .070                   | 1.501 | .382  | .005 - .012                   | 1.510 | 1.236 | .005 - .010                   | 1.526 | 1.345 | .005 - .010                   | 1.537 | .407  | .075 - .125                   | 1.550 | 1.416 | .015 - .020                   |
| 1.500 | .958  | .020 - .040                   | 1.501 | .385  | .090 - .125                   | 1.510 | 1.258 | .005 - .010                   | 1.526 | 1.376 | .050 - .070                   | 1.537 | .501  | .010 - .020                   | 1.550 | 1.439 | .005 - .010                   |
| 1.500 | .970  | .080 - .100                   | 1.501 | .437  | .005 - .010                   | 1.510 | 1.312 | .060 - .070                   | 1.527 | 1.317 | .060 - .078                   | 1.537 | .670  | .005 - .010                   | 1.551 | .289  | .050 - .070                   |
| 1.500 | .975  | .005 - .010                   | 1.501 | .508  | .030 - .050                   | 1.511 | .213  | .090 - .100                   | 1.527 | 1.418 | .015 - .030                   | 1.537 | 1.288 | .042 - .062                   | 1.551 | .438  | .010 - .020                   |
| 1.500 | .993  | .025 - .040                   | 1.501 | .514  | .005 - .010                   | 1.511 | .630  | .080 - .105                   | 1.528 | .187  | .025 - .040                   | 1.537 | 1.296 | .005 - .010                   | 1.551 | .440  | .010 - .020                   |
| 1.500 | .996  | .050 - .070                   | 1.501 | .626  | .010 - .020                   | 1.511 | .792  | .090 - .105                   | 1.528 | .195  | .050 - .100                   | 1.539 | .562  | .010 - .020                   | 1.551 | 1.026 | .060 - .080                   |
| 1.500 | 1.001 | .005 - .015                   | 1.501 | .715  | .005 - .010                   | 1.511 | .823  | .170 - .190                   | 1.528 | .250  | .010 - .030                   | 1.539 | 1.206 | .015 - .030                   | 1.551 | 1.140 | .010 - .020                   |
| 1.500 | 1.002 | .040 - .090                   | 1.501 | .755  | .010 - .020                   | 1.511 | 1.015 | .005 - .010                   | 1.528 | .728  | .005 - .010                   | 1.539 | 1.220 | .015 - .030                   | 1.551 | 1.189 | .105 - .125                   |
| 1.500 | 1.003 | .005 - .156                   | 1.501 | .773  | .100 - .125                   | 1.511 | 1.112 | .050 - .075                   | 1.528 | 1.009 | .050 - .070                   | 1.539 | 1.336 | .040 - .060                   | 1.551 | 1.278 | .060 - .080                   |
| 1.500 | 1.004 | .015 - .050                   | 1.501 | .817  | .100 - .125                   | 1.511 | 1.113 | .040 - .060                   | 1.528 | 1.276 | .010 - .020                   | 1.539 | 1.359 | .030 - .050                   | 1.552 | 1.460 | .005 - .010                   |
| 1.500 | 1.005 | .010 - .070                   | 1.501 | .820  | .040 - .060                   | 1.511 | 1.351 | .005 - .010                   | 1.528 | 1.285 | .020 - .040                   | 1.539 | 1.462 | .005 - .010                   | 1.553 | .854  | .075 - .105                   |
| 1.500 | 1.009 | .040 - .140                   | 1.501 | .840  | .010 - .020                   | 1.512 | 1.227 | .005 - .010                   | 1.529 | .466  | .005 - .010                   | 1.540 | .512  | .105 - .125                   | 1.553 | .859  | .080 - .100                   |
| 1.500 | 1.010 | .005 - .020                   | 1.501 | .876  | .040 - .060                   | 1.514 | .940  | .125 - .135                   | 1.529 | .791  | .030 - .050                   | 1.540 | .563  | .005 - .010                   | 1.553 | 1.158 | .125 - .156                   |
| 1.500 | 1.011 | .010 - .020                   | 1.501 | .909  | .050 - .070                   | 1.514 | 1.126 | .062 - .080                   | 1.529 | .984  | .080 - .105                   | 1.540 | .910  | .015 - .030                   | 1.554 | .765  | .080 - .104                   |
| 1.500 | 1.015 | .040 - .190                   | 1.501 | 1.008 | .080 - .100                   | 1.515 | .583  | .120 - .134                   | 1.529 | 1.052 | .080 - .100                   | 1.540 | 1.102 | .025 - .040                   | 1.554 | .883  | .010 - .015                   |
| 1.500 | 1.018 | .100 - .125                   | 1.501 | 1.009 | .005 - .010                   | 1.515 | .765  | .050 - .070                   | 1.529 | 1.117 | .100 - .110                   | 1.540 | 1.200 | .020 - .030                   | 1.554 | 1.000 | .060 - .080                   |
| 1.500 | 1.019 | .005 - .012                   | 1.501 | 1.010 | .005 - .010                   | 1.515 | .892  | .045 - .060                   | 1.529 | 1.259 | .020 - .040                   | 1.540 | 1.290 | .050 - .070                   | 1.554 | 1.193 | .060 - .080                   |
| 1.500 | 1.020 | .005 - .125                   | 1.501 | 1.012 | .030 - .050                   | 1.515 | 1.360 | .010 - .015                   | 1.529 | 1.360 | .020 - .040                   | 1.541 | .318  | .020 - .030                   | 1.554 | 1.460 | .005 - .010                   |
| 1.500 | 1.022 | .020 - .040                   | 1.501 | 1.121 | .020 - .030                   | 1.515 | 1.360 | .040 - .060                   | 1.529 | 1.416 | .020 - .030                   | 1.541 | 1.008 | .025 - .070                   | 1.555 | .166  | .080 - .104                   |
| 1.500 | 1.023 | .005 - .010                   | 1.501 | 1.132 | .025 - .050                   | 1.515 | 1.375 | .020 - .040                   | 1.529 | 1.453 | .005 - .010                   | 1.541 | 1.030 | .005 - .010                   | 1.555 | .650  | .007 - .012                   |
| 1.500 | 1.025 | .105 - .125                   | 1.501 | 1.133 | .060 - .080                   | 1.515 | 1.378 | .010 - .020                   | 1.530 | .251  | .015 - .030                   | 1.541 | 1.250 | .050 - .070                   | 1.555 | 1.060 | .032 - .060                   |
| 1.500 | 1.032 | .048 - .134                   | 1.501 | 1.188 | .050 - .070                   | 1.516 | .293  | .050 - .075                   | 1.530 | .282  | .060 - .080                   | 1.542 | .833  | .020 - .030                   | 1.555 | 1.100 | .090 - .120                   |
| 1.500 | 1.036 | .008 - .105                   | 1.501 | 1.251 | .020 - .030                   | 1.516 | .915  | .050 - .070                   | 1.530 | .312  | .030 - .050                   | 1.542 | .998  | .005 - .010                   | 1.555 | 1.112 | .080 - .105                   |
| 1.500 | 1.041 | .005 - .010                   | 1.501 | 1.290 | .005 - .010                   | 1.516 | 1.194 | .005 - .010                   | 1.530 | .536  | .005 - .010                   | 1.542 | 1.193 | .005 - .010                   | 1.555 | 1.133 | .090 - .105                   |
| 1.500 | 1.043 | .005 - .010                   | 1.502 | .185  | .105 - .135                   | 1.516 | 1.199 | .005 - .010                   | 1.530 | .548  | .005 - .010                   | 1.543 | .431  | .075 - .105                   | 1.555 | 1.196 | .015 - .030                   |
| 1.500 | 1.050 | .156 - .187                   | 1.502 | .220  | .060 - .080                   | 1.517 | .755  | .090 - .104                   | 1.530 | .832  | .020 - .030                   | 1.543 | 1.200 | .020 - .030                   | 1.555 | 1.250 | .060 - .080                   |
| 1.500 | 1.062 | .050 - .075                   | 1.502 | .345  | .080 - .104                   | 1.518 | .770  | .050 - .070                   | 1.530 | 1.031 | .075 - .090                   | 1.543 | 1.255 | .050 - .075                   | 1.556 | .164  | .050 - .062                   |
| 1.500 | 1.063 | .020 - .040                   | 1.502 | .349  | .030 - .048                   | 1.518 | 1.195 | .050 - .070                   | 1.530 | 1.141 | .050 - .070                   | 1.543 | 1.257 | .025 - .040                   | 1.556 | .511  | .080 - .105                   |
| 1.500 | 1.065 | .010 - .060                   | 1.502 | .375  | .060 - .125                   | 1.518 | 1.405 | .005 - .010                   | 1.530 | 1.202 | .010 - .030                   | 1.543 | 1.261 | .030 - .050                   | 1.556 | 1.192 | .050 - .070                   |
| 1.500 | 1.092 | .005 - .030                   | 1.502 | .411  | .005 - .010                   | 1.519 | .271  | .005 - .010                   | 1.530 | 1.280 | .050 - .060                   | 1.544 | 1.169 | .030 - .050                   | 1.556 | 1.260 | .015 - .030                   |
| 1.500 | 1.093 | .005 - .062                   | 1.502 | .441  | .030 - .050                   | 1.519 | .623  | .005 - .010                   | 1.531 | .333  | .005 - .010                   | 1.544 | 1.182 | .025 - .040                   | 1.556 | 1.262 | .020 - .040                   |
| 1.500 | 1.115 | .005 - .010                   | 1.502 | .444  | .120 - .135                   | 1.519 | .689  | .060 - .080                   | 1.531 | .390  | .100 - .125                   | 1.544 | 1.191 | .005 - .010                   | 1.556 | 1.405 | .010 - .020                   |
| 1.500 | 1.122 | .032 - .048                   | 1.502 | .562  | .134 - .187                   | 1.520 | .195  | .035 - .050                   | 1.531 | .516  | .060 - .080                   | 1.544 | 1.481 | .010 - .020                   | 1.556 | 1.437 | .032 - .050                   |
| 1.500 | 1.127 | .005 - .010                   | 1.502 | .563  | .005 - .010                   | 1.520 | .328  | .015 - .020                   | 1.531 | .625  | .005 - .010                   | 1.545 | .264  | .030 - .050                   | 1.557 | .396  | .005 - .015                   |
| 1.500 | 1.129 | .060 - .083                   | 1.502 | .648  | .100 - .120                   | 1.520 | .753  | .060 - .080                   | 1.531 | .689  | .060 - .080                   | 1.545 | .437  | .020 - .040                   | 1.557 | .407  | .060 - .080                   |
| 1.500 | 1.136 | .105 - .125                   | 1.502 | .656  | .156 - .188                   | 1.520 | .760  | .100 - .110                   | 1.531 | .776  | .025 - .040                   | 1.545 | 1.060 | .005 - .010                   | 1.557 | .770  | .110 - .130                   |
| 1.500 | 1.156 | .015 - .030                   | 1.502 | .752  | .105 - .125                   | 1.520 | .801  | .030 - .050                   | 1.531 | .808  | .030 - .050                   | 1.545 | 1.156 | .020 - .030                   | 1.557 | 1.002 | .075 - .090                   |
| 1.500 | 1.157 | .025 - .042                   | 1.502 | .877  | .080 - .100                   | 1.520 | .804  | .050 - .070                   | 1.531 | 1.000 | .020 - .032                   | 1.545 | 1.191 | .005 - .010                   | 1.557 | 1.038 | .040 - .060                   |
| 1.500 | 1.170 | .005 - .010                   | 1.502 | .885  | .005 - .010                   | 1.520 | .808  | .040 - .070                   | 1.531 | 1.015 | .025 - .042                   | 1.545 | 1.391 | .050 - .070                   | 1.557 | 1.314 | .105 - .125                   |
| 1.500 | 1.171 | .070 - .090                   | 1.502 | .891  | .025 - .040                   | 1.520 | .811  | .080 - .100                   | 1.531 | 1.223 | .010 - .020                   | 1.545 | 1.457 | .025 - .035                   | 1.557 | 1.355 | .025 - .040                   |
| 1.500 | 1.175 | .030 - .050                   | 1.502 | .960  | .060 - .080                   | 1.520 | .816  | .060 - .080                   | 1.532 | .098  | .030 - .050                   | 1.546 | 1.182 | .025 - .040                   | 1.557 | 1.358 | .005 - .010                   |
| 1.500 | 1.178 | .020 - .040                   | 1.502 | 1.015 | .020 - .030                   | 1.520 | .821  | .040 - .060                   | 1.532 | .765  | .00                           |       |       |                               |       |       |                               |

# BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 1.560 | .392  | .080 - .105                   | 1.562 | 1.187 | .005 - .010                   | 1.569 | 1.331 | .040 - .060                   | 1.575 | .879  | .005 - .010                   | 1.590 | .594  | .100 - .125                   | 1.600 | 1.000 | .005 - .010                   |
| 1.560 | .455  | .100 - .125                   | 1.562 | 1.188 | .020 - .040                   | 1.570 | .168  | .008 - .012                   | 1.575 | .953  | .090 - .100                   | 1.590 | 1.028 | .005 - .010                   | 1.600 | 1.070 | .025 - .125                   |
| 1.560 | .508  | .100 - .125                   | 1.562 | 1.203 | .025 - .048                   | 1.570 | .256  | .080 - .100                   | 1.575 | .985  | .010 - .156                   | 1.590 | 1.299 | .020 - .035                   | 1.600 | 1.101 | .020 - .030                   |
| 1.560 | .563  | .015 - .030                   | 1.562 | 1.313 | .005 - .010                   | 1.570 | .346  | .010 - .020                   | 1.575 | .986  | .050 - .070                   | 1.590 | 1.345 | .010 - .060                   | 1.600 | 1.125 | .015 - .025                   |
| 1.560 | .619  | .005 - .010                   | 1.562 | 1.320 | .060 - .080                   | 1.570 | .526  | .080 - .100                   | 1.575 | 1.025 | .030 - .050                   | 1.590 | 1.362 | .060 - .080                   | 1.600 | 1.128 | .010 - .020                   |
| 1.560 | .772  | .005 - .010                   | 1.562 | 1.323 | .105 - .125                   | 1.570 | .720  | .005 - .010                   | 1.575 | 1.063 | .040 - .060                   | 1.592 | 1.407 | .048 - .062                   | 1.600 | 1.175 | .090 - .125                   |
| 1.560 | .839  | .050 - .070                   | 1.562 | 1.346 | .030 - .050                   | 1.570 | .813  | .030 - .050                   | 1.575 | 1.110 | .005 - .010                   | 1.592 | 1.171 | .040 - .060                   | 1.600 | 1.205 | .010 - .020                   |
| 1.560 | .845  | .025 - .048                   | 1.562 | 1.347 | .040 - .060                   | 1.570 | .870  | .005 - .010                   | 1.575 | 1.110 | .060 - .080                   | 1.592 | 1.222 | .010 - .020                   | 1.600 | 1.220 | .050 - .070                   |
| 1.560 | .883  | .030 - .050                   | 1.562 | 1.348 | .062 - .075                   | 1.570 | .906  | .100 - .125                   | 1.575 | 1.178 | .156 - .187                   | 1.593 | .515  | .010 - .020                   | 1.600 | 1.260 | .030 - .050                   |
| 1.560 | .891  | .020 - .040                   | 1.562 | 1.354 | .005 - .010                   | 1.570 | 1.003 | .035 - .060                   | 1.575 | 1.200 | .040 - .050                   | 1.593 | .900  | .060 - .080                   | 1.600 | 1.260 | .060 - .080                   |
| 1.560 | 1.063 | .135 - .156                   | 1.562 | 1.374 | .025 - .040                   | 1.570 | 1.031 | .080 - .105                   | 1.575 | 1.220 | .005 - .015                   | 1.593 | 1.034 | .010 - .020                   | 1.600 | 1.271 | .110 - .130                   |
| 1.560 | 1.100 | .005 - .010                   | 1.562 | 1.375 | .020 - .040                   | 1.570 | 1.032 | .100 - .125                   | 1.575 | 1.240 | .030 - .050                   | 1.593 | 1.171 | .100 - .125                   | 1.600 | 1.290 | .020 - .040                   |
| 1.560 | 1.140 | .005 - .010                   | 1.562 | 1.376 | .005 - .010                   | 1.570 | 1.190 | .032 - .042                   | 1.575 | 1.338 | .005 - .010                   | 1.593 | 1.172 | .050 - .075                   | 1.600 | 1.300 | .050 - .060                   |
| 1.560 | 1.200 | .150 - .170                   | 1.562 | 1.437 | .010 - .020                   | 1.570 | 1.191 | .125 - .156                   | 1.575 | 1.389 | .070 - .090                   | 1.593 | 1.194 | .062 - .080                   | 1.600 | 1.310 | .015 - .060                   |
| 1.560 | 1.207 | .010 - .020                   | 1.563 | .439  | .005 - .010                   | 1.570 | 1.220 | .050 - .070                   | 1.575 | 1.474 | .005 - .010                   | 1.593 | 1.239 | .010 - .020                   | 1.600 | 1.312 | .005 - .010                   |
| 1.560 | 1.261 | .070 - .080                   | 1.563 | .638  | .005 - .010                   | 1.570 | 1.250 | .005 - .010                   | 1.576 | .414  | .160 - .190                   | 1.593 | 1.322 | .060 - .080                   | 1.600 | 1.357 | .005 - .015                   |
| 1.560 | 1.315 | .015 - .025                   | 1.563 | .690  | .032 - .060                   | 1.570 | 1.259 | .030 - .040                   | 1.576 | .477  | .010 - .020                   | 1.594 | .478  | .005 - .020                   | 1.600 | 1.375 | .010 - .020                   |
| 1.560 | 1.319 | .005 - .010                   | 1.563 | .762  | .005 - .010                   | 1.571 | .379  | .080 - .100                   | 1.576 | .630  | .005 - .010                   | 1.594 | .657  | .030 - .060                   | 1.600 | 1.435 | .010 - .020                   |
| 1.560 | 1.320 | .015 - .025                   | 1.563 | .878  | .025 - .040                   | 1.571 | .870  | .100 - .120                   | 1.576 | .670  | .015 - .030                   | 1.594 | .814  | .015 - .025                   | 1.600 | 1.439 | .005 - .010                   |
| 1.560 | 1.331 | .050 - .070                   | 1.563 | .892  | .075 - .100                   | 1.571 | 1.018 | .100 - .125                   | 1.576 | .826  | .125 - .156                   | 1.594 | 1.278 | .080 - .100                   | 1.601 | .631  | .005 - .010                   |
| 1.560 | 1.353 | .005 - .010                   | 1.563 | .999  | .105 - .125                   | 1.571 | 1.038 | .005 - .015                   | 1.576 | .828  | .010 - .020                   | 1.594 | 1.303 | .010 - .020                   | 1.601 | .770  | .005 - .010                   |
| 1.560 | 1.376 | .025 - .040                   | 1.563 | 1.005 | .110 - .130                   | 1.571 | 1.146 | .070 - .090                   | 1.576 | .926  | .005 - .010                   | 1.594 | 1.416 | .005 - .015                   | 1.601 | 1.436 | .005 - .010                   |
| 1.561 | .161  | .020 - .030                   | 1.563 | 1.062 | .005 - .010                   | 1.572 | .476  | .005 - .010                   | 1.576 | 1.092 | .050 - .070                   | 1.594 | 1.451 | .030 - .050                   | 1.601 | 1.460 | .005 - .010                   |
| 1.561 | .251  | .040 - .060                   | 1.563 | 1.131 | .050 - .070                   | 1.572 | .569  | .050 - .060                   | 1.576 | 1.245 | .025 - .040                   | 1.594 | 1.504 | .015 - .030                   | 1.602 | .630  | .100 - .125                   |
| 1.561 | .259  | .083 - .125                   | 1.563 | 1.347 | .040 - .062                   | 1.572 | .625  | .050 - .070                   | 1.576 | 1.474 | .005 - .010                   | 1.595 | .551  | .105 - .125                   | 1.602 | .772  | .010 - .020                   |
| 1.561 | .562  | .005 - .010                   | 1.563 | 1.402 | .020 - .040                   | 1.572 | .754  | .005 - .010                   | 1.577 | .632  | .040 - .060                   | 1.595 | 1.313 | .110 - .130                   | 1.602 | .973  | .100 - .125                   |
| 1.561 | .629  | .075 - .105                   | 1.564 | .375  | .048 - .075                   | 1.572 | .761  | .020 - .040                   | 1.577 | .771  | .030 - .060                   | 1.596 | .880  | .010 - .020                   | 1.602 | 1.432 | .005 - .010                   |
| 1.561 | .749  | .040 - .060                   | 1.564 | .501  | .025 - .040                   | 1.572 | 1.254 | .030 - .050                   | 1.577 | .829  | .110 - .130                   | 1.597 | .200  | .050 - .070                   | 1.602 | 1.492 | .005 - .010                   |
| 1.561 | .766  | .100 - .125                   | 1.564 | .511  | .020 - .040                   | 1.572 | 1.255 | .025 - .040                   | 1.577 | .994  | .015 - .030                   | 1.597 | .755  | .010 - .020                   | 1.603 | .341  | .100 - .125                   |
| 1.561 | .768  | .025 - .040                   | 1.564 | .700  | .020 - .030                   | 1.572 | 1.258 | .007 - .016                   | 1.577 | 1.072 | .090 - .110                   | 1.597 | .881  | .090 - .125                   | 1.603 | .800  | .075 - .090                   |
| 1.561 | .883  | .005 - .010                   | 1.564 | .767  | .010 - .020                   | 1.572 | 1.452 | .005 - .010                   | 1.577 | 1.341 | .070 - .090                   | 1.598 | .199  | .080 - .090                   | 1.603 | 1.012 | .025 - .040                   |
| 1.561 | .952  | .030 - .050                   | 1.564 | 1.123 | .020 - .040                   | 1.573 | .504  | .090 - .135                   | 1.578 | .771  | .025 - .040                   | 1.598 | .320  | .080 - .090                   | 1.603 | 1.500 | .020 - .030                   |
| 1.561 | 1.039 | .030 - .050                   | 1.564 | 1.135 | .050 - .075                   | 1.573 | .641  | .060 - .083                   | 1.578 | 1.063 | .030 - .050                   | 1.598 | .505  | .005 - .010                   | 1.604 | .674  | .115 - .130                   |
| 1.561 | 1.040 | .010 - .015                   | 1.564 | 1.189 | .005 - .010                   | 1.573 | .648  | .010 - .020                   | 1.578 | 1.292 | .020 - .030                   | 1.598 | .516  | .050 - .070                   | 1.604 | 1.007 | .005 - .010                   |
| 1.561 | 1.158 | .040 - .060                   | 1.564 | 1.309 | .005 - .010                   | 1.573 | .731  | .040 - .062                   | 1.578 | 1.298 | .010 - .015                   | 1.598 | .625  | .030 - .050                   | 1.605 | .378  | .030 - .050                   |
| 1.561 | 1.231 | .040 - .060                   | 1.564 | 1.393 | .015 - .030                   | 1.573 | .812  | .015 - .030                   | 1.579 | .570  | .005 - .010                   | 1.598 | .631  | .010 - .020                   | 1.605 | .390  | .005 - .010                   |
| 1.561 | 1.261 | .040 - .060                   | 1.564 | 1.434 | .005 - .010                   | 1.573 | .990  | .005 - .010                   | 1.579 | 1.232 | .010 - .020                   | 1.598 | .720  | .005 - .010                   | 1.605 | .694  | .020 - .040                   |
| 1.561 | 1.390 | .005 - .010                   | 1.565 | .122  | .020 - .040                   | 1.573 | 1.013 | .005 - .010                   | 1.579 | 1.378 | .030 - .040                   | 1.598 | 1.000 | .080 - .125                   | 1.605 | .881  | .015 - .030                   |
| 1.561 | 1.433 | .005 - .012                   | 1.565 | .562  | .030 - .048                   | 1.573 | 1.102 | .060 - .080                   | 1.580 | .785  | .050 - .060                   | 1.598 | 1.058 | .005 - .010                   | 1.605 | 1.009 | .105 - .125                   |
| 1.561 | 1.439 | .005 - .010                   | 1.565 | 1.192 | .050 - .075                   | 1.573 | 1.221 | .030 - .050                   | 1.580 | .795  | .020 - .040                   | 1.598 | 1.269 | .050 - .070                   | 1.605 | 1.134 | .010 - .030                   |
| 1.562 | .201  | .020 - .030                   | 1.565 | 1.228 | .030 - .050                   | 1.573 | 1.224 | .135 - .156                   | 1.580 | .829  | .090 - .105                   | 1.599 | .378  | .005 - .020                   | 1.605 | 1.348 | .030 - .050                   |
| 1.562 | .251  | .090 - .104                   | 1.565 | 1.260 | .010 - .020                   | 1.573 | 1.264 | .005 - .010                   | 1.580 | .850  | .050 - .060                   | 1.599 | 1.489 | .090 - .110                   | 1.606 | .465  | .105 - .125                   |
| 1.562 | .317  | .008 - .016                   | 1.565 | 1.270 | .030 - .042                   | 1.573 | 1.374 | .005 - .010                   | 1.580 | .887  | .040 - .060                   | 1.599 | .503  | .005 - .010                   | 1.606 | .516  | .105 - .125                   |
| 1.562 | .351  | .075 - .105                   | 1.565 | 1.365 | .015 - .030                   | 1.574 | .344  | .105 - .125                   | 1.580 | .953  | .110 - .130                   | 1.599 | .505  | .005 - .020                   | 1.606 | 1.000 | .105 - .125                   |
| 1.562 | .378  | .048 - .075                   | 1.565 | 1.369 | .050 - .075                   | 1.574 | .410  | .005 - .010                   | 1.580 | 1.010 | .030 - .050                   | 1.599 | .626  | .015 - .025                   | 1.607 | .562  | .125 - .156                   |
| 1.562 | .406  | .105 - .125                   | 1.566 | .257  | .070 - .090                   | 1.574 | .434  | .150 - .170                   | 1.580 | 1.081 | .010 - .020                   | 1.599 | .630  | .005 - .010                   | 1.607 | .630  | .092 - .125                   |
| 1.562 | .408  | .015 - .030                   | 1.566 | .502  | .105 - .125                   | 1.574 | .474  | .005 - .010                   | 1.580 | 1.135 | .060 - .080                   | 1.599 | .689  | .060 - .080                   | 1.607 | 1.022 | .030 - .060                   |
| 1.562 | .447  | .040 - .060                   | 1.566 | .980  | .005 - .010                   | 1.574 | .475  | .010 - .020                   | 1.580 | 1.266 | .040 - .060                   | 1.599 | 1.243 | .015 - .035                   | 1.607 | 1.271 | .025 - .040                   |
| 1.562 | .562  | .032 - .050                   | 1.566 | 1.330 | .050 - .070                   | 1.574 | .502  | .010 - .020                   | 1.580 | 1.310 | .005 - .010                   | 1.599 | 1.437 | .010 - .020                   | 1.607 | 1.332 | .010 - .020                   |
| 1.562 | .563  | .156 - .187                   | 1.566 | 1.347 | .035 - .050                   | 1.574 | .631  | .010 - .020                   | 1.580 | 1.380 | .015 - .030                   | 1.600 | .170  | .050 - .062                   | 1.608 | .811  | .030 - .050                   |
| 1.562 | .564  | .005 - .020                   | 1.566 | 1.416 | .040 - .060                   | 1.574 | .828  | .060 - .080                   | 1.580 | 1.472 | .005 - .010                   | 1.600 | .253  | .005 - .010                   | 1.608 | .886  | .040 - .060                   |
| 1.562 | .656  | .156 - .187                   | 1.567 | .729  | .030 - .048                   | 1.574 | .954  | .005 - .010                   | 1.581 | .119  | .005 - .010                   | 1.600 | .281  | .050 - .075                   | 1.608 | 1.130 | .100 - .125                   |
| 1.562 | .746  | .075 - .105                   | 1.567 | .935  | .050 - .075                   | 1.574 | .984  | .035 - .045                   | 1.582 | .405  | .040 - .060                   | 1.600 | .310  | .030 - .050                   | 1.608 | 1.444 | .015 - .030                   |
| 1.562 | .750  | .010 - .100                   | 1.567 | .978  | .007 - .015                   | 1.574 | 1.071 | .090 - .100                   | 1.582 | .450  | .010 - .020                   | 1.600 | .377  | .005 - .015                   | 1.609 | .411  | .040 - .060                   |
| 1.562 | .762  | .005 - .010                   | 1.567 | .992  | .010 - .020                   | 1.574 | 1.103 | .015 - .030                   | 1.582 | .530  | .040 - .060                   | 1.600 | .378  | .005 - .015                   | 1.609 | .594  | .040 - .060                   |
| 1.562 | .765  | .090 - .120                   | 1.567 | 1.004 | .105 - .125                   | 1.574 | 1.130 | .012 - .020                   | 1.582 | .634  | .010 - .020                   | 1.600 | .415  | .075 - .100                   | 1.609 | .633  | .090 - .120                   |
| 1.562 | .781  | .083 - .105                   | 1.567 | 1.232 | .030 - .050                   | 1.574 | 1.188 | .005 - .010                   | 1.582 | 1.250 | .083 - .105                   | 1.600 | .441  | .100 - .125                   | 1.609 | .810  | .025 - .040                   |
| 1.562 | .782  | .080 - .104                   | 1.567 | 1.248 | .062 - .090                   | 1.574 | 1.221 | .010 - .020                   | 1.582 | 1.301 | .005 - .010                   | 1.600 | .478  | .090 - .120                   | 1.609 | .845  | .012 - .020                   |
| 1.562 | .812  | .062 - .080                   | 1.567 | 1.260 | .005 - .010                   | 1.574 | 1.320 | .005 - .010                   | 1.583 | 1.089 | .020 - .040                   | 1.600 | .502  | .005 - .010                   | 1.609 | 1.015 | .016 - .025                   |
| 1.562 | .864  | .120 - .140                   | 1.567 | 1.311 | .015 - .030                   | 1.574 | 1.337 | .020 - .030                   | 1.584 | .834  | .005 - .010                   | 1.600 | .503  | .006 - .012                   | 1.609 | 1.260 | .050 - .075                   |
| 1.562 | .874  | .020 - .040                   | 1.567 | 1.346 | .015 - .030                   | 1.574 | 1.373 | .062 - .090                   | 1.584 | 1.009 | .040 - .060                   | 1.600 | .504  | .005 - .020                   | 1.609 | 1.275 | .100 - .125                   |
| 1.562 | .875  | .015 - .030                   | 1.567 | 1.380 | .040 - .062                   | 1.574 | 1.416 | .005 - .010                   | 1.585 |       |                               |       |       |                               |       |       |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 1.612 | 1.468 | .010 - .020                   | 1.621 | .319  | .025 - .036                   | 1.625 | .422  | .040 - .060                   | 1.626 | .780  | .010 - .020                   | 1.638 | .554  | .010 - .020                   | 1.650 | .503  | .005 - .060                   |
| 1.612 | 1.499 | .005 - .010                   | 1.621 | .758  | .050 - .075                   | 1.625 | .430  | .100 - .125                   | 1.626 | 1.007 | .025 - .040                   | 1.638 | 1.020 | .030 - .050                   | 1.650 | .504  | .010 - .020                   |
| 1.612 | 1.510 | .005 - .010                   | 1.621 | 1.265 | .005 - .010                   | 1.625 | .465  | .015 - .030                   | 1.626 | 1.125 | .040 - .060                   | 1.638 | 1.262 | .005 - .050                   | 1.650 | .563  | .005 - .020                   |
| 1.613 | .315  | .025 - .040                   | 1.621 | 1.275 | .020 - .040                   | 1.625 | .475  | .105 - .135                   | 1.626 | 1.134 | .005 - .010                   | 1.638 | 1.375 | .105 - .125                   | 1.650 | .620  | .015 - .125                   |
| 1.613 | .778  | .020 - .040                   | 1.621 | 1.317 | .025 - .042                   | 1.625 | .498  | .005 - .010                   | 1.626 | 1.187 | .005 - .040                   | 1.638 | 1.515 | .015 - .030                   | 1.650 | .625  | .005 - .020                   |
| 1.613 | 1.124 | .090 - .100                   | 1.621 | 1.480 | .025 - .035                   | 1.625 | .500  | .025 - .080                   | 1.626 | 1.321 | .050 - .075                   | 1.639 | .677  | .005 - .010                   | 1.650 | .626  | .020 - .030                   |
| 1.613 | 1.312 | .015 - .030                   | 1.622 | .341  | .075 - .090                   | 1.625 | .504  | .005 - .010                   | 1.626 | 1.377 | .025 - .040                   | 1.639 | .737  | .060 - .080                   | 1.650 | .629  | .005 - .010                   |
| 1.614 | .145  | .070 - .090                   | 1.622 | .407  | .036 - .048                   | 1.625 | .508  | .005 - .042                   | 1.626 | 1.402 | .005 - .010                   | 1.639 | .990  | .010 - .020                   | 1.650 | .630  | .010 - .020                   |
| 1.614 | .329  | .005 - .010                   | 1.622 | .645  | .100 - .125                   | 1.625 | .514  | .005 - .010                   | 1.627 | .173  | .010 - .020                   | 1.639 | 1.310 | .080 - .100                   | 1.650 | .634  | .020 - .040                   |
| 1.614 | .694  | .020 - .030                   | 1.622 | .767  | .120 - .156                   | 1.625 | .531  | .100 - .125                   | 1.627 | .314  | .015 - .030                   | 1.639 | 1.376 | .005 - .010                   | 1.650 | .686  | .062 - .080                   |
| 1.614 | .884  | .040 - .060                   | 1.622 | .894  | .090 - .120                   | 1.625 | .535  | .010 - .030                   | 1.627 | .380  | .040 - .060                   | 1.640 | .645  | .005 - .010                   | 1.650 | .689  | .156 - .187                   |
| 1.614 | 1.001 | .005 - .010                   | 1.622 | .992  | .025 - .040                   | 1.625 | .536  | .080 - .100                   | 1.627 | .385  | .090 - .125                   | 1.640 | .750  | .005 - .010                   | 1.650 | .750  | .156 - .190                   |
| 1.614 | 1.189 | .025 - .040                   | 1.622 | 1.161 | .040 - .050                   | 1.625 | .540  | .010 - .060                   | 1.627 | .555  | .156 - .187                   | 1.640 | 1.000 | .005 - .010                   | 1.650 | .755  | .010 - .020                   |
| 1.614 | 1.251 | .005 - .010                   | 1.622 | 1.188 | .050 - .100                   | 1.625 | .542  | .090 - .120                   | 1.627 | .627  | .062 - .080                   | 1.640 | 1.082 | .156 - .187                   | 1.650 | 1.010 | .090 - .105                   |
| 1.614 | 1.280 | .020 - .040                   | 1.622 | 1.250 | .020 - .040                   | 1.625 | .563  | .025 - .042                   | 1.627 | .693  | .105 - .135                   | 1.640 | 1.373 | .010 - .035                   | 1.650 | 1.094 | .040 - .060                   |
| 1.614 | 1.281 | .010 - .020                   | 1.622 | 1.261 | .050 - .070                   | 1.625 | .564  | .050 - .075                   | 1.627 | .816  | .025 - .042                   | 1.640 | 1.399 | .015 - .030                   | 1.650 | 1.181 | .025 - .060                   |
| 1.614 | 1.339 | .015 - .030                   | 1.622 | 1.312 | .060 - .070                   | 1.625 | .565  | .010 - .125                   | 1.627 | .876  | .015 - .030                   | 1.640 | 1.440 | .005 - .010                   | 1.650 | 1.250 | .005 - .030                   |
| 1.614 | 1.381 | .010 - .020                   | 1.622 | 1.357 | .015 - .030                   | 1.625 | .566  | .100 - .125                   | 1.627 | 1.006 | .105 - .125                   | 1.640 | 1.440 | .015 - .030                   | 1.650 | 1.252 | .105 - .156                   |
| 1.615 | .316  | .010 - .020                   | 1.622 | 1.364 | .020 - .040                   | 1.625 | .571  | .015 - .030                   | 1.627 | 1.125 | .080 - .104                   | 1.640 | 1.442 | .050 - .070                   | 1.650 | 1.253 | .020 - .030                   |
| 1.615 | .500  | .050 - .070                   | 1.623 | .255  | .080 - .104                   | 1.625 | .614  | .015 - .030                   | 1.627 | 1.130 | .005 - .010                   | 1.641 | 1.044 | .036 - .060                   | 1.650 | 1.262 | .005 - .010                   |
| 1.615 | .629  | .090 - .100                   | 1.623 | .511  | .090 - .105                   | 1.625 | .625  | .156 - .190                   | 1.627 | 1.181 | .080 - .100                   | 1.642 | .682  | .105 - .135                   | 1.650 | 1.321 | .100 - .125                   |
| 1.615 | .877  | .050 - .075                   | 1.623 | .597  | .080 - .104                   | 1.625 | .633  | .060 - .090                   | 1.627 | 1.250 | .005 - .010                   | 1.642 | 1.039 | .005 - .010                   | 1.650 | 1.328 | .005 - .010                   |
| 1.615 | 1.000 | .050 - .075                   | 1.623 | .775  | .005 - .010                   | 1.625 | .634  | .100 - .125                   | 1.627 | 1.260 | .005 - .010                   | 1.642 | 1.330 | .050 - .080                   | 1.650 | 1.399 | .050 - .070                   |
| 1.615 | 1.407 | .020 - .040                   | 1.623 | .782  | .062 - .080                   | 1.625 | .640  | .005 - .010                   | 1.627 | 1.267 | .005 - .030                   | 1.643 | .678  | .080 - .104                   | 1.650 | 1.413 | .015 - .025                   |
| 1.615 | 1.417 | .040 - .060                   | 1.623 | .891  | .005 - .010                   | 1.625 | .643  | .170 - .190                   | 1.627 | 1.278 | .005 - .010                   | 1.643 | .755  | .050 - .080                   | 1.650 | 1.430 | .070 - .090                   |
| 1.615 | 1.450 | .005 - .010                   | 1.623 | 1.000 | .080 - .100                   | 1.625 | .656  | .010 - .020                   | 1.627 | 1.302 | .010 - .020                   | 1.643 | 1.329 | .050 - .070                   | 1.651 | .276  | .030 - .040                   |
| 1.615 | 1.456 | .010 - .020                   | 1.623 | 1.032 | .050 - .070                   | 1.625 | .657  | .035 - .050                   | 1.627 | 1.320 | .025 - .040                   | 1.644 | .911  | .025 - .040                   | 1.651 | .690  | .005 - .010                   |
| 1.616 | .752  | .075 - .100                   | 1.623 | 1.063 | .050 - .080                   | 1.625 | .688  | .100 - .120                   | 1.627 | 1.378 | .050 - .070                   | 1.644 | .914  | .030 - .050                   | 1.651 | .818  | .040 - .060                   |
| 1.616 | 1.382 | .005 - .010                   | 1.623 | 1.064 | .050 - .075                   | 1.625 | .754  | .050 - .075                   | 1.628 | .129  | .050 - .070                   | 1.644 | .990  | .040 - .060                   | 1.651 | 1.251 | .005 - .010                   |
| 1.616 | 1.390 | .100 - .120                   | 1.623 | 1.188 | .060 - .090                   | 1.625 | .755  | .090 - .105                   | 1.628 | .323  | .080 - .105                   | 1.644 | 1.039 | .015 - .030                   | 1.651 | 1.300 | .015 - .025                   |
| 1.617 | .417  | .005 - .010                   | 1.623 | 1.208 | .025 - .040                   | 1.625 | .760  | .100 - .125                   | 1.628 | .420  | .156 - .187                   | 1.644 | 1.310 | .070 - .090                   | 1.651 | 1.413 | .020 - .030                   |
| 1.617 | .498  | .080 - .120                   | 1.623 | 1.257 | .110 - .125                   | 1.625 | .765  | .090 - .120                   | 1.628 | .508  | .090 - .120                   | 1.644 | 1.328 | .075 - .090                   | 1.652 | .562  | .005 - .020                   |
| 1.617 | .500  | .010 - .020                   | 1.623 | 1.375 | .005 - .015                   | 1.625 | .768  | .020 - .040                   | 1.628 | .810  | .040 - .060                   | 1.644 | 1.388 | .090 - .110                   | 1.652 | .786  | .070 - .090                   |
| 1.617 | .626  | .048 - .062                   | 1.623 | 1.410 | .005 - .015                   | 1.625 | .770  | .050 - .075                   | 1.628 | 1.137 | .005 - .010                   | 1.644 | 1.405 | .040 - .060                   | 1.653 | .473  | .005 - .010                   |
| 1.617 | .751  | .020 - .040                   | 1.623 | 1.456 | .025 - .040                   | 1.625 | .772  | .005 - .010                   | 1.628 | 1.358 | .030 - .050                   | 1.644 | 1.458 | .020 - .040                   | 1.653 | .474  | .020 - .030                   |
| 1.617 | .805  | .040 - .060                   | 1.623 | 1.481 | .025 - .040                   | 1.625 | .781  | .100 - .135                   | 1.628 | 1.386 | .005 - .010                   | 1.644 | 1.528 | .030 - .050                   | 1.653 | .475  | .005 - .010                   |
| 1.617 | 1.060 | .050 - .070                   | 1.624 | .311  | .105 - .125                   | 1.625 | .791  | .030 - .050                   | 1.628 | 1.387 | .010 - .040                   | 1.645 | .625  | .015 - .050                   | 1.653 | .492  | .090 - .125                   |
| 1.617 | 1.258 | .025 - .042                   | 1.624 | .408  | .010 - .020                   | 1.625 | .797  | .080 - .100                   | 1.629 | .240  | .015 - .030                   | 1.645 | .882  | .020 - .040                   | 1.653 | .502  | .005 - .010                   |
| 1.617 | 1.390 | .030 - .050                   | 1.624 | .440  | .040 - .060                   | 1.625 | .816  | .090 - .120                   | 1.629 | .284  | .015 - .030                   | 1.645 | .956  | .105 - .125                   | 1.653 | .631  | .005 - .010                   |
| 1.618 | .107  | .110 - .130                   | 1.624 | .621  | .050 - .070                   | 1.625 | .865  | .100 - .125                   | 1.629 | .530  | .100 - .125                   | 1.645 | 1.073 | .005 - .010                   | 1.653 | .633  | .020 - .040                   |
| 1.618 | .256  | .100 - .125                   | 1.624 | .626  | .010 - .040                   | 1.625 | .875  | .090 - .125                   | 1.629 | .592  | .020 - .030                   | 1.645 | 1.250 | .140 - .160                   | 1.653 | 1.273 | .050 - .060                   |
| 1.618 | .651  | .040 - .060                   | 1.624 | .691  | .050 - .075                   | 1.625 | .882  | .060 - .070                   | 1.629 | 1.125 | .015 - .025                   | 1.645 | 1.328 | .060 - .080                   | 1.653 | 1.274 | .050 - .070                   |
| 1.618 | .690  | .015 - .030                   | 1.624 | .695  | .015 - .030                   | 1.625 | .932  | .005 - .012                   | 1.629 | 1.319 | .005 - .010                   | 1.645 | 1.398 | .005 - .010                   | 1.653 | 1.326 | .070 - .090                   |
| 1.618 | .899  | .030 - .050                   | 1.624 | .875  | .040 - .060                   | 1.625 | .937  | .070 - .090                   | 1.629 | 1.331 | .025 - .040                   | 1.646 | 1.236 | .030 - .050                   | 1.653 | 1.378 | .090 - .105                   |
| 1.618 | .963  | .110 - .130                   | 1.624 | .906  | .100 - .125                   | 1.625 | .999  | .005 - .032                   | 1.629 | 1.388 | .020 - .030                   | 1.646 | 1.411 | .015 - .030                   | 1.653 | 1.416 | .070 - .090                   |
| 1.618 | 1.010 | .105 - .125                   | 1.624 | .917  | .030 - .050                   | 1.625 | 1.000 | .040 - .060                   | 1.630 | .231  | .050 - .070                   | 1.646 | 1.427 | .015 - .030                   | 1.653 | 1.481 | .040 - .060                   |
| 1.618 | 1.035 | .060 - .090                   | 1.624 | 1.005 | .040 - .060                   | 1.625 | 1.000 | .080 - .090                   | 1.630 | .243  | .110 - .135                   | 1.646 | 1.435 | .070 - .090                   | 1.653 | 1.486 | .030 - .050                   |
| 1.618 | 1.134 | .005 - .010                   | 1.624 | 1.015 | .050 - .100                   | 1.625 | 1.004 | .040 - .060                   | 1.630 | .320  | .100 - .125                   | 1.646 | 1.460 | .015 - .025                   | 1.654 | .128  | .010 - .020                   |
| 1.618 | 1.180 | .060 - .080                   | 1.624 | 1.021 | .060 - .090                   | 1.625 | 1.009 | .040 - .060                   | 1.630 | .422  | .140 - .160                   | 1.646 | 1.525 | .005 - .010                   | 1.654 | .475  | .010 - .020                   |
| 1.618 | 1.382 | .020 - .030                   | 1.624 | 1.032 | .020 - .040                   | 1.625 | 1.010 | .005 - .010                   | 1.630 | .828  | .005 - .010                   | 1.647 | .619  | .010 - .020                   | 1.654 | .632  | .010 - .020                   |
| 1.619 | .838  | .040 - .060                   | 1.624 | 1.083 | .100 - .120                   | 1.625 | 1.016 | .020 - .036                   | 1.630 | .890  | .025 - .042                   | 1.647 | .621  | .025 - .040                   | 1.654 | .639  | .090 - .105                   |
| 1.619 | .937  | .060 - .070                   | 1.624 | 1.100 | .050 - .070                   | 1.625 | 1.032 | .100 - .125                   | 1.630 | 1.007 | .083 - .120                   | 1.647 | .722  | .005 - .010                   | 1.654 | .691  | .005 - .010                   |
| 1.619 | 1.470 | .010 - .020                   | 1.624 | 1.129 | .062 - .080                   | 1.625 | 1.062 | .120 - .134                   | 1.630 | 1.061 | .042 - .062                   | 1.647 | 1.053 | .010 - .020                   | 1.654 | .820  | .005 - .010                   |
| 1.620 | .297  | .080 - .105                   | 1.624 | 1.135 | .015 - .030                   | 1.625 | 1.125 | .005 - .135                   | 1.630 | 1.153 | .025 - .040                   | 1.647 | 1.310 | .050 - .070                   | 1.654 | .834  | .005 - .050                   |
| 1.620 | .408  | .005 - .010                   | 1.624 | 1.141 | .005 - .010                   | 1.625 | 1.127 | .005 - .010                   | 1.630 | 1.200 | .125 - .156                   | 1.647 | 1.426 | .005 - .010                   | 1.654 | .886  | .070 - .090                   |
| 1.620 | .418  | .005 - .010                   | 1.624 | 1.182 | .020 - .040                   | 1.625 | 1.130 | .090 - .125                   | 1.630 | 1.274 | .005 - .010                   | 1.648 | .408  | .062 - .080                   | 1.654 | 1.050 | .080 - .100                   |
| 1.620 | .443  | .005 - .010                   | 1.624 | 1.187 | .100 - .125                   | 1.625 | 1.134 | .032 - .042                   | 1.630 | 1.283 | .020 - .040                   | 1.648 | .543  | .040 - .060                   | 1.654 | 1.265 | .050 - .070                   |
| 1.620 | .530  | .005 - .010                   | 1.624 | 1.205 | .050 - .070                   | 1.625 | 1.220 | .050 - .075                   | 1.630 | 1.330 | .040 - .060                   | 1.648 | 1.008 | .010 - .020                   | 1.654 | 1.272 | .010 - .020                   |
| 1.620 | .585  | .090 - .120                   | 1.624 | 1.218 | .020 - .035                   | 1.625 | 1.250 | .015 - .030                   | 1.630 | 1.489 | .030 - .040                   | 1.648 | 1.194 | .090 - .105                   | 1.654 | 1.419 | .020 - .040                   |
| 1.620 | .592  | .012 - .020                   | 1.624 | 1.260 | .005 - .010                   | 1.625 | 1.255 | .100 - .125                   | 1.630 | 1.490 | .040 - .060                   | 1.648 | 1.270 | .020 - .030                   | 1.654 | 1.420 | .005 - .010                   |
| 1.620 | .644  | .005 - .010                   | 1.624 | 1.268 | .050 - .070                   | 1.625 | 1.256 | .030 - .050                   | 1.630 | 1.503 | .015 - .030                   | 1.648 | 1.403 | .005 - .010                   | 1.655 | .203  | .050 - .075                   |
| 1.620 | .647  | .005 - .010                   | 1.624 | 1.329 | .005 - .020                   | 1.625 | 1.281 | .040 - .060                   |       |       |                               |       |       |                               |       |       |                               |



**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D.  | I.D.  | Choose Any Thickness* To | O.D.  | I.D.  | Choose Any Thickness* To | O.D.  | I.D.  | Choose Any Thickness* To | O.D.  | I.D.  | Choose Any Thickness* To | O.D.  | I.D.  | Choose Any Thickness* To | O.D.  | I.D.  | Choose Any Thickness* To |
|-------|-------|--------------------------|-------|-------|--------------------------|-------|-------|--------------------------|-------|-------|--------------------------|-------|-------|--------------------------|-------|-------|--------------------------|
| 1.656 | 1.581 | .005 - .010              | 1.680 | .500  | .010 - .105              | 1.690 | .125  | .020 - .040              | 1.700 | 1.542 | .010 - .020              | 1.720 | .655  | .025 - .040              | 1.734 | 1.536 | .015 - .030              |
| 1.657 | .345  | .005 - .010              | 1.680 | .605  | .040 - .060              | 1.690 | .410  | .105 - .125              | 1.701 | .560  | .010 - .020              | 1.720 | .718  | .005 - .010              | 1.735 | .113  | .030 - .050              |
| 1.657 | .352  | .005 - .010              | 1.680 | .712  | .040 - .060              | 1.690 | .711  | .050 - .070              | 1.701 | 1.004 | .005 - .010              | 1.720 | .760  | .105 - .125              | 1.735 | .378  | .030 - .050              |
| 1.657 | 1.126 | .005 - .010              | 1.680 | .768  | .040 - .060              | 1.690 | .890  | .080 - .104              | 1.701 | 1.266 | .015 - .030              | 1.720 | 1.000 | .060 - .083              | 1.735 | .896  | .080 - .105              |
| 1.657 | 1.135 | .090 - .110              | 1.680 | .797  | .042 - .062              | 1.690 | 1.163 | .040 - .050              | 1.701 | 1.385 | .030 - .050              | 1.720 | 1.225 | .008 - .015              | 1.735 | 1.130 | .030 - .050              |
| 1.657 | 1.182 | .100 - .120              | 1.680 | .813  | .040 - .060              | 1.690 | 1.187 | .020 - .040              | 1.701 | 1.450 | .040 - .060              | 1.720 | 1.400 | .015 - .030              | 1.735 | 1.259 | .125 - .156              |
| 1.657 | 1.212 | .025 - .040              | 1.680 | .856  | .040 - .060              | 1.690 | 1.303 | .030 - .050              | 1.702 | .208  | .040 - .060              | 1.720 | 1.464 | .010 - .020              | 1.735 | 1.265 | .015 - .030              |
| 1.658 | 1.182 | .010 - .015              | 1.680 | .895  | .040 - .060              | 1.690 | 1.378 | .030 - .060              | 1.702 | .820  | .080 - .100              | 1.721 | 1.306 | .050 - .075              | 1.735 | 1.399 | .005 - .010              |
| 1.658 | 1.229 | .005 - .010              | 1.680 | .927  | .040 - .060              | 1.690 | 1.559 | .005 - .010              | 1.702 | .825  | .156 - .190              | 1.721 | 1.408 | .005 - .010              | 1.735 | 1.438 | .075 - .090              |
| 1.659 | .754  | .025 - .040              | 1.680 | .965  | .040 - .060              | 1.691 | .772  | .010 - .020              | 1.702 | 1.000 | .010 - .020              | 1.721 | 1.514 | .020 - .030              | 1.735 | 1.513 | .093 - .105              |
| 1.659 | 1.518 | .050 - .062              | 1.680 | 1.102 | .030 - .050              | 1.691 | 1.083 | .005 - .010              | 1.702 | 1.120 | .050 - .070              | 1.722 | .417  | .005 - .010              | 1.735 | 1.565 | .005 - .010              |
| 1.660 | .375  | .050 - .070              | 1.680 | 1.195 | .090 - .120              | 1.691 | 1.300 | .050 - .060              | 1.703 | .114  | .005 - .015              | 1.722 | .752  | .045 - .060              | 1.736 | .475  | .005 - .010              |
| 1.660 | .634  | .010 - .020              | 1.680 | 1.249 | .040 - .060              | 1.691 | 1.477 | .005 - .010              | 1.703 | 1.320 | .050 - .075              | 1.722 | 1.515 | .060 - .080              | 1.736 | 1.149 | .030 - .060              |
| 1.660 | .873  | .070 - .090              | 1.680 | 1.372 | .010 - .025              | 1.691 | 1.563 | .005 - .010              | 1.703 | 1.386 | .005 - .010              | 1.723 | .265  | .050 - .083              | 1.736 | 1.253 | .060 - .080              |
| 1.660 | .964  | .010 - .020              | 1.680 | 1.430 | .005 - .010              | 1.692 | .885  | .080 - .100              | 1.704 | .114  | .005 - .010              | 1.723 | .354  | .060 - .080              | 1.737 | .350  | .015 - .030              |
| 1.660 | 1.188 | .005 - .010              | 1.680 | 1.450 | .032 - .060              | 1.693 | .803  | .040 - .060              | 1.704 | .169  | .010 - .025              | 1.723 | .686  | .110 - .130              | 1.737 | .401  | .005 - .010              |
| 1.660 | 1.250 | .015 - .030              | 1.681 | .196  | .005 - .010              | 1.693 | 1.122 | .010 - .020              | 1.705 | 1.250 | .005 - .012              | 1.723 | 1.415 | .020 - .040              | 1.737 | 1.501 | .040 - .060              |
| 1.660 | 1.354 | .015 - .030              | 1.681 | .690  | .120 - .160              | 1.694 | .723  | .005 - .010              | 1.705 | 1.418 | .015 - .030              | 1.723 | 1.513 | .070 - .090              | 1.737 | 1.502 | .005 - .010              |
| 1.660 | 1.375 | .090 - .120              | 1.681 | .894  | .050 - .070              | 1.694 | .984  | .005 - .010              | 1.706 | .439  | .040 - .060              | 1.724 | .375  | .040 - .060              | 1.738 | .771  | .015 - .025              |
| 1.660 | 1.389 | .090 - .105              | 1.681 | 1.034 | .105 - .125              | 1.694 | 1.260 | .090 - .110              | 1.706 | .586  | .070 - .090              | 1.724 | 1.195 | .060 - .080              | 1.738 | .882  | .090 - .105              |
| 1.660 | 1.390 | .110 - .130              | 1.681 | 1.193 | .020 - .040              | 1.694 | 1.499 | .025 - .040              | 1.706 | .776  | .070 - .090              | 1.725 | 1.350 | .040 - .062              | 1.738 | .991  | .010 - .020              |
| 1.661 | 1.141 | .080 - .100              | 1.681 | 1.300 | .040 - .060              | 1.694 | 1.500 | .005 - .015              | 1.707 | .780  | .005 - .010              | 1.725 | 1.410 | .005 - .010              | 1.738 | 1.249 | .005 - .010              |
| 1.661 | 1.194 | .025 - .042              | 1.681 | 1.372 | .005 - .020              | 1.695 | .203  | .040 - .060              | 1.707 | 1.002 | .105 - .135              | 1.726 | 1.134 | .050 - .070              | 1.738 | 1.257 | .005 - .020              |
| 1.661 | 1.359 | .105 - .125              | 1.681 | 1.400 | .005 - .010              | 1.695 | .314  | .040 - .060              | 1.708 | .381  | .060 - .080              | 1.726 | 1.385 | .030 - .050              | 1.738 | 1.260 | .070 - .090              |
| 1.661 | 1.381 | .005 - .010              | 1.682 | 1.016 | .060 - .080              | 1.695 | .998  | .005 - .010              | 1.708 | 1.247 | .005 - .020              | 1.727 | 1.623 | .020 - .035              | 1.738 | 1.548 | .005 - .015              |
| 1.662 | 1.375 | .040 - .060              | 1.683 | .819  | .010 - .020              | 1.695 | 1.010 | .100 - .125              | 1.708 | 1.311 | .030 - .050              | 1.728 | .878  | .100 - .125              | 1.739 | 1.114 | .030 - .050              |
| 1.662 | 1.410 | .040 - .125              | 1.683 | .918  | .010 - .020              | 1.695 | 1.537 | .060 - .075              | 1.708 | 1.312 | .050 - .075              | 1.728 | 1.509 | .060 - .080              | 1.739 | 1.302 | .020 - .040              |
| 1.663 | .340  | .005 - .010              | 1.683 | 1.006 | .050 - .075              | 1.696 | 1.002 | .060 - .083              | 1.709 | .391  | .005 - .015              | 1.729 | .870  | .020 - .040              | 1.739 | 1.446 | .040 - .060              |
| 1.663 | 1.291 | .020 - .040              | 1.683 | 1.298 | .090 - .105              | 1.696 | 1.200 | .020 - .040              | 1.709 | .761  | .156 - .187              | 1.729 | 1.361 | .020 - .040              | 1.740 | .362  | .050 - .070              |
| 1.663 | 1.298 | .060 - .090              | 1.684 | 1.188 | .005 - .010              | 1.696 | 1.397 | .005 - .010              | 1.710 | .760  | .100 - .125              | 1.729 | 1.475 | .005 - .010              | 1.740 | .501  | .025 - .040              |
| 1.664 | 1.471 | .015 - .030              | 1.684 | 1.389 | .025 - .040              | 1.696 | 1.452 | .080 - .105              | 1.710 | 1.093 | .015 - .035              | 1.730 | .632  | .005 - .010              | 1.740 | .503  | .070 - .090              |
| 1.665 | 1.256 | .050 - .070              | 1.684 | 1.442 | .005 - .010              | 1.697 | .453  | .100 - .125              | 1.710 | 1.345 | .005 - .010              | 1.730 | .748  | .005 - .010              | 1.740 | .765  | .032 - .060              |
| 1.665 | 1.437 | .070 - .090              | 1.684 | 1.525 | .015 - .030              | 1.697 | .861  | .090 - .125              | 1.710 | 1.399 | .010 - .020              | 1.730 | 1.000 | .080 - .105              | 1.740 | .878  | .100 - .125              |
| 1.665 | 1.471 | .010 - .016              | 1.684 | 1.562 | .040 - .050              | 1.697 | 1.308 | .105 - .125              | 1.711 | 1.143 | .156 - .187              | 1.730 | 1.300 | .060 - .070              | 1.740 | 1.008 | .050 - .060              |
| 1.665 | 1.581 | .005 - .010              | 1.685 | .340  | .025 - .042              | 1.697 | 1.328 | .005 - .010              | 1.711 | 1.300 | .050 - .070              | 1.730 | 1.330 | .010 - .050              | 1.740 | 1.058 | .060 - .080              |
| 1.666 | .895  | .005 - .008              | 1.685 | .425  | .050 - .083              | 1.697 | 1.338 | .010 - .020              | 1.711 | 1.497 | .020 - .040              | 1.730 | 1.353 | .005 - .010              | 1.740 | 1.199 | .025 - .040              |
| 1.667 | 1.400 | .005 - .010              | 1.685 | .495  | .032 - .060              | 1.698 | .131  | .015 - .030              | 1.712 | .905  | .025 - .040              | 1.730 | 1.390 | .040 - .060              | 1.740 | 1.236 | .105 - .125              |
| 1.668 | 1.010 | .042 - .060              | 1.685 | .782  | .020 - .040              | 1.698 | .453  | .100 - .125              | 1.712 | 1.617 | .005 - .010              | 1.730 | 1.478 | .010 - .020              | 1.740 | 1.244 | .005 - .010              |
| 1.668 | 1.144 | .005 - .010              | 1.685 | 1.065 | .032 - .060              | 1.698 | .502  | .015 - .030              | 1.713 | 1.129 | .050 - .070              | 1.730 | 1.498 | .040 - .060              | 1.740 | 1.260 | .010 - .060              |
| 1.668 | 1.264 | .005 - .010              | 1.685 | 1.070 | .040 - .050              | 1.698 | .626  | .010 - .020              | 1.713 | 1.500 | .050 - .070              | 1.730 | 1.541 | .015 - .030              | 1.740 | 1.261 | .006 - .012              |
| 1.669 | .987  | .005 - .010              | 1.685 | 1.190 | .010 - .020              | 1.698 | .715  | .090 - .105              | 1.714 | 1.408 | .050 - .062              | 1.731 | .476  | .005 - .010              | 1.740 | 1.313 | .062 - .093              |
| 1.670 | .635  | .005 - .010              | 1.685 | 1.269 | .062 - .080              | 1.698 | .753  | .060 - .090              | 1.714 | 1.409 | .050 - .070              | 1.731 | .748  | .015 - .030              | 1.740 | 1.380 | .090 - .110              |
| 1.670 | 1.009 | .100 - .135              | 1.685 | 1.300 | .050 - .060              | 1.698 | .760  | .080 - .100              | 1.714 | 1.513 | .025 - .042              | 1.731 | .828  | .090 - .105              | 1.740 | 1.530 | .005 - .010              |
| 1.670 | 1.060 | .020 - .040              | 1.685 | 1.360 | .020 - .030              | 1.698 | 1.449 | .005 - .010              | 1.714 | 1.541 | .040 - .060              | 1.731 | .854  | .070 - .090              | 1.740 | 1.531 | .015 - .030              |
| 1.670 | 1.131 | .070 - .080              | 1.685 | 1.567 | .032 - .050              | 1.699 | .625  | .015 - .030              | 1.714 | 1.613 | .005 - .010              | 1.731 | .866  | .080 - .100              | 1.740 | 1.535 | .040 - .060              |
| 1.670 | 1.255 | .025 - .042              | 1.685 | 1.568 | .040 - .060              | 1.699 | .754  | .010 - .020              | 1.715 | .185  | .060 - .080              | 1.731 | .881  | .040 - .060              | 1.740 | 1.600 | .005 - .010              |
| 1.670 | 1.314 | .005 - .010              | 1.686 | .317  | .020 - .040              | 1.699 | .949  | .050 - .060              | 1.715 | .188  | .020 - .030              | 1.731 | 1.135 | .005 - .010              | 1.740 | 1.609 | .020 - .040              |
| 1.670 | 1.380 | .030 - .050              | 1.686 | .345  | .050 - .070              | 1.699 | 1.404 | .005 - .010              | 1.715 | .950  | .050 - .080              | 1.731 | 1.195 | .025 - .040              | 1.741 | 1.010 | .025 - .040              |
| 1.670 | 1.417 | .005 - .010              | 1.686 | .350  | .005 - .010              | 1.699 | 1.503 | .015 - .030              | 1.715 | 1.033 | .060 - .080              | 1.731 | 1.255 | .040 - .050              | 1.741 | 1.239 | .030 - .050              |
| 1.670 | 1.420 | .020 - .040              | 1.686 | 1.070 | .005 - .012              | 1.700 | .125  | .100 - .125              | 1.715 | 1.513 | .015 - .030              | 1.731 | 1.497 | .030 - .050              | 1.742 | .198  | .050 - .075              |
| 1.671 | .922  | .005 - .010              | 1.686 | 1.190 | .015 - .030              | 1.700 | .204  | .100 - .125              | 1.715 | 1.551 | .005 - .010              | 1.731 | 1.585 | .010 - .020              | 1.742 | 1.020 | .020 - .060              |
| 1.671 | 1.152 | .030 - .050              | 1.686 | 1.270 | .015 - .030              | 1.700 | .206  | .100 - .120              | 1.716 | .405  | .090 - .120              | 1.732 | .186  | .010 - .020              | 1.742 | 1.459 | .010 - .020              |
| 1.671 | 1.200 | .075 - .105              | 1.686 | 1.383 | .016 - .025              | 1.700 | .364  | .100 - .125              | 1.716 | .720  | .050 - .075              | 1.732 | .473  | .005 - .010              | 1.742 | 1.512 | .060 - .070              |
| 1.672 | .874  | .105 - .125              | 1.686 | 1.560 | .005 - .010              | 1.700 | .500  | .005 - .020              | 1.716 | .953  | .050 - .070              | 1.732 | .545  | .005 - .010              | 1.742 | 1.555 | .050 - .070              |
| 1.672 | 1.198 | .005 - .010              | 1.687 | .255  | .080 - .104              | 1.700 | .502  | .005 - .010              | 1.716 | 1.312 | .020 - .040              | 1.732 | .630  | .005 - .010              | 1.743 | .315  | .010 - .032              |
| 1.672 | 1.198 | .015 - .030              | 1.687 | .375  | .030 - .050              | 1.700 | .505  | .010 - .020              | 1.717 | .410  | .075 - .090              | 1.732 | .631  | .010 - .020              | 1.743 | .505  | .015 - .020              |
| 1.672 | 1.515 | .005 - .010              | 1.687 | .406  | .105 - .135              | 1.700 | .578  | .005 - .010              | 1.717 | .758  | .040 - .060              | 1.732 | .695  | .007 - .012              | 1.743 | .511  | .005 - .010              |
| 1.673 | .714  | .005 - .010              | 1.687 | .484  | .060 - .080              | 1.700 | .579  | .090 - .100              | 1.717 | 1.186 | .015 - .030              | 1.732 | .748  | .005 - .030              | 1.743 | .532  | .100 - .125              |
| 1.674 | 1.150 | .040 - .060              | 1.687 | .562  | .005 - .020              | 1.700 | .585  | .135 - .156              | 1.717 | 1.619 | .015 - .030              | 1.732 | .750  | .070 - .080              | 1.743 | 1.220 | .020 - .030              |
| 1.675 | .250  | .005 - .010              | 1.687 | .634  | .030 - .050              | 1.700 | .631  | .005 - .020              | 1.718 | .360  | .050 - .070              | 1.732 | .993  | .005 - .010              | 1.743 | 1.225 | .015 - .030              |
| 1.675 | .771  | .060 - .075              | 1.687 | .756  | .030 - .050              | 1.700 | .726  | .005 - .010              | 1.718 | .630  | .015 - .030              | 1.732 | 1.257 | .040 - .060              | 1.743 | 1.339 | .090 - .105              |
| 1.675 | .800  | .042 - .075              | 1.687 | .893  |                          |       |       |                          |       |       |                          |       |       |                          |       |       |                          |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D. | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 1.745 | .885  | .050 - .070                   | 1.748 | .770  | .010 - .020                   | 1.750 | .201 | .080 - .100                   | 1.750 | .825  | .090 - .105                   | 1.750 | 1.443 | .090 - .105                   | 1.756 | .484  | .105 - .135                   |
| 1.745 | 1.073 | .010 - .020                   | 1.748 | .781  | .050 - .075                   | 1.750 | .204 | .105 - .125                   | 1.750 | .830  | .005 - .010                   | 1.750 | 1.450 | .040 - .060                   | 1.757 | .252  | .080 - .104                   |
| 1.745 | 1.101 | .015 - .030                   | 1.748 | .785  | .100 - .125                   | 1.750 | .220 | .050 - .070                   | 1.750 | .832  | .050 - .070                   | 1.750 | 1.471 | .050 - .075                   | 1.757 | .629  | .100 - .125                   |
| 1.745 | 1.109 | .010 - .020                   | 1.748 | .875  | .020 - .040                   | 1.750 | .238 | .060 - .090                   | 1.750 | .876  | .030 - .105                   | 1.750 | 1.500 | .025 - .040                   | 1.757 | 1.437 | .005 - .010                   |
| 1.745 | 1.133 | .010 - .020                   | 1.748 | .878  | .005 - .010                   | 1.750 | .250 | .050 - .075                   | 1.750 | .878  | .006 - .016                   | 1.750 | 1.502 | .005 - .010                   | 1.758 | .562  | .005 - .010                   |
| 1.745 | 1.165 | .005 - .010                   | 1.748 | .906  | .050 - .070                   | 1.750 | .251 | .050 - .075                   | 1.750 | .885  | .005 - .010                   | 1.750 | 1.527 | .020 - .040                   | 1.758 | 1.476 | .050 - .070                   |
| 1.745 | 1.170 | .015 - .030                   | 1.748 | 1.019 | .060 - .083                   | 1.750 | .252 | .025 - .125                   | 1.750 | .906  | .100 - .125                   | 1.750 | 1.531 | .030 - .080                   | 1.760 | .445  | .015 - .030                   |
| 1.745 | 1.196 | .020 - .040                   | 1.748 | 1.029 | .005 - .010                   | 1.750 | .256 | .080 - .104                   | 1.750 | .907  | .110 - .130                   | 1.750 | 1.532 | .025 - .045                   | 1.760 | .631  | .010 - .020                   |
| 1.745 | 1.370 | .025 - .040                   | 1.748 | 1.060 | .010 - .020                   | 1.750 | .262 | .025 - .042                   | 1.750 | .920  | .030 - .104                   | 1.750 | 1.550 | .010 - .015                   | 1.760 | .767  | .007 - .016                   |
| 1.745 | 1.375 | .005 - .010                   | 1.748 | 1.072 | .005 - .010                   | 1.750 | .270 | .120 - .135                   | 1.750 | .937  | .100 - .125                   | 1.750 | 1.565 | .005 - .010                   | 1.760 | 1.140 | .007 - .016                   |
| 1.745 | 1.448 | .020 - .030                   | 1.748 | 1.136 | .075 - .090                   | 1.750 | .272 | .010 - .020                   | 1.750 | .943  | .060 - .080                   | 1.750 | 1.566 | .005 - .010                   | 1.760 | 1.270 | .020 - .040                   |
| 1.745 | 1.511 | .005 - .010                   | 1.748 | 1.161 | .040 - .060                   | 1.750 | .320 | .100 - .120                   | 1.750 | .950  | .105 - .160                   | 1.750 | 1.567 | .010 - .020                   | 1.760 | 1.286 | .005 - .010                   |
| 1.745 | 1.560 | .010 - .020                   | 1.748 | 1.264 | .015 - .030                   | 1.750 | .342 | .050 - .080                   | 1.750 | .954  | .010 - .020                   | 1.750 | 1.580 | .040 - .060                   | 1.761 | .408  | .015 - .030                   |
| 1.745 | 1.561 | .015 - .025                   | 1.748 | 1.293 | .070 - .090                   | 1.750 | .343 | .100 - .125                   | 1.750 | 1.000 | .010 - .020                   | 1.750 | 1.615 | .020 - .040                   | 1.761 | .699  | .080 - .105                   |
| 1.746 | .373  | .060 - .080                   | 1.748 | 1.299 | .005 - .010                   | 1.750 | .365 | .105 - .125                   | 1.750 | 1.003 | .050 - .070                   | 1.751 | .325  | .005 - .010                   | 1.762 | .408  | .015 - .030                   |
| 1.746 | .443  | .005 - .010                   | 1.748 | 1.316 | .070 - .090                   | 1.750 | .375 | .090 - .125                   | 1.750 | 1.005 | .015 - .187                   | 1.751 | .451  | .105 - .125                   | 1.762 | .538  | .090 - .110                   |
| 1.746 | .497  | .025 - .040                   | 1.748 | 1.320 | .040 - .060                   | 1.750 | .392 | .100 - .125                   | 1.750 | 1.009 | .050 - .070                   | 1.751 | .511  | .005 - .010                   | 1.762 | .950  | .140 - .160                   |
| 1.746 | .595  | .005 - .010                   | 1.748 | 1.374 | .100 - .125                   | 1.750 | .395 | .100 - .125                   | 1.750 | 1.010 | .050 - .070                   | 1.751 | .560  | .010 - .060                   | 1.762 | 1.388 | .060 - .080                   |
| 1.746 | .781  | .100 - .125                   | 1.748 | 1.380 | .020 - .040                   | 1.750 | .396 | .090 - .120                   | 1.750 | 1.015 | .156 - .188                   | 1.751 | .626  | .025 - .040                   | 1.763 | .505  | .030 - .040                   |
| 1.746 | .906  | .100 - .125                   | 1.748 | 1.499 | .015 - .030                   | 1.750 | .398 | .005 - .010                   | 1.750 | 1.016 | .050 - .070                   | 1.751 | .628  | .100 - .125                   | 1.763 | .547  | .090 - .105                   |
| 1.746 | 1.001 | .040 - .062                   | 1.748 | 1.501 | .030 - .050                   | 1.750 | .401 | .090 - .105                   | 1.750 | 1.019 | .005 - .020                   | 1.751 | .629  | .030 - .050                   | 1.763 | 1.126 | .135 - .160                   |
| 1.746 | 1.046 | .075 - .090                   | 1.748 | 1.511 | .062 - .083                   | 1.750 | .406 | .070 - .090                   | 1.750 | 1.020 | .005 - .125                   | 1.751 | .720  | .156 - .187                   | 1.764 | .453  | .010 - .040                   |
| 1.746 | 1.066 | .005 - .010                   | 1.748 | 1.650 | .005 - .010                   | 1.750 | .407 | .156 - .187                   | 1.750 | 1.025 | .010 - .020                   | 1.751 | .890  | .105 - .135                   | 1.764 | .504  | .090 - .125                   |
| 1.746 | 1.133 | .040 - .060                   | 1.749 | .100  | .025 - .040                   | 1.750 | .410 | .100 - .125                   | 1.750 | 1.031 | .135 - .156                   | 1.751 | 1.002 | .105 - .125                   | 1.764 | .514  | .105 - .134                   |
| 1.746 | 1.141 | .005 - .010                   | 1.749 | .141  | .060 - .080                   | 1.750 | .436 | .150 - .187                   | 1.750 | 1.033 | .062 - .083                   | 1.751 | 1.011 | .005 - .010                   | 1.764 | .950  | .110 - .130                   |
| 1.746 | 1.169 | .060 - .080                   | 1.749 | .211  | .105 - .125                   | 1.750 | .437 | .060 - .120                   | 1.750 | 1.043 | .050 - .070                   | 1.751 | 1.033 | .050 - .075                   | 1.764 | 1.268 | .060 - .090                   |
| 1.746 | 1.190 | .090 - .125                   | 1.749 | .270  | .075 - .090                   | 1.750 | .438 | .015 - .030                   | 1.750 | 1.049 | .005 - .010                   | 1.751 | 1.132 | .050 - .075                   | 1.764 | 1.475 | .080 - .104                   |
| 1.746 | 1.254 | .100 - .125                   | 1.749 | .281  | .050 - .075                   | 1.750 | .440 | .005 - .020                   | 1.750 | 1.060 | .030 - .060                   | 1.751 | 1.198 | .070 - .090                   | 1.765 | .297  | .042 - .060                   |
| 1.746 | 1.320 | .005 - .010                   | 1.749 | .335  | .005 - .010                   | 1.750 | .445 | .120 - .140                   | 1.750 | 1.062 | .050 - .075                   | 1.751 | 1.260 | .050 - .070                   | 1.765 | .308  | .042 - .062                   |
| 1.746 | 1.448 | .050 - .075                   | 1.749 | .350  | .060 - .080                   | 1.750 | .471 | .170 - .190                   | 1.750 | 1.094 | .050 - .070                   | 1.751 | 1.265 | .050 - .070                   | 1.765 | .394  | .005 - .010                   |
| 1.746 | 1.505 | .010 - .020                   | 1.749 | .375  | .005 - .010                   | 1.750 | .500 | .120 - .140                   | 1.750 | 1.120 | .005 - .010                   | 1.751 | 1.290 | .025 - .040                   | 1.765 | .504  | .100 - .125                   |
| 1.746 | 1.535 | .060 - .080                   | 1.749 | .381  | .005 - .010                   | 1.750 | .504 | .010 - .060                   | 1.750 | 1.122 | .110 - .130                   | 1.751 | 1.302 | .005 - .010                   | 1.765 | .630  | .008 - .016                   |
| 1.747 | .282  | .025 - .040                   | 1.749 | .389  | .156 - .187                   | 1.750 | .505 | .005 - .060                   | 1.750 | 1.124 | .100 - .125                   | 1.751 | 1.405 | .050 - .075                   | 1.765 | .993  | .100 - .125                   |
| 1.747 | .286  | .005 - .010                   | 1.749 | .502  | .015 - .025                   | 1.750 | .508 | .040 - .060                   | 1.750 | 1.126 | .010 - .083                   | 1.751 | 1.434 | .020 - .040                   | 1.765 | 1.005 | .010 - .020                   |
| 1.747 | .314  | .100 - .125                   | 1.749 | .534  | .005 - .010                   | 1.750 | .510 | .048 - .134                   | 1.750 | 1.130 | .105 - .125                   | 1.751 | 1.515 | .005 - .010                   | 1.765 | 1.024 | .036 - .060                   |
| 1.747 | .333  | .090 - .110                   | 1.749 | .546  | .156 - .187                   | 1.750 | .515 | .120 - .135                   | 1.750 | 1.135 | .005 - .010                   | 1.751 | 1.569 | .020 - .035                   | 1.765 | 1.044 | .090 - .105                   |
| 1.747 | .502  | .032 - .048                   | 1.749 | .701  | .050 - .070                   | 1.750 | .516 | .005 - .010                   | 1.750 | 1.139 | .015 - .060                   | 1.751 | 1.583 | .025 - .040                   | 1.765 | 1.350 | .030 - .050                   |
| 1.747 | .515  | .005 - .010                   | 1.749 | .781  | .040 - .060                   | 1.750 | .531 | .015 - .125                   | 1.750 | 1.141 | .060 - .080                   | 1.752 | .262  | .100 - .120                   | 1.765 | 1.361 | .050 - .070                   |
| 1.747 | .531  | .015 - .030                   | 1.749 | .783  | .005 - .010                   | 1.750 | .532 | .050 - .070                   | 1.750 | 1.150 | .090 - .120                   | 1.752 | .346  | .120 - .140                   | 1.765 | 1.382 | .062 - .083                   |
| 1.747 | .543  | .100 - .125                   | 1.749 | .794  | .070 - .090                   | 1.750 | .532 | .100 - .125                   | 1.750 | 1.170 | .030 - .048                   | 1.752 | .375  | .030 - .050                   | 1.765 | 1.569 | .020 - .040                   |
| 1.747 | .565  | .050 - .075                   | 1.749 | .894  | .005 - .010                   | 1.750 | .534 | .105 - .125                   | 1.750 | 1.187 | .030 - .080                   | 1.752 | .381  | .040 - .060                   | 1.766 | 1.382 | .060 - .080                   |
| 1.747 | .620  | .050 - .075                   | 1.749 | .920  | .005 - .015                   | 1.750 | .535 | .105 - .135                   | 1.750 | 1.189 | .100 - .125                   | 1.752 | .485  | .156 - .190                   | 1.767 | .850  | .040 - .060                   |
| 1.747 | .626  | .032 - .060                   | 1.749 | .937  | .020 - .040                   | 1.750 | .543 | .040 - .060                   | 1.750 | 1.190 | .005 - .010                   | 1.752 | .531  | .005 - .010                   | 1.767 | 1.607 | .015 - .030                   |
| 1.747 | .701  | .125 - .134                   | 1.749 | 1.000 | .025 - .040                   | 1.750 | .551 | .060 - .080                   | 1.750 | 1.193 | .005 - .010                   | 1.752 | .563  | .110 - .130                   | 1.768 | .793  | .005 - .010                   |
| 1.747 | .815  | .010 - .020                   | 1.749 | 1.001 | .050 - .070                   | 1.750 | .562 | .005 - .187                   | 1.750 | 1.200 | .090 - .110                   | 1.752 | .640  | .010 - .020                   | 1.768 | 1.232 | .005 - .010                   |
| 1.747 | .885  | .100 - .125                   | 1.749 | 1.005 | .125 - .135                   | 1.750 | .564 | .010 - .020                   | 1.750 | 1.226 | .015 - .040                   | 1.752 | .800  | .025 - .040                   | 1.768 | 1.380 | .030 - .050                   |
| 1.747 | .892  | .075 - .105                   | 1.749 | 1.015 | .015 - .030                   | 1.750 | .566 | .105 - .125                   | 1.750 | 1.250 | .010 - .030                   | 1.752 | .907  | .180 - .199                   | 1.768 | 1.382 | .005 - .010                   |
| 1.747 | .906  | .120 - .140                   | 1.749 | 1.020 | .105 - .135                   | 1.750 | .590 | .090 - .110                   | 1.750 | 1.252 | .010 - .020                   | 1.752 | .910  | .015 - .030                   | 1.769 | .406  | .080 - .104                   |
| 1.747 | .908  | .010 - .020                   | 1.749 | 1.031 | .105 - .135                   | 1.750 | .623 | .020 - .075                   | 1.750 | 1.253 | .005 - .010                   | 1.752 | 1.000 | .030 - .060                   | 1.769 | .641  | .090 - .120                   |
| 1.747 | .918  | .070 - .090                   | 1.749 | 1.038 | .010 - .020                   | 1.750 | .624 | .100 - .125                   | 1.750 | 1.254 | .020 - .082                   | 1.752 | 1.051 | .020 - .040                   | 1.769 | .838  | .040 - .060                   |
| 1.747 | 1.006 | .110 - .130                   | 1.749 | 1.074 | .090 - .105                   | 1.750 | .625 | .010 - .160                   | 1.750 | 1.255 | .010 - .020                   | 1.752 | 1.062 | .100 - .125                   | 1.769 | 1.299 | .050 - .070                   |
| 1.747 | 1.030 | .020 - .040                   | 1.749 | 1.080 | .050 - .060                   | 1.750 | .626 | .010 - .020                   | 1.750 | 1.256 | .090 - .105                   | 1.752 | 1.064 | .110 - .130                   | 1.769 | 1.301 | .040 - .060                   |
| 1.747 | 1.222 | .005 - .010                   | 1.749 | 1.124 | .100 - .125                   | 1.750 | .627 | .005 - .010                   | 1.750 | 1.259 | .080 - .105                   | 1.752 | 1.256 | .020 - .040                   | 1.769 | 1.391 | .025 - .040                   |
| 1.747 | 1.253 | .005 - .010                   | 1.749 | 1.125 | .010 - .020                   | 1.750 | .628 | .005 - .032                   | 1.750 | 1.260 | .005 - .042                   | 1.752 | 1.450 | .080 - .100                   | 1.770 | .085  | .030 - .050                   |
| 1.747 | 1.255 | .005 - .025                   | 1.749 | 1.140 | .030 - .050                   | 1.750 | .629 | .005 - .090                   | 1.750 | 1.261 | .040 - .060                   | 1.752 | 1.453 | .083 - .120                   | 1.770 | .439  | .005 - .010                   |
| 1.747 | 1.309 | .050 - .075                   | 1.749 | 1.155 | .080 - .100                   | 1.750 | .631 | .005 - .020                   | 1.750 | 1.268 | .110 - .130                   | 1.752 | 1.500 | .080 - .090                   | 1.770 | .781  | .050 - .070                   |
| 1.747 | 1.315 | .060 - .070                   | 1.749 | 1.187 | .016 - .025                   | 1.750 | .635 | .120 - .135                   | 1.750 | 1.280 | .090 - .110                   | 1.752 | 1.507 | .050 - .070                   | 1.770 | .789  | .040 - .060                   |
| 1.747 | 1.340 | .005 - .010                   | 1.749 | 1.250 | .125 - .135                   | 1.750 | .637 | .025 - .040                   | 1.750 | 1.300 | .040 - .060                   | 1.752 | 1.513 | .042 - .062                   | 1.770 | .810  | .030 - .040                   |
| 1.747 | 1.376 | .020 - .030                   | 1.749 | 1.251 | .030 - .040                   | 1.750 | .641 | .156 - .190                   | 1.750 | 1.316 | .010 - .020                   | 1.752 | 1.528 | .070 - .090                   | 1.770 | .827  | .030 - .048                   |
| 1.747 | 1.394 | .042 - .062                   | 1.749 | 1.255 | .040 - .060                   | 1.750 | .655 | .100 - .125                   | 1.750 | 1.318 | .005 - .008                   | 1.753 | .343  | .080 - .104                   | 1.770 | 1.065 | .050 - .070                   |
| 1.747 | 1.395 | .005 - .010                   | 1.749 | 1.256 | .005 - .010                   | 1.750 | .656 | .010 - .060                   | 1.750 | 1.319 | .005 - .010                   | 1.753 | .387  | .040 - .080                   | 1.770 | 1.181 | .010 - .020                   |
| 1.747 | 1.449 | .005 - .010                   | 1.749 | 1.293 | .156 - .180                   | 1.750 | .657 | .040 - .060                   | 1.    |       |                               |       |       |                               |       |       |                               |

**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 1.773 | .471  | .130 - .150                   | 1.797 | 1.687 | .020 - .030                   | 1.806 | 1.660 | .005 - .010                   | 1.815 | .410  | .070 - .110                   | 1.840 | 1.269 | .040 - .060                   | 1.850 | 1.391 | .010 - .020                   |
| 1.773 | .501  | .005 - .020                   | 1.798 | .096  | .030 - .050                   | 1.806 | 1.690 | .030 - .050                   | 1.815 | .523  | .010 - .020                   | 1.840 | 1.336 | .050 - .075                   | 1.850 | 1.438 | .100 - .120                   |
| 1.773 | 1.023 | .050 - .070                   | 1.798 | .629  | .005 - .010                   | 1.807 | .166  | .035 - .050                   | 1.815 | .772  | .100 - .125                   | 1.840 | 1.343 | .010 - .020                   | 1.850 | 1.570 | .020 - .050                   |
| 1.773 | 1.149 | .050 - .070                   | 1.798 | .931  | .050 - .075                   | 1.807 | .461  | .050 - .075                   | 1.815 | .775  | .125 - .135                   | 1.840 | 1.424 | .050 - .075                   | 1.850 | 1.581 | .005 - .010                   |
| 1.773 | 1.386 | .070 - .090                   | 1.798 | 1.076 | .005 - .010                   | 1.807 | 1.007 | .050 - .070                   | 1.815 | 1.024 | .020 - .040                   | 1.840 | 1.425 | .065 - .080                   | 1.850 | 1.640 | .005 - .010                   |
| 1.773 | 1.500 | .010 - .020                   | 1.798 | 1.122 | .105 - .125                   | 1.807 | 1.209 | .090 - .105                   | 1.815 | 1.192 | .080 - .100                   | 1.840 | 1.479 | .040 - .060                   | 1.850 | 1.685 | .015 - .025                   |
| 1.774 | .127  | .015 - .030                   | 1.798 | 1.255 | .100 - .125                   | 1.807 | 1.223 | .005 - .010                   | 1.815 | 1.523 | .015 - .030                   | 1.840 | 1.519 | .040 - .060                   | 1.851 | 1.505 | .025 - .040                   |
| 1.774 | 1.182 | .040 - .060                   | 1.799 | .096  | .030 - .050                   | 1.807 | 1.438 | .040 - .060                   | 1.816 | .751  | .010 - .020                   | 1.840 | 1.600 | .010 - .020                   | 1.851 | 1.590 | .005 - .012                   |
| 1.774 | 1.362 | .005 - .010                   | 1.799 | .180  | .030 - .050                   | 1.807 | 1.518 | .030 - .060                   | 1.816 | 1.338 | .020 - .030                   | 1.840 | 1.683 | .020 - .040                   | 1.851 | 1.630 | .005 - .025                   |
| 1.774 | 1.484 | .020 - .030                   | 1.799 | .377  | .005 - .010                   | 1.808 | .690  | .030 - .050                   | 1.818 | .631  | .020 - .030                   | 1.841 | .377  | .110 - .130                   | 1.852 | .290  | .020 - .030                   |
| 1.775 | 1.275 | .100 - .130                   | 1.799 | .753  | .042 - .060                   | 1.808 | 1.534 | .010 - .020                   | 1.818 | 1.065 | .015 - .030                   | 1.841 | .402  | .040 - .060                   | 1.852 | .560  | .070 - .090                   |
| 1.775 | 1.511 | .025 - .040                   | 1.799 | .795  | .036 - .050                   | 1.809 | .096  | .040 - .060                   | 1.818 | 1.404 | .025 - .040                   | 1.841 | .551  | .105 - .125                   | 1.852 | .629  | .005 - .010                   |
| 1.775 | 1.517 | .020 - .040                   | 1.799 | .945  | .100 - .125                   | 1.809 | .463  | .025 - .040                   | 1.818 | 1.406 | .020 - .030                   | 1.841 | 1.189 | .015 - .040                   | 1.852 | 1.165 | .035 - .045                   |
| 1.775 | 1.520 | .025 - .040                   | 1.799 | 1.020 | .040 - .060                   | 1.809 | 1.063 | .093 - .113                   | 1.818 | 1.498 | .040 - .060                   | 1.841 | 1.404 | .005 - .010                   | 1.852 | 1.378 | .005 - .010                   |
| 1.776 | .685  | .005 - .010                   | 1.799 | 1.029 | .120 - .135                   | 1.809 | 1.121 | .105 - .120                   | 1.818 | 1.502 | .020 - .030                   | 1.841 | 1.407 | .005 - .010                   | 1.852 | 1.524 | .070 - .090                   |
| 1.776 | .752  | .100 - .134                   | 1.799 | 1.380 | .050 - .075                   | 1.809 | 1.437 | .005 - .008                   | 1.818 | 1.572 | .005 - .010                   | 1.841 | 1.569 | .005 - .010                   | 1.852 | 1.590 | .008 - .015                   |
| 1.776 | 1.235 | .060 - .080                   | 1.799 | 1.397 | .015 - .030                   | 1.810 | .100  | .020 - .050                   | 1.819 | .450  | .010 - .020                   | 1.842 | .378  | .100 - .125                   | 1.854 | 1.658 | .020 - .030                   |
| 1.776 | 1.262 | .060 - .080                   | 1.800 | .147  | .080 - .104                   | 1.810 | .167  | .093 - .125                   | 1.819 | 1.404 | .020 - .040                   | 1.842 | .640  | .025 - .040                   | 1.855 | 1.165 | .070 - .090                   |
| 1.776 | 1.452 | .030 - .050                   | 1.800 | .154  | .050 - .060                   | 1.810 | .180  | .015 - .030                   | 1.819 | 1.580 | .005 - .008                   | 1.842 | .828  | .005 - .010                   | 1.855 | 1.416 | .030 - .050                   |
| 1.776 | 1.576 | .015 - .025                   | 1.800 | .195  | .005 - .010                   | 1.810 | .756  | .156 - .190                   | 1.820 | .447  | .010 - .020                   | 1.842 | 1.098 | .080 - .100                   | 1.855 | 1.500 | .125 - .135                   |
| 1.777 | .998  | .010 - .020                   | 1.800 | .196  | .090 - .105                   | 1.810 | .824  | .005 - .010                   | 1.820 | .630  | .010 - .020                   | 1.842 | 1.251 | .090 - .125                   | 1.856 | 1.263 | .105 - .125                   |
| 1.777 | 1.110 | .015 - .030                   | 1.800 | .308  | .050 - .070                   | 1.810 | .875  | .040 - .060                   | 1.820 | 1.013 | .005 - .010                   | 1.842 | 1.531 | .040 - .060                   | 1.857 | .586  | .020 - .030                   |
| 1.778 | .199  | .020 - .040                   | 1.800 | .473  | .025 - .040                   | 1.810 | 1.059 | .090 - .120                   | 1.820 | 1.450 | .020 - .090                   | 1.842 | 1.643 | .025 - .040                   | 1.857 | .710  | .090 - .125                   |
| 1.778 | 1.682 | .030 - .050                   | 1.800 | .475  | .005 - .020                   | 1.810 | 1.066 | .040 - .060                   | 1.820 | 1.460 | .005 - .010                   | 1.843 | .316  | .015 - .030                   | 1.857 | 1.435 | .005 - .012                   |
| 1.779 | .999  | .050 - .070                   | 1.800 | .490  | .090 - .110                   | 1.810 | 1.130 | .100 - .125                   | 1.820 | 1.515 | .005 - .010                   | 1.843 | .816  | .025 - .035                   | 1.858 | 1.340 | .020 - .030                   |
| 1.779 | 1.057 | .005 - .010                   | 1.800 | .504  | .005 - .010                   | 1.810 | 1.464 | .005 - .010                   | 1.821 | 1.006 | .050 - .075                   | 1.843 | .880  | .005 - .040                   | 1.858 | 1.360 | .025 - .040                   |
| 1.779 | 1.380 | .010 - .020                   | 1.800 | .505  | .005 - .020                   | 1.810 | 1.518 | .040 - .062                   | 1.821 | 1.585 | .020 - .040                   | 1.843 | 1.188 | .020 - .050                   | 1.859 | .389  | .050 - .075                   |
| 1.780 | .250  | .020 - .032                   | 1.800 | .508  | .005 - .020                   | 1.810 | 1.583 | .005 - .060                   | 1.822 | 1.270 | .040 - .060                   | 1.843 | 1.381 | .005 - .010                   | 1.859 | .818  | .005 - .010                   |
| 1.780 | .509  | .020 - .040                   | 1.800 | .510  | .010 - .021                   | 1.811 | .275  | .005 - .010                   | 1.822 | 1.586 | .030 - .050                   | 1.843 | 1.455 | .038 - .060                   | 1.859 | 1.435 | .005 - .010                   |
| 1.780 | .720  | .005 - .010                   | 1.800 | .631  | .010 - .020                   | 1.811 | .313  | .050 - .060                   | 1.823 | .434  | .050 - .070                   | 1.843 | 1.456 | .030 - .050                   | 1.859 | 1.642 | .060 - .080                   |
| 1.780 | .754  | .030 - .048                   | 1.800 | .754  | .005 - .010                   | 1.811 | .501  | .030 - .050                   | 1.823 | 1.066 | .020 - .040                   | 1.843 | 1.706 | .020 - .040                   | 1.860 | .201  | .050 - .075                   |
| 1.780 | .953  | .120 - .135                   | 1.800 | .814  | .010 - .020                   | 1.811 | 1.013 | .100 - .125                   | 1.823 | 1.135 | .010 - .100                   | 1.844 | .260  | .105 - .125                   | 1.860 | .620  | .105 - .125                   |
| 1.780 | 1.199 | .005 - .010                   | 1.800 | .880  | .010 - .020                   | 1.811 | 1.132 | .005 - .010                   | 1.823 | 1.205 | .020 - .030                   | 1.844 | .418  | .010 - .020                   | 1.860 | .631  | .010 - .020                   |
| 1.780 | 1.250 | .015 - .030                   | 1.800 | .892  | .062 - .083                   | 1.811 | 1.144 | .020 - .030                   | 1.823 | 1.250 | .035 - .050                   | 1.844 | .816  | .005 - .010                   | 1.860 | 1.268 | .025 - .050                   |
| 1.780 | 1.343 | .005 - .010                   | 1.800 | .900  | .135 - .156                   | 1.811 | 1.203 | .050 - .070                   | 1.824 | 1.083 | .060 - .080                   | 1.844 | 1.098 | .050 - .075                   | 1.860 | 1.280 | .080 - .100                   |
| 1.780 | 1.379 | .040 - .060                   | 1.800 | .906  | .005 - .010                   | 1.811 | 1.314 | .100 - .125                   | 1.825 | 1.140 | .005 - .010                   | 1.844 | 1.100 | .030 - .050                   | 1.860 | 1.345 | .030 - .040                   |
| 1.780 | 1.601 | .070 - .090                   | 1.800 | .968  | .050 - .060                   | 1.811 | 1.379 | .005 - .010                   | 1.827 | 1.320 | .005 - .010                   | 1.844 | 1.263 | .005 - .010                   | 1.860 | 1.445 | .050 - .075                   |
| 1.780 | 1.612 | .030 - .050                   | 1.800 | .992  | .060 - .080                   | 1.811 | 1.521 | .025 - .040                   | 1.827 | 1.320 | .062 - .090                   | 1.844 | 1.624 | .005 - .010                   | 1.861 | 1.446 | .005 - .010                   |
| 1.780 | 1.691 | .020 - .030                   | 1.800 | 1.010 | .120 - .134                   | 1.811 | 1.540 | .090 - .120                   | 1.827 | 1.324 | .090 - .110                   | 1.845 | .140  | .040 - .060                   | 1.862 | 1.510 | .012 - .025                   |
| 1.781 | .936  | .080 - .105                   | 1.800 | 1.172 | .080 - .100                   | 1.812 | .213  | .010 - .125                   | 1.827 | 1.481 | .015 - .025                   | 1.845 | .391  | .050 - .070                   | 1.863 | .650  | .005 - .010                   |
| 1.781 | 1.157 | .020 - .040                   | 1.800 | 1.173 | .083 - .120                   | 1.812 | .246  | .005 - .010                   | 1.828 | 1.420 | .050 - .060                   | 1.845 | .661  | .105 - .125                   | 1.863 | .819  | .005 - .010                   |
| 1.781 | 1.517 | .015 - .030                   | 1.800 | 1.251 | .010 - .020                   | 1.812 | .251  | .005 - .010                   | 1.829 | 1.520 | .005 - .010                   | 1.845 | 1.190 | .105 - .125                   | 1.863 | 1.361 | .110 - .130                   |
| 1.782 | .396  | .005 - .010                   | 1.800 | 1.268 | .020 - .030                   | 1.812 | .328  | .156 - .187                   | 1.830 | .975  | .010 - .020                   | 1.845 | 1.201 | .020 - .030                   | 1.863 | 1.375 | .090 - .110                   |
| 1.782 | .645  | .005 - .010                   | 1.800 | 1.380 | .005 - .010                   | 1.812 | .456  | .060 - .080                   | 1.830 | 1.059 | .105 - .125                   | 1.845 | 1.250 | .040 - .070                   | 1.863 | 1.501 | .105 - .125                   |
| 1.783 | .880  | .010 - .030                   | 1.800 | 1.380 | .020 - .040                   | 1.812 | .629  | .005 - .010                   | 1.830 | 1.083 | .080 - .100                   | 1.845 | 1.312 | .048 - .075                   | 1.863 | 1.577 | .005 - .010                   |
| 1.784 | 1.136 | .020 - .040                   | 1.800 | 1.385 | .005 - .010                   | 1.812 | .751  | .156 - .187                   | 1.83  | 1.46  | .005 - .010                   | 1.845 | 1.384 | .015 - .030                   | 1.864 | 1.482 | .005 - .010                   |
| 1.784 | 1.330 | .010 - .020                   | 1.800 | 1.430 | .040 - .060                   | 1.812 | .792  | .035 - .048                   | 1.830 | 1.530 | .050 - .070                   | 1.845 | 1.568 | .025 - .035                   | 1.865 | .354  | .070 - .090                   |
| 1.784 | 1.616 | .060 - .080                   | 1.800 | 1.451 | .015 - .030                   | 1.812 | 1.062 | .075 - .100                   | 1.830 | 1.627 | .042 - .060                   | 1.845 | 1.569 | .005 - .010                   | 1.865 | .770  | .050 - .070                   |
| 1.785 | .881  | .050 - .070                   | 1.800 | 1.500 | .005 - .020                   | 1.812 | 1.124 | .050 - .075                   | 1.831 | 1.200 | .020 - .030                   | 1.845 | 1.623 | .005 - .010                   | 1.865 | .888  | .050 - .062                   |
| 1.785 | 1.084 | .032 - .048                   | 1.800 | 1.548 | .005 - .010                   | 1.812 | 1.130 | .090 - .125                   | 1.832 | .156  | .030 - .048                   | 1.846 | .792  | .080 - .120                   | 1.865 | 1.023 | .100 - .125                   |
| 1.785 | 1.264 | .105 - .115                   | 1.800 | 1.562 | .005 - .010                   | 1.812 | 1.156 | .080 - .104                   | 1.832 | .764  | .015 - .030                   | 1.846 | 1.312 | .020 - .030                   | 1.865 | 1.123 | .100 - .125                   |
| 1.786 | 1.360 | .010 - .020                   | 1.800 | 1.569 | .025 - .040                   | 1.812 | 1.188 | .050 - .080                   | 1.832 | .765  | .050 - .070                   | 1.846 | 1.401 | .050 - .070                   | 1.865 | 1.134 | .075 - .100                   |
| 1.788 | .330  | .080 - .100                   | 1.801 | .502  | .005 - .010                   | 1.812 | 1.300 | .030 - .050                   | 1.833 | 1.382 | .050 - .070                   | 1.846 | 1.441 | .125 - .156                   | 1.865 | 1.390 | .040 - .060                   |
| 1.788 | .698  | .050 - .075                   | 1.801 | .505  | .010 - .020                   | 1.812 | 1.312 | .010 - .015                   | 1.833 | 1.589 | .015 - .030                   | 1.847 | .375  | .005 - .010                   | 1.865 | 1.502 | .025 - .040                   |
| 1.788 | 1.124 | .010 - .015                   | 1.801 | .751  | .005 - .010                   | 1.812 | 1.381 | .050 - .075                   | 1.834 | .764  | .020 - .032                   | 1.847 | 1.442 | .120 - .135                   | 1.867 | .315  | .100 - .125                   |
| 1.788 | 1.425 | .075 - .100                   | 1.801 | 1.501 | .050 - .070                   | 1.812 | 1.402 | .015 - .030                   | 1.834 | 1.382 | .005 - .010                   | 1.848 | .258  | .005 - .010                   | 1.867 | .334  | .040 - .060                   |
| 1.788 | 1.586 | .090 - .105                   | 1.801 | 1.610 | .020 - .030                   | 1.812 | 1.410 | .030 - .050                   | 1.834 | 1.384 | .005 - .010                   | 1.848 | .332  | .050 - .070                   | 1.867 | 1.387 | .040 - .060                   |
| 1.788 | 1.587 | .050 - .065                   | 1.801 | 1.611 | .010 - .020                   | 1.812 | 1.436 | .040 - .060                   | 1.834 | 1.384 | .015 - .030                   | 1.848 | .485  | .020 - .040                   | 1.867 | 1.438 | .100 - .125                   |
| 1.788 | 1.605 | .020 - .040                   | 1.802 | .425  | .040 - .060                   | 1.812 | 1.444 | .040 - .060                   | 1.834 | 1.574 | .015 - .030                   | 1.849 | .375  | .090 - .105                   | 1.868 | .897  | .040 - .060                   |
| 1.789 | .761  | .080 - .125                   | 1.802 | 1.257 | .005 - .010                   | 1.812 | 1.445 | .020 - .040                   | 1.835 | .255  | .020 - .030                   | 1.849 | 1.081 | .060 - .070                   | 1.868 | 1.063 | .040 - .060                   |
| 1.790 | .620  | .015 - .125                   | 1.803 | .712  | .070 - .090                   | 1.812 | 1.480 | .050 - .075                   | 1.835 | .430  | .005 - .010                   | 1.849 | 1.333 | .083 - .100                   | 1.868 | 1.257 | .120 - .140                   |
| 1.790 | .820  | .015                          |       |       |                               |       |       |                               |       |       |                               |       |       |                               |       |       |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 1.870 | .909  | .015 - .030                   | 1.874 | 1.479 | .020 - .030                   | 1.876 | 1.156 | .105 - .135                   | 1.886 | 1.397 | .005 - .010                   | 1.900 | 1.530 | .010 - .020                   | 1.920 | 1.635 | .030 - .040                   |
| 1.870 | .911  | .005 - .010                   | 1.874 | 1.515 | .010 - .020                   | 1.876 | 1.257 | .105 - .135                   | 1.886 | 1.398 | .005 - .010                   | 1.900 | 1.600 | .030 - .050                   | 1.920 | 1.826 | .010 - .020                   |
| 1.870 | 1.004 | .020 - .030                   | 1.874 | 1.588 | .020 - .040                   | 1.876 | 1.260 | .005 - .040                   | 1.886 | 1.446 | .050 - .075                   | 1.900 | 1.626 | .015 - .030                   | 1.921 | .438  | .090 - .110                   |
| 1.870 | 1.032 | .105 - .125                   | 1.874 | 1.595 | .030 - .050                   | 1.876 | 1.265 | .025 - .040                   | 1.887 | .670  | .040 - .060                   | 1.900 | 1.628 | .030 - .050                   | 1.921 | .566  | .015 - .030                   |
| 1.870 | 1.196 | .010 - .020                   | 1.874 | 1.625 | .015 - .030                   | 1.876 | 1.380 | .010 - .020                   | 1.887 | 1.186 | .010 - .020                   | 1.900 | 1.650 | .025 - .060                   | 1.921 | 1.500 | .010 - .020                   |
| 1.870 | 1.273 | .010 - .020                   | 1.874 | 1.627 | .025 - .040                   | 1.876 | 1.381 | .015 - .040                   | 1.887 | 1.300 | .040 - .060                   | 1.900 | 1.651 | .080 - .100                   | 1.921 | 1.671 | .062 - .083                   |
| 1.870 | 1.392 | .010 - .015                   | 1.874 | 1.752 | .010 - .020                   | 1.876 | 1.382 | .020 - .040                   | 1.888 | .755  | .005 - .010                   | 1.900 | 1.660 | .005 - .010                   | 1.922 | .317  | .015 - .030                   |
| 1.870 | 1.418 | .005 - .010                   | 1.875 | .125  | .030 - .050                   | 1.876 | 1.438 | .100 - .125                   | 1.888 | .788  | .050 - .070                   | 1.901 | .626  | .025 - .040                   | 1.922 | .565  | .150 - .170                   |
| 1.870 | 1.419 | .010 - .020                   | 1.875 | .159  | .010 - .020                   | 1.876 | 1.508 | .020 - .060                   | 1.889 | .760  | .015 - .030                   | 1.901 | .726  | .105 - .125                   | 1.922 | .972  | .080 - .104                   |
| 1.870 | 1.504 | .025 - .040                   | 1.875 | .190  | .030 - .050                   | 1.876 | 1.585 | .005 - .010                   | 1.890 | .380  | .105 - .135                   | 1.901 | .760  | .120 - .140                   | 1.922 | 1.079 | .080 - .104                   |
| 1.870 | 1.513 | .060 - .090                   | 1.875 | .204  | .100 - .125                   | 1.876 | 1.592 | .090 - .105                   | 1.890 | .512  | .005 - .010                   | 1.901 | .781  | .105 - .125                   | 1.922 | 1.176 | .080 - .104                   |
| 1.870 | 1.713 | .050 - .060                   | 1.875 | .250  | .050 - .105                   | 1.876 | 1.645 | .020 - .040                   | 1.890 | .630  | .005 - .010                   | 1.901 | 1.207 | .005 - .010                   | 1.922 | 1.341 | .080 - .104                   |
| 1.871 | 1.009 | .005 - .010                   | 1.875 | .317  | .015 - .030                   | 1.876 | 1.752 | .020 - .030                   | 1.890 | .648  | .105 - .125                   | 1.901 | 1.501 | .010 - .020                   | 1.922 | 1.410 | .080 - .104                   |
| 1.871 | 1.231 | .050 - .070                   | 1.875 | .320  | .105 - .125                   | 1.876 | 1.764 | .010 - .020                   | 1.890 | .867  | .005 - .010                   | 1.902 | .631  | .005 - .010                   | 1.922 | 1.574 | .010 - .020                   |
| 1.871 | 1.260 | .156 - .187                   | 1.875 | .375  | .040 - .060                   | 1.877 | .320  | .100 - .125                   | 1.890 | 1.023 | .010 - .025                   | 1.902 | 1.101 | .040 - .062                   | 1.923 | .390  | .015 - .030                   |
| 1.871 | 1.377 | .050 - .070                   | 1.875 | .408  | .060 - .080                   | 1.877 | .525  | .015 - .030                   | 1.890 | 1.220 | .040 - .090                   | 1.902 | 1.139 | .090 - .125                   | 1.923 | .881  | .105 - .135                   |
| 1.871 | 1.417 | .060 - .080                   | 1.875 | .409  | .090 - .120                   | 1.877 | 1.008 | .015 - .030                   | 1.890 | 1.256 | .040 - .060                   | 1.902 | 1.256 | .083 - .104                   | 1.923 | 1.181 | .025 - .040                   |
| 1.871 | 1.770 | .015 - .030                   | 1.875 | .437  | .005 - .010                   | 1.877 | 1.376 | .005 - .010                   | 1.890 | 1.378 | .030 - .050                   | 1.902 | 1.420 | .020 - .040                   | 1.923 | 1.262 | .080 - .104                   |
| 1.872 | .626  | .050 - .075                   | 1.875 | .450  | .105 - .125                   | 1.877 | 1.505 | .070 - .090                   | 1.890 | 1.384 | .005 - .010                   | 1.902 | 1.570 | .005 - .010                   | 1.923 | 1.533 | .050 - .070                   |
| 1.872 | .632  | .156 - .187                   | 1.875 | .510  | .090 - .125                   | 1.877 | 1.525 | .015 - .030                   | 1.890 | 1.389 | .010 - .020                   | 1.903 | .485  | .025 - .040                   | 1.923 | 1.714 | .010 - .020                   |
| 1.872 | .756  | .005 - .010                   | 1.875 | .620  | .062 - .075                   | 1.877 | 1.527 | .050 - .070                   | 1.890 | 1.496 | .020 - .040                   | 1.903 | .719  | .010 - .125                   | 1.923 | 1.720 | .005 - .010                   |
| 1.872 | .891  | .005 - .010                   | 1.875 | .626  | .015 - .030                   | 1.877 | 1.563 | .025 - .040                   | 1.890 | 1.510 | .010 - .020                   | 1.903 | 1.031 | .050 - .070                   | 1.924 | .315  | .015 - .030                   |
| 1.872 | .909  | .010 - .025                   | 1.875 | .629  | .040 - .060                   | 1.877 | 1.637 | .030 - .040                   | 1.890 | 1.562 | .005 - .010                   | 1.903 | 1.404 | .015 - .025                   | 1.924 | .691  | .050 - .070                   |
| 1.872 | 1.260 | .075 - .135                   | 1.875 | .632  | .104 - .135                   | 1.878 | .621  | .005 - .020                   | 1.890 | 1.614 | .040 - .060                   | 1.904 | 1.510 | .025 - .040                   | 1.924 | .860  | .062 - .083                   |
| 1.872 | 1.318 | .040 - .060                   | 1.875 | .718  | .062 - .075                   | 1.878 | .655  | .090 - .120                   | 1.891 | 1.000 | .008 - .015                   | 1.904 | 1.565 | .010 - .020                   | 1.924 | .973  | .062 - .083                   |
| 1.872 | 1.387 | .005 - .010                   | 1.875 | .757  | .005 - .010                   | 1.878 | .690  | .005 - .010                   | 1.891 | 1.339 | .040 - .060                   | 1.905 | 1.160 | .005 - .010                   | 1.924 | 1.068 | .025 - .040                   |
| 1.872 | 1.509 | .005 - .010                   | 1.875 | .781  | .015 - .090                   | 1.878 | .754  | .125 - .156                   | 1.891 | 1.719 | .010 - .020                   | 1.905 | 1.510 | .005 - .010                   | 1.924 | 1.080 | .062 - .083                   |
| 1.872 | 1.513 | .005 - .010                   | 1.875 | .875  | .075 - .030                   | 1.878 | .812  | .105 - .125                   | 1.892 | .989  | .005 - .010                   | 1.905 | 1.590 | .010 - .030                   | 1.924 | 1.177 | .062 - .083                   |
| 1.873 | .177  | .050 - .070                   | 1.875 | .876  | .010 - .020                   | 1.878 | 1.053 | .005 - .010                   | 1.892 | 1.367 | .100 - .130                   | 1.905 | 1.627 | .025 - .040                   | 1.924 | 1.180 | .062 - .083                   |
| 1.873 | .252  | .005 - .015                   | 1.875 | .890  | .110 - .130                   | 1.878 | 1.500 | .060 - .080                   | 1.892 | 1.719 | .005 - .010                   | 1.905 | 1.640 | .080 - .100                   | 1.924 | 1.261 | .050 - .070                   |
| 1.873 | .386  | .090 - .125                   | 1.875 | .891  | .040 - .060                   | 1.878 | 1.505 | .010 - .020                   | 1.893 | .508  | .104 - .125                   | 1.906 | .194  | .070 - .090                   | 1.924 | 1.263 | .062 - .083                   |
| 1.873 | .478  | .005 - .010                   | 1.875 | .906  | .105 - .125                   | 1.878 | 1.650 | .030 - .040                   | 1.893 | .535  | .100 - .125                   | 1.906 | .316  | .060 - .080                   | 1.924 | 1.265 | .005 - .010                   |
| 1.873 | .625  | .100 - .125                   | 1.875 | .936  | .105 - .135                   | 1.879 | .523  | .005 - .010                   | 1.894 | .868  | .020 - .030                   | 1.906 | .381  | .090 - .120                   | 1.924 | 1.341 | .062 - .083                   |
| 1.873 | .750  | .100 - .125                   | 1.875 | 1.061 | .050 - .070                   | 1.879 | 1.029 | .120 - .135                   | 1.894 | 1.180 | .005 - .010                   | 1.906 | .409  | .050 - .070                   | 1.924 | 1.410 | .062 - .083                   |
| 1.873 | .844  | .105 - .135                   | 1.875 | 1.062 | .015 - .030                   | 1.879 | 1.130 | .005 - .010                   | 1.894 | 1.535 | .050 - .070                   | 1.906 | 1.314 | .080 - .105                   | 1.925 | .328  | .030 - .040                   |
| 1.873 | .882  | .015 - .030                   | 1.875 | 1.072 | .070 - .090                   | 1.879 | 1.140 | .005 - .010                   | 1.895 | .378  | .100 - .125                   | 1.906 | 1.557 | .015 - .030                   | 1.925 | .564  | .010 - .020                   |
| 1.873 | 1.140 | .100 - .125                   | 1.875 | 1.093 | .025 - .040                   | 1.879 | 1.255 | .070 - .090                   | 1.895 | 1.159 | .005 - .010                   | 1.906 | 1.590 | .015 - .025                   | 1.925 | .573  | .015 - .030                   |
| 1.873 | 1.260 | .065 - .080                   | 1.875 | 1.113 | .080 - .104                   | 1.879 | 1.431 | .060 - .070                   | 1.895 | 1.582 | .015 - .030                   | 1.907 | .365  | .060 - .080                   | 1.925 | .690  | .050 - .070                   |
| 1.873 | 1.349 | .030 - .050                   | 1.875 | 1.135 | .050 - .070                   | 1.879 | 1.463 | .015 - .030                   | 1.896 | .508  | .105 - .135                   | 1.907 | 1.157 | .120 - .134                   | 1.925 | .754  | .060 - .080                   |
| 1.873 | 1.381 | .090 - .125                   | 1.875 | 1.140 | .010 - .042                   | 1.879 | 1.501 | .015 - .030                   | 1.896 | .752  | .005 - .010                   | 1.907 | 1.485 | .070 - .090                   | 1.925 | .810  | .040 - .060                   |
| 1.873 | 1.386 | .100 - .134                   | 1.875 | 1.142 | .007 - .016                   | 1.879 | 1.563 | .025 - .040                   | 1.896 | .761  | .005 - .010                   | 1.908 | .877  | .010 - .020                   | 1.925 | 1.253 | .005 - .010                   |
| 1.873 | 1.437 | .100 - .125                   | 1.875 | 1.152 | .005 - .010                   | 1.879 | 1.605 | .025 - .040                   | 1.897 | .309  | .005 - .010                   | 1.909 | .802  | .080 - .100                   | 1.925 | 1.317 | .020 - .040                   |
| 1.873 | 1.444 | .062 - .075                   | 1.875 | 1.156 | .032 - .125                   | 1.879 | 1.687 | .010 - .020                   | 1.897 | 1.414 | .005 - .010                   | 1.909 | 1.250 | .020 - .040                   | 1.925 | 1.391 | .025 - .040                   |
| 1.873 | 1.508 | .005 - .020                   | 1.875 | 1.171 | .100 - .125                   | 1.880 | .585  | .156 - .187                   | 1.898 | .305  | .005 - .010                   | 1.909 | 1.275 | .005 - .010                   | 1.925 | 1.510 | .010 - .020                   |
| 1.873 | 1.533 | .005 - .010                   | 1.875 | 1.188 | .015 - .070                   | 1.880 | .960  | .005 - .010                   | 1.898 | .511  | .120 - .135                   | 1.909 | 1.348 | .005 - .010                   | 1.925 | 1.554 | .050 - .075                   |
| 1.873 | 1.639 | .005 - .010                   | 1.875 | 1.244 | .040 - .062                   | 1.880 | 1.000 | .050 - .070                   | 1.898 | .629  | .010 - .020                   | 1.910 | 1.159 | .040 - .060                   | 1.925 | 1.715 | .062 - .083                   |
| 1.873 | 1.671 | .005 - .015                   | 1.875 | 1.250 | .020 - .040                   | 1.880 | 1.020 | .020 - .040                   | 1.898 | .636  | .120 - .135                   | 1.910 | 1.437 | .100 - .125                   | 1.926 | 1.554 | .020 - .040                   |
| 1.873 | 1.734 | .010 - .020                   | 1.875 | 1.254 | .005 - .010                   | 1.880 | 1.131 | .025 - .040                   | 1.898 | .754  | .005 - .010                   | 1.910 | 1.438 | .105 - .125                   | 1.926 | 1.684 | .032 - .060                   |
| 1.874 | .219  | .100 - .134                   | 1.875 | 1.258 | .030 - .050                   | 1.880 | 1.193 | .015 - .030                   | 1.898 | .910  | .050 - .075                   | 1.910 | 1.610 | .010 - .020                   | 1.926 | 1.691 | .030 - .042                   |
| 1.874 | .252  | .005 - .010                   | 1.875 | 1.259 | .020 - .040                   | 1.880 | 1.272 | .040 - .060                   | 1.899 | .194  | .005 - .010                   | 1.910 | 1.640 | .105 - .125                   | 1.927 | .480  | .005 - .010                   |
| 1.874 | .266  | .070 - .090                   | 1.875 | 1.260 | .060 - .090                   | 1.880 | 1.392 | .070 - .080                   | 1.899 | .340  | .156 - .190                   | 1.911 | 1.631 | .005 - .010                   | 1.927 | .810  | .005 - .010                   |
| 1.874 | .281  | .020 - .050                   | 1.875 | 1.310 | .040 - .062                   | 1.880 | 1.465 | .005 - .010                   | 1.899 | .380  | .030 - .050                   | 1.912 | 1.758 | .030 - .050                   | 1.928 | .533  | .008 - .020                   |
| 1.874 | .282  | .015 - .060                   | 1.875 | 1.355 | .070 - .090                   | 1.880 | 1.745 | .010 - .020                   | 1.899 | .437  | .156 - .190                   | 1.912 | 1.801 | .020 - .030                   | 1.928 | 1.265 | .025 - .040                   |
| 1.874 | .375  | .100 - .125                   | 1.875 | 1.359 | .015 - .030                   | 1.880 | 1.759 | .005 - .010                   | 1.899 | .629  | .015 - .030                   | 1.913 | 1.096 | .005 - .010                   | 1.928 | 1.585 | .005 - .010                   |
| 1.874 | .376  | .070 - .125                   | 1.875 | 1.370 | .060 - .083                   | 1.880 | 1.774 | .010 - .020                   | 1.899 | .630  | .005 - .010                   | 1.913 | 1.337 | .015 - .030                   | 1.928 | 1.664 | .070 - .090                   |
| 1.874 | .381  | .005 - .010                   | 1.875 | 1.375 | .006 - .030                   | 1.880 | 1.814 | .015 - .030                   | 1.899 | 1.015 | .040 - .060                   | 1.913 | 1.755 | .005 - .010                   | 1.929 | 1.550 | .015 - .025                   |
| 1.874 | .398  | .030 - .040                   | 1.875 | 1.379 | .005 - .075                   | 1.881 | .786  | .010 - .025                   | 1.900 | .253  | .050 - .060                   | 1.913 | 1.779 | .005 - .010                   | 1.930 | .375  | .032 - .048                   |
| 1.874 | .409  | .100 - .120                   | 1.875 | 1.384 | .042 - .062                   | 1.881 | 1.204 | .015 - .030                   | 1.900 | .378  | .030 - .075                   | 1.915 | .255  | .020 - .030                   | 1.930 | .451  | .015 - .025                   |
| 1.874 | .440  | .170 - .190                   | 1.875 | 1.386 | .030 - .050                   | 1.881 | 1.281 | .040 - .060                   | 1.900 | .500  | .005 - .010                   | 1.915 | 1.259 | .100 - .125                   | 1.930 | 1.181 | .050 - .070                   |
| 1.874 | .625  | .015 - .030                   | 1.875 | 1.394 | .090 - .105                   | 1.881 | 1.424 | .005 - .010                   | 1.900 | .502  | .005 - .010                   | 1.915 | 1.346 | .040 - .060                   | 1.930 | 1.478 | .010 - .020                   |
| 1.874 | .628  | .040 - .060                   | 1.875 | 1.453 | .040 - .060                   | 1.881 | 1.630 | .005 - .010                   | 1.900 | .505  | .005 - .020                   | 1.915 | 1.586 | .007 - .015                   | 1.930 | 1.532 | .010 - .020                   |
| 1.874 |       |                               |       |       |                               |       |       |                               |       |       |                               |       |       |                               |       |       |                               |

**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 1.935 | .651  | .020 - .040                   | 1.948 | 1.578 | .005 - .010                   | 1.965 | 1.427 | .030 - .050                   | 1.974 | 1.284 | .005 - .010                   | 1.991 | 1.325 | .020 - .040                   | 1.998 | .441  | .120 - .135                   |
| 1.935 | 1.032 | .156 - .187                   | 1.948 | 1.749 | .010 - .020                   | 1.965 | 1.491 | .015 - .030                   | 1.974 | 1.503 | .005 - .010                   | 1.992 | .419  | .005 - .010                   | 1.998 | .500  | .020 - .050                   |
| 1.935 | 1.190 | .005 - .010                   | 1.948 | 1.820 | .005 - .020                   | 1.965 | 1.498 | .048 - .062                   | 1.975 | .755  | .025 - .040                   | 1.992 | .560  | .010 - .020                   | 1.998 | .531  | .120 - .135                   |
| 1.935 | 1.309 | .105 - .125                   | 1.949 | .459  | .020 - .030                   | 1.965 | 1.503 | .005 - .010                   | 1.975 | 1.004 | .130 - .150                   | 1.992 | .999  | .020 - .030                   | 1.998 | .562  | .040 - .060                   |
| 1.935 | 1.500 | .090 - .100                   | 1.949 | .820  | .005 - .010                   | 1.965 | 1.513 | .005 - .010                   | 1.975 | 1.821 | .020 - .030                   | 1.992 | 1.182 | .020 - .040                   | 1.998 | .647  | .005 - .010                   |
| 1.935 | 1.555 | .060 - .083                   | 1.949 | 1.062 | .030 - .050                   | 1.965 | 1.586 | .020 - .030                   | 1.975 | 1.879 | .010 - .020                   | 1.992 | 1.267 | .005 - .030                   | 1.998 | .662  | .005 - .010                   |
| 1.935 | 1.656 | .010 - .020                   | 1.949 | 1.119 | .080 - .100                   | 1.965 | 1.694 | .005 - .010                   | 1.976 | .759  | .030 - .050                   | 1.992 | 1.313 | .040 - .060                   | 1.998 | .690  | .050 - .075                   |
| 1.935 | 1.661 | .032 - .048                   | 1.949 | 1.526 | .005 - .010                   | 1.965 | 1.860 | .007 - .030                   | 1.976 | 1.289 | .020 - .060                   | 1.993 | .406  | .030 - .040                   | 1.998 | .755  | .135 - .156                   |
| 1.935 | 1.687 | .090 - .105                   | 1.949 | 1.555 | .015 - .030                   | 1.966 | 1.006 | .005 - .010                   | 1.976 | 1.385 | .015 - .030                   | 1.993 | .410  | .010 - .015                   | 1.998 | .881  | .015 - .030                   |
| 1.936 | .688  | .025 - .040                   | 1.949 | 1.620 | .030 - .040                   | 1.966 | 1.039 | .005 - .010                   | 1.976 | 1.673 | .030 - .050                   | 1.993 | .474  | .030 - .050                   | 1.998 | .882  | .020 - .030                   |
| 1.936 | .780  | .060 - .080                   | 1.949 | 1.664 | .035 - .050                   | 1.966 | 1.206 | .005 - .010                   | 1.977 | 1.775 | .005 - .010                   | 1.993 | .499  | .090 - .110                   | 1.998 | 1.021 | .070 - .090                   |
| 1.936 | .818  | .005 - .060                   | 1.950 | .190  | .015 - .040                   | 1.966 | 1.438 | .060 - .080                   | 1.977 | 1.798 | .010 - .020                   | 1.993 | .520  | .005 - .010                   | 1.998 | 1.029 | .005 - .010                   |
| 1.936 | 1.186 | .050 - .075                   | 1.950 | .320  | .005 - .010                   | 1.966 | 1.722 | .020 - .040                   | 1.978 | 1.550 | .015 - .030                   | 1.993 | .810  | .015 - .030                   | 1.998 | 1.077 | .005 - .010                   |
| 1.936 | 1.564 | .060 - .080                   | 1.950 | .490  | .005 - .010                   | 1.967 | .394  | .080 - .100                   | 1.978 | 1.694 | .020 - .030                   | 1.993 | 1.017 | .005 - .010                   | 1.998 | 1.093 | .025 - .040                   |
| 1.936 | 1.579 | .015 - .042                   | 1.950 | .505  | .005 - .020                   | 1.967 | .502  | .010 - .020                   | 1.978 | 1.776 | .050 - .070                   | 1.993 | 1.501 | .010 - .020                   | 1.998 | 1.124 | .030 - .070                   |
| 1.936 | 1.586 | .090 - .100                   | 1.950 | .505  | .125 - .156                   | 1.967 | 1.113 | .025 - .040                   | 1.979 | .395  | .160 - .190                   | 1.993 | 1.664 | .005 - .010                   | 1.998 | 1.126 | .005 - .010                   |
| 1.936 | 1.656 | .050 - .070                   | 1.950 | .629  | .005 - .020                   | 1.967 | 1.519 | .005 - .010                   | 1.979 | 1.660 | .005 - .010                   | 1.993 | 1.933 | .005 - .010                   | 1.998 | 1.136 | .110 - .135                   |
| 1.936 | 1.719 | .005 - .010                   | 1.950 | .631  | .120 - .140                   | 1.967 | 1.596 | .030 - .050                   | 1.979 | 1.775 | .020 - .030                   | 1.994 | .268  | .005 - .010                   | 1.998 | 1.248 | .125 - .156                   |
| 1.936 | 1.740 | .005 - .010                   | 1.950 | .810  | .005 - .010                   | 1.967 | 1.654 | .005 - .010                   | 1.980 | .267  | .125 - .135                   | 1.994 | .412  | .005 - .010                   | 1.998 | 1.409 | .025 - .040                   |
| 1.936 | 1.757 | .010 - .020                   | 1.950 | .878  | .125 - .135                   | 1.967 | 1.687 | .010 - .020                   | 1.980 | 1.060 | .010 - .020                   | 1.994 | .885  | .110 - .135                   | 1.998 | 1.417 | .030 - .050                   |
| 1.937 | .651  | .105 - .125                   | 1.950 | 1.321 | .005 - .010                   | 1.968 | .283  | .050 - .070                   | 1.980 | 1.478 | .050 - .070                   | 1.994 | 1.284 | .010 - .020                   | 1.998 | 1.501 | .050 - .060                   |
| 1.937 | 1.015 | .075 - .090                   | 1.950 | 1.408 | .005 - .010                   | 1.968 | .315  | .040 - .060                   | 1.980 | 1.500 | .050 - .070                   | 1.994 | 1.382 | .040 - .060                   | 1.998 | 1.506 | .020 - .030                   |
| 1.937 | 1.021 | .156 - .187                   | 1.950 | 1.500 | .050 - .070                   | 1.968 | .386  | .110 - .135                   | 1.980 | 1.507 | .005 - .010                   | 1.994 | 1.475 | .010 - .020                   | 1.998 | 1.508 | .010 - .020                   |
| 1.937 | 1.079 | .005 - .010                   | 1.950 | 1.600 | .005 - .050                   | 1.968 | .505  | .005 - .010                   | 1.980 | 1.546 | .005 - .010                   | 1.994 | 1.476 | .010 - .020                   | 1.998 | 1.531 | .156 - .187                   |
| 1.937 | 1.157 | .020 - .040                   | 1.950 | 1.617 | .010 - .020                   | 1.968 | .625  | .005 - .010                   | 1.980 | 1.601 | .010 - .020                   | 1.994 | 1.489 | .030 - .050                   | 1.998 | 1.635 | .010 - .020                   |
| 1.937 | 1.250 | .005 - .010                   | 1.950 | 1.820 | .025 - .035                   | 1.968 | .630  | .105 - .125                   | 1.980 | 1.778 | .005 - .010                   | 1.994 | 1.629 | .010 - .020                   | 1.998 | 1.664 | .030 - .050                   |
| 1.937 | 1.260 | .040 - .062                   | 1.951 | .504  | .110 - .130                   | 1.968 | .827  | .105 - .125                   | 1.980 | 1.850 | .005 - .010                   | 1.994 | 1.662 | .010 - .020                   | 1.998 | 1.734 | .050 - .070                   |
| 1.937 | 1.283 | .005 - .010                   | 1.951 | .755  | .005 - .020                   | 1.968 | .866  | .170 - .190                   | 1.981 | .831  | .156 - .187                   | 1.994 | 1.789 | .005 - .010                   | 1.998 | 1.748 | .080 - .100                   |
| 1.937 | 1.284 | .015 - .030                   | 1.951 | 1.000 | .105 - .135                   | 1.968 | .984  | .005 - .010                   | 1.981 | 1.519 | .040 - .060                   | 1.994 | 1.885 | .020 - .040                   | 1.998 | 1.750 | .050 - .070                   |
| 1.937 | 1.285 | .040 - .060                   | 1.951 | 1.201 | .030 - .050                   | 1.968 | .995  | .005 - .010                   | 1.981 | 1.736 | .005 - .010                   | 1.994 | 1.933 | .005 - .010                   | 1.998 | 1.789 | .005 - .010                   |
| 1.937 | 1.399 | .030 - .050                   | 1.951 | 1.781 | .005 - .010                   | 1.968 | 1.008 | .030 - .050                   | 1.982 | .760  | .015 - .030                   | 1.995 | .147  | .005 - .010                   | 1.999 | .193  | .005 - .010                   |
| 1.937 | 1.436 | .030 - .050                   | 1.952 | .812  | .040 - .060                   | 1.968 | 1.026 | .090 - .100                   | 1.982 | 1.609 | .083 - .104                   | 1.995 | .395  | .005 - .010                   | 1.999 | .238  | .005 - .015                   |
| 1.937 | 1.498 | .025 - .040                   | 1.952 | 1.055 | .020 - .040                   | 1.968 | 1.028 | .005 - .010                   | 1.983 | .515  | .030 - .050                   | 1.995 | .404  | .005 - .010                   | 1.999 | .280  | .120 - .135                   |
| 1.937 | 1.527 | .005 - .010                   | 1.952 | 1.069 | .090 - .110                   | 1.968 | 1.150 | .005 - .010                   | 1.983 | .914  | .005 - .020                   | 1.995 | .405  | .040 - .060                   | 1.999 | .310  | .005 - .010                   |
| 1.937 | 1.528 | .050 - .075                   | 1.952 | 1.592 | .030 - .050                   | 1.968 | 1.183 | .005 - .010                   | 1.983 | 1.628 | .020 - .040                   | 1.995 | .453  | .060 - .080                   | 1.999 | .313  | .050 - .070                   |
| 1.937 | 1.657 | .010 - .020                   | 1.953 | 1.375 | .040 - .060                   | 1.968 | 1.253 | .030 - .050                   | 1.984 | .229  | .005 - .010                   | 1.995 | .634  | .005 - .010                   | 1.999 | .318  | .090 - .110                   |
| 1.937 | 1.665 | .050 - .070                   | 1.953 | 1.421 | .005 - .010                   | 1.968 | 1.394 | .005 - .010                   | 1.984 | .395  | .005 - .190                   | 1.995 | .750  | .105 - .125                   | 1.999 | .388  | .105 - .135                   |
| 1.937 | 1.687 | .005 - .010                   | 1.954 | .377  | .050 - .075                   | 1.968 | 1.401 | .060 - .070                   | 1.984 | 1.329 | .040 - .060                   | 1.995 | .886  | .090 - .120                   | 1.999 | .406  | .160 - .190                   |
| 1.937 | 1.733 | .040 - .060                   | 1.954 | .421  | .050 - .070                   | 1.968 | 1.501 | .015 - .030                   | 1.984 | 1.544 | .005 - .015                   | 1.995 | 1.000 | .030 - .050                   | 1.999 | .407  | .100 - .125                   |
| 1.937 | 1.809 | .005 - .010                   | 1.954 | 1.108 | .125 - .156                   | 1.968 | 1.530 | .020 - .040                   | 1.985 | 1.017 | .080 - .100                   | 1.995 | 1.128 | .120 - .135                   | 1.999 | .452  | .100 - .125                   |
| 1.938 | .319  | .015 - .030                   | 1.954 | 1.627 | .005 - .010                   | 1.968 | 1.578 | .015 - .125                   | 1.985 | 1.206 | .070 - .090                   | 1.995 | 1.500 | .048 - .062                   | 1.999 | .484  | .070 - .090                   |
| 1.938 | 1.313 | .020 - .040                   | 1.955 | .421  | .050 - .070                   | 1.968 | 1.625 | .015 - .030                   | 1.985 | 1.398 | .010 - .030                   | 1.995 | 1.636 | .015 - .030                   | 1.999 | .515  | .156 - .187                   |
| 1.938 | 1.314 | .050 - .070                   | 1.955 | 1.004 | .140 - .160                   | 1.968 | 1.692 | .040 - .060                   | 1.985 | 1.520 | .015 - .030                   | 1.995 | 1.663 | .020 - .040                   | 1.999 | .562  | .100 - .125                   |
| 1.938 | 1.395 | .005 - .010                   | 1.955 | 1.513 | .020 - .042                   | 1.968 | 1.731 | .005 - .010                   | 1.985 | 1.590 | .010 - .020                   | 1.995 | 1.758 | .015 - .030                   | 1.999 | .667  | .030 - .040                   |
| 1.938 | 1.468 | .030 - .050                   | 1.955 | 1.519 | .080 - .104                   | 1.969 | .502  | .005 - .010                   | 1.985 | 1.693 | .005 - .010                   | 1.995 | 1.818 | .015 - .030                   | 1.999 | .687  | .156 - .187                   |
| 1.938 | 1.502 | .025 - .040                   | 1.955 | 1.780 | .005 - .010                   | 1.969 | .881  | .015 - .030                   | 1.985 | 1.695 | .040 - .060                   | 1.996 | .269  | .005 - .010                   | 1.999 | .691  | .120 - .140                   |
| 1.938 | 1.505 | .060 - .080                   | 1.956 | .995  | .050 - .090                   | 1.969 | 1.339 | .050 - .060                   | 1.985 | 1.860 | .010 - .020                   | 1.996 | .381  | .005 - .010                   | 1.999 | .749  | .025 - .040                   |
| 1.938 | 1.758 | .005 - .010                   | 1.956 | 1.020 | .050 - .070                   | 1.969 | 1.380 | .070 - .090                   | 1.986 | .540  | .005 - .010                   | 1.996 | .391  | .105 - .125                   | 1.999 | .750  | .156 - .187                   |
| 1.938 | 1.809 | .005 - .010                   | 1.956 | 1.520 | .005 - .010                   | 1.969 | 1.440 | .010 - .020                   | 1.986 | 1.205 | .135 - .156                   | 1.996 | .451  | .005 - .010                   | 1.999 | .753  | .020 - .030                   |
| 1.939 | .126  | .030 - .050                   | 1.956 | 1.564 | .010 - .015                   | 1.969 | 1.468 | .010 - .020                   | 1.986 | 1.546 | .005 - .010                   | 1.996 | .647  | .005 - .010                   | 1.999 | .781  | .110 - .130                   |
| 1.939 | 1.062 | .060 - .070                   | 1.957 | 1.415 | .030 - .050                   | 1.969 | 1.469 | .030 - .070                   | 1.987 | .671  | .100 - .120                   | 1.996 | .768  | .005 - .010                   | 1.999 | .797  | .020 - .040                   |
| 1.939 | 1.380 | .110 - .130                   | 1.958 | .390  | .135 - .156                   | 1.969 | 1.470 | .105 - .125                   | 1.987 | .888  | .050 - .070                   | 1.996 | .821  | .005 - .010                   | 1.999 | .813  | .135 - .156                   |
| 1.939 | 1.578 | .030 - .050                   | 1.959 | 1.861 | .005 - .010                   | 1.969 | 1.628 | .015 - .030                   | 1.987 | 1.313 | .030 - .040                   | 1.996 | 1.045 | .005 - .010                   | 1.999 | .937  | .075 - .090                   |
| 1.939 | 1.664 | .020 - .030                   | 1.960 | .754  | .120 - .134                   | 1.969 | 1.657 | .050 - .070                   | 1.988 | .880  | .050 - .070                   | 1.996 | 1.120 | .135 - .156                   | 1.999 | .977  | .015 - .030                   |
| 1.940 | .687  | .090 - .105                   | 1.960 | .870  | .150 - .170                   | 1.969 | 1.692 | .030 - .050                   | 1.988 | .899  | .005 - .010                   | 1.996 | 1.404 | .005 - .010                   | 1.999 | 1.000 | .030 - .040                   |
| 1.940 | .880  | .065 - .080                   | 1.960 | 1.011 | .105 - .120                   | 1.970 | .413  | .105 - .125                   | 1.988 | 1.497 | .005 - .010                   | 1.996 | 1.504 | .010 - .020                   | 1.999 | 1.015 | .005 - .010                   |
| 1.940 | 1.155 | .080 - .100                   | 1.960 | 1.065 | .070 - .090                   | 1.970 | .556  | .030 - .050                   | 1.988 | 1.575 | .050 - .075                   | 1.996 | 1.666 | .005 - .010                   | 1.999 | 1.033 | .160 - .190                   |
| 1.940 | 1.260 | .005 - .010                   | 1.960 | 1.500 | .020 - .040                   | 1.970 | .594  | .010 - .020                   | 1.988 | 1.586 | .020 - .042                   | 1.996 | 1.751 | .050 - .070                   | 1.999 | 1.034 | .005 - .010                   |
| 1.940 | 1.261 | .030 - .070                   | 1.960 | 1.584 | .010 - .020                   | 1.970 | .938  | .090 - .110                   | 1.989 | .750  | .020 - .030                   | 1.996 | 1.850 | .010 - .020                   | 1.999 | 1.143 | .005 - .010                   |
| 1.940 | 1.402 | .015 - .030                   | 1.960 | 1.619 | .020 - .040                   | 1.970 | 1.427 | .005 - .010                   | 1.989 | .786  | .105 - .135                   | 1.997 | .310  | .080 - .100                   | 1.999 | 1.289 | .025 - .040                   |
| 1.940 | 1.410 | .040 - .060                   | 1.960 | 1.642 | .005 - .010                   | 1.970 | 1.428 | .020 - .040                   | 1.989 | .875  | .100 - .125                   | 1.997 | .407  | .050 - .070                   | 1.999 | 1.308 | .005 - .020                   |
| 1.940 |       |                               |       |       |                               |       |       |                               |       |       |                               |       |       |                               |       |       |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D.  | I.D. | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 2.000 | .210 | .105 - .135                   | 2.000 | 1.014 | .035 - .060                   | 2.001 | .315  | .105 - .120                   | 2.012 | .886  | .005 - .010                   | 2.044 | 1.025 | .050 - .070                   | 2.060 | 1.141 | .040 - .060                   |
| 2.000 | .221 | .030 - .050                   | 2.000 | 1.015 | .050 - .075                   | 2.001 | .345  | .125 - .135                   | 2.012 | 1.250 | .020 - .040                   | 2.044 | 1.826 | .010 - .020                   | 2.060 | 1.438 | .030 - .050                   |
| 2.000 | .250 | .025 - .125                   | 2.000 | 1.020 | .015 - .030                   | 2.001 | .375  | .105 - .125                   | 2.013 | 1.003 | .005 - .010                   | 2.045 | .344  | .040 - .060                   | 2.060 | 1.450 | .025 - .042                   |
| 2.000 | .253 | .005 - .010                   | 2.000 | 1.020 | .110 - .130                   | 2.001 | .381  | .020 - .030                   | 2.013 | 1.003 | .015 - .030                   | 2.045 | .722  | .005 - .030                   | 2.060 | 1.511 | .005 - .010                   |
| 2.000 | .253 | .050 - .070                   | 2.000 | 1.030 | .010 - .125                   | 2.001 | .447  | .005 - .010                   | 2.013 | 1.502 | .020 - .040                   | 2.045 | .724  | .005 - .050                   | 2.060 | 1.520 | .040 - .060                   |
| 2.000 | .255 | .030 - .060                   | 2.000 | 1.031 | .050 - .070                   | 2.001 | .499  | .170 - .190                   | 2.013 | 1.658 | .005 - .010                   | 2.045 | 1.256 | .050 - .070                   | 2.060 | 1.629 | .015 - .030                   |
| 2.000 | .261 | .060 - .080                   | 2.000 | 1.060 | .015 - .030                   | 2.001 | .501  | .015 - .030                   | 2.015 | 1.383 | .030 - .040                   | 2.045 | 1.344 | .040 - .060                   | 2.060 | 1.672 | .020 - .040                   |
| 2.000 | .266 | .040 - .060                   | 2.000 | 1.062 | .100 - .125                   | 2.001 | .592  | .120 - .135                   | 2.016 | 1.687 | .005 - .010                   | 2.045 | 1.703 | .005 - .010                   | 2.060 | 1.805 | .005 - .010                   |
| 2.000 | .270 | .080 - .100                   | 2.000 | 1.064 | .100 - .125                   | 2.001 | .750  | .005 - .010                   | 2.017 | 1.614 | .020 - .040                   | 2.045 | 1.730 | .010 - .020                   | 2.061 | 1.291 | .060 - .080                   |
| 2.000 | .282 | .060 - .080                   | 2.000 | 1.075 | .015 - .030                   | 2.001 | .755  | .005 - .010                   | 2.018 | 1.510 | .030 - .050                   | 2.045 | 1.881 | .005 - .010                   | 2.061 | 1.734 | .020 - .035                   |
| 2.000 | .291 | .050 - .075                   | 2.000 | 1.090 | .005 - .010                   | 2.001 | .813  | .005 - .010                   | 2.019 | .502  | .030 - .050                   | 2.046 | 1.536 | .060 - .080                   | 2.062 | .372  | .005 - .010                   |
| 2.000 | .298 | .005 - .010                   | 2.000 | 1.108 | .040 - .060                   | 2.001 | .814  | .060 - .080                   | 2.019 | .508  | .050 - .070                   | 2.046 | 1.611 | .070 - .090                   | 2.062 | .515  | .100 - .125                   |
| 2.000 | .299 | .020 - .040                   | 2.000 | 1.125 | .015 - .062                   | 2.001 | .942  | .105 - .135                   | 2.019 | 1.623 | .015 - .030                   | 2.046 | 1.730 | .020 - .030                   | 2.062 | .625  | .005 - .032                   |
| 2.000 | .316 | .005 - .010                   | 2.000 | 1.131 | .030 - .062                   | 2.001 | 1.020 | .015 - .030                   | 2.020 | .280  | .100 - .125                   | 2.046 | 1.871 | .040 - .060                   | 2.062 | .630  | .050 - .070                   |
| 2.000 | .317 | .015 - .030                   | 2.000 | 1.158 | .025 - .042                   | 2.001 | 1.105 | .080 - .104                   | 2.020 | 1.551 | .080 - .100                   | 2.047 | .551  | .060 - .080                   | 2.062 | .766  | .040 - .060                   |
| 2.000 | .328 | .070 - .090                   | 2.000 | 1.165 | .020 - .040                   | 2.001 | 1.155 | .105 - .125                   | 2.020 | 1.682 | .015 - .030                   | 2.047 | .747  | .015 - .030                   | 2.062 | 1.371 | .070 - .090                   |
| 2.000 | .344 | .060 - .075                   | 2.000 | 1.166 | .005 - .010                   | 2.001 | 1.282 | .105 - .125                   | 2.021 | .604  | .005 - .010                   | 2.047 | .807  | .070 - .090                   | 2.062 | 1.381 | .015 - .040                   |
| 2.000 | .376 | .050 - .060                   | 2.000 | 1.190 | .080 - .187                   | 2.001 | 1.312 | .050 - .070                   | 2.021 | 1.014 | .005 - .010                   | 2.047 | .828  | .025 - .040                   | 2.063 | .392  | .050 - .070                   |
| 2.000 | .380 | .160 - .190                   | 2.000 | 1.199 | .005 - .010                   | 2.001 | 1.397 | .015 - .025                   | 2.021 | 1.669 | .015 - .030                   | 2.047 | .965  | .025 - .040                   | 2.063 | .751  | .030 - .050                   |
| 2.000 | .398 | .010 - .020                   | 2.000 | 1.201 | .080 - .100                   | 2.001 | 1.505 | .005 - .010                   | 2.022 | 1.184 | .010 - .020                   | 2.047 | .985  | .070 - .080                   | 2.063 | 1.002 | .050 - .070                   |
| 2.000 | .399 | .020 - .040                   | 2.000 | 1.208 | .050 - .075                   | 2.001 | 1.522 | .005 - .010                   | 2.024 | .810  | .030 - .050                   | 2.047 | 1.102 | .060 - .080                   | 2.063 | 1.062 | .005 - .010                   |
| 2.000 | .405 | .100 - .135                   | 2.000 | 1.217 | .005 - .010                   | 2.001 | 1.583 | .025 - .040                   | 2.025 | 1.531 | .050 - .070                   | 2.047 | 1.274 | .005 - .010                   | 2.063 | 1.312 | .005 - .010                   |
| 2.000 | .411 | .020 - .040                   | 2.000 | 1.220 | .035 - .060                   | 2.001 | 1.602 | .030 - .050                   | 2.025 | 1.600 | .010 - .020                   | 2.047 | 1.417 | .060 - .080                   | 2.063 | 1.454 | .040 - .060                   |
| 2.000 | .415 | .090 - .105                   | 2.000 | 1.248 | .156 - .187                   | 2.002 | .101  | .005 - .010                   | 2.026 | 1.874 | .040 - .060                   | 2.047 | 1.692 | .060 - .080                   | 2.063 | 1.628 | .005 - .010                   |
| 2.000 | .437 | .050 - .070                   | 2.000 | 1.250 | .008 - .040                   | 2.002 | .380  | .090 - .134                   | 2.027 | 1.575 | .015 - .030                   | 2.047 | 1.773 | .015 - .030                   | 2.065 | 1.564 | .040 - .070                   |
| 2.000 | .438 | .156 - .190                   | 2.000 | 1.252 | .070 - .090                   | 2.002 | .437  | .050 - .075                   | 2.029 | 1.222 | .005 - .010                   | 2.047 | 1.811 | .025 - .040                   | 2.065 | 1.570 | .050 - .070                   |
| 2.000 | .451 | .090 - .125                   | 2.000 | 1.253 | .010 - .156                   | 2.002 | .510  | .005 - .010                   | 2.029 | 1.223 | .180 - .187                   | 2.048 | .296  | .005 - .010                   | 2.065 | 1.722 | .015 - .030                   |
| 2.000 | .484 | .170 - .190                   | 2.000 | 1.256 | .050 - .070                   | 2.002 | .533  | .156 - .187                   | 2.029 | 1.626 | .050 - .070                   | 2.048 | .626  | .005 - .010                   | 2.065 | 1.857 | .075 - .090                   |
| 2.000 | .503 | .105 - .125                   | 2.000 | 1.262 | .083 - .104                   | 2.002 | .665  | .105 - .120                   | 2.029 | 1.755 | .005 - .010                   | 2.048 | .631  | .005 - .010                   | 2.066 | 1.718 | .030 - .050                   |
| 2.000 | .504 | .010 - .060                   | 2.000 | 1.263 | .050 - .075                   | 2.002 | .855  | .005 - .010                   | 2.030 | .936  | .050 - .070                   | 2.048 | 1.260 | .070 - .090                   | 2.068 | .756  | .050 - .070                   |
| 2.000 | .505 | .005 - .010                   | 2.000 | 1.264 | .090 - .120                   | 2.002 | 1.276 | .050 - .070                   | 2.030 | 1.060 | .050 - .070                   | 2.048 | 1.378 | .030 - .050                   | 2.070 | 1.180 | .080 - .104                   |
| 2.000 | .506 | .020 - .030                   | 2.000 | 1.265 | .060 - .080                   | 2.002 | 1.381 | .020 - .030                   | 2.030 | 1.184 | .050 - .070                   | 2.048 | 1.387 | .005 - .010                   | 2.070 | 1.530 | .020 - .030                   |
| 2.000 | .507 | .100 - .125                   | 2.000 | 1.280 | .040 - .090                   | 2.002 | 1.390 | .010 - .020                   | 2.030 | 1.310 | .050 - .070                   | 2.048 | 1.393 | .070 - .090                   | 2.070 | 1.780 | .090 - .105                   |
| 2.000 | .509 | .156 - .187                   | 2.000 | 1.281 | .040 - .060                   | 2.002 | 1.501 | .050 - .075                   | 2.030 | 1.434 | .050 - .070                   | 2.048 | 1.748 | .020 - .040                   | 2.071 | 1.749 | .010 - .020                   |
| 2.000 | .516 | .090 - .120                   | 2.000 | 1.282 | .005 - .010                   | 2.002 | 1.530 | .025 - .035                   | 2.030 | 1.500 | .005 - .010                   | 2.049 | 1.209 | .005 - .010                   | 2.072 | 1.277 | .015 - .030                   |
| 2.000 | .522 | .005 - .010                   | 2.000 | 1.285 | .025 - .040                   | 2.002 | 1.560 | .105 - .135                   | 2.030 | 1.715 | .016 - .030                   | 2.049 | 1.854 | .005 - .010                   | 2.074 | .628  | .005 - .010                   |
| 2.000 | .530 | .060 - .080                   | 2.000 | 1.290 | .157 - .187                   | 2.002 | 1.630 | .050 - .070                   | 2.031 | .936  | .005 - .010                   | 2.050 | .140  | .060 - .080                   | 2.074 | 1.500 | .040 - .060                   |
| 2.000 | .536 | .005 - .010                   | 2.000 | 1.291 | .005 - .010                   | 2.002 | 1.733 | .080 - .105                   | 2.031 | 1.755 | .005 - .030                   | 2.050 | .253  | .005 - .010                   | 2.075 | 1.969 | .030 - .050                   |
| 2.000 | .551 | .120 - .140                   | 2.000 | 1.311 | .005 - .010                   | 2.002 | 1.758 | .005 - .010                   | 2.032 | .489  | .005 - .010                   | 2.050 | .406  | .105 - .125                   | 2.076 | 1.629 | .050 - .070                   |
| 2.000 | .570 | .005 - .010                   | 2.000 | 1.321 | .080 - .100                   | 2.002 | 1.812 | .070 - .090                   | 2.032 | .880  | .005 - .010                   | 2.050 | .505  | .005 - .020                   | 2.077 | 1.155 | .080 - .104                   |
| 2.000 | .591 | .025 - .040                   | 2.000 | 1.330 | .080 - .104                   | 2.002 | 1.828 | .005 - .010                   | 2.033 | .877  | .025 - .040                   | 2.050 | .506  | .005 - .010                   | 2.077 | 1.380 | .080 - .104                   |
| 2.000 | .594 | .170 - .190                   | 2.000 | 1.332 | .005 - .010                   | 2.003 | .161  | .025 - .040                   | 2.033 | 1.525 | .010 - .030                   | 2.050 | .626  | .010 - .020                   | 2.077 | 1.639 | .030 - .050                   |
| 2.000 | .619 | .015 - .030                   | 2.000 | 1.342 | .060 - .080                   | 2.003 | .752  | .075 - .090                   | 2.033 | 1.562 | .020 - .030                   | 2.050 | .627  | .010 - .020                   | 2.077 | 1.719 | .030 - .050                   |
| 2.000 | .620 | .040 - .060                   | 2.000 | 1.350 | .010 - .020                   | 2.003 | .843  | .005 - .010                   | 2.033 | 1.732 | .030 - .050                   | 2.050 | .629  | .005 - .010                   | 2.078 | 1.237 | .005 - .010                   |
| 2.000 | .625 | .005 - .010                   | 2.000 | 1.375 | .050 - .090                   | 2.003 | 1.077 | .050 - .070                   | 2.033 | 1.745 | .010 - .020                   | 2.050 | .630  | .005 - .020                   | 2.078 | 1.620 | .005 - .010                   |
| 2.000 | .625 | .100 - .125                   | 2.000 | 1.376 | .015 - .030                   | 2.003 | 1.126 | .070 - .090                   | 2.033 | 1.790 | .020 - .040                   | 2.050 | .651  | .080 - .100                   | 2.078 | 1.691 | .050 - .060                   |
| 2.000 | .626 | .015 - .030                   | 2.000 | 1.380 | .135 - .156                   | 2.003 | 1.481 | .005 - .015                   | 2.033 | 1.845 | .040 - .060                   | 2.050 | .731  | .010 - .020                   | 2.079 | 1.750 | .060 - .080                   |
| 2.000 | .627 | .040 - .060                   | 2.000 | 1.386 | .030 - .060                   | 2.003 | 1.557 | .020 - .040                   | 2.034 | 1.574 | .020 - .040                   | 2.050 | 1.425 | .030 - .050                   | 2.080 | .834  | .070 - .090                   |
| 2.000 | .628 | .020 - .040                   | 2.000 | 1.389 | .015 - .080                   | 2.003 | 1.694 | .020 - .030                   | 2.035 | .423  | .030 - .050                   | 2.050 | 1.660 | .075 - .090                   | 2.080 | 1.600 | .005 - .040                   |
| 2.000 | .632 | .005 - .020                   | 2.000 | 1.394 | .005 - .010                   | 2.003 | 1.781 | .010 - .020                   | 2.035 | .788  | .105 - .125                   | 2.050 | 1.708 | .040 - .060                   | 2.080 | 1.695 | .090 - .105                   |
| 2.000 | .636 | .005 - .010                   | 2.000 | 1.402 | .105 - .125                   | 2.004 | .756  | .040 - .060                   | 2.035 | 1.002 | .090 - .110                   | 2.051 | .631  | .120 - .140                   | 2.080 | 1.719 | .030 - .040                   |
| 2.000 | .641 | .110 - .130                   | 2.000 | 1.450 | .005 - .010                   | 2.004 | .843  | .100 - .125                   | 2.035 | 1.386 | .020 - .040                   | 2.051 | .755  | .010 - .020                   | 2.081 | .820  | .042 - .060                   |
| 2.000 | .644 | .090 - .105                   | 2.000 | 1.499 | .005 - .010                   | 2.004 | 1.131 | .010 - .020                   | 2.035 | 1.690 | .040 - .060                   | 2.052 | .626  | .025 - .040                   | 2.081 | 1.060 | .010 - .020                   |
| 2.000 | .657 | .100 - .125                   | 2.000 | 1.500 | .005 - .125                   | 2.005 | .204  | .080 - .104                   | 2.035 | 1.750 | .050 - .075                   | 2.054 | 1.274 | .010 - .020                   | 2.082 | 1.883 | .005 - .010                   |
| 2.000 | .670 | .090 - .125                   | 2.000 | 1.502 | .010 - .020                   | 2.005 | 1.260 | .025 - .040                   | 2.035 | 1.834 | .025 - .042                   | 2.054 | 1.384 | .025 - .040                   | 2.082 | 1.942 | .020 - .030                   |
| 2.000 | .685 | .080 - .105                   | 2.000 | 1.511 | .030 - .125                   | 2.005 | 1.261 | .070 - .090                   | 2.035 | 1.933 | .020 - .030                   | 2.054 | 1.632 | .015 - .030                   | 2.083 | 1.440 | .005 - .010                   |
| 2.000 | .692 | .090 - .120                   | 2.000 | 1.513 | .015 - .030                   | 2.005 | 1.515 | .010 - .020                   | 2.036 | 1.557 | .040 - .062                   | 2.055 | 1.570 | .005 - .010                   | 2.085 | 1.429 | .040 - .060                   |
| 2.000 | .700 | .020 - .030                   | 2.000 | 1.515 | .005 - .060                   | 2.006 | 1.280 | .105 - .135                   | 2.037 | 1.060 | .005 - .010                   | 2.056 | .528  | .048 - .062                   | 2.085 | 1.801 | .025 - .040                   |
| 2.000 | .750 | .105 - .125                   | 2.000 | 1.532 | .090 - .110                   | 2.006 | 1.775 | .005 - .010                   | 2.037 | 1.588 | .005 - .010                   | 2.057 | .390  | .040 - .060                   | 2.086 | .787  | .020 - .035                   |
| 2.000 | .752 | .010 - .020                   | 2.000 | 1.536 | .005 - .010                   | 2.007 | .826  | .005 - .010                   | 2.037 | 1.676 | .050 - .070                   | 2.058 | .482  | .048 - .062                   | 2.086 | 1.536 | .030 - .050                   |
| 2.000 | .753 | .005 - .010                   | 2.000 | 1.550 | .005 - .010                   | 2.007 | 1.384 | .015 - .030                   | 2.038 | .989  | .080 - .100                   | 2.058 | .519  | .156 - .190                   | 2.086 | 1.674 | .005 - .010                   |
| 2.000 | .754 | .110 - .130                   | 2.000 | 1     |                               |       |       |                               |       |       |                               |       |       |                               |       |       |                               |

**BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 2.098 | 1.013 | .010 - .020                   | 2.122 | 1.631 | .020 - .030                   | 2.128 | 1.505 | .050 - .070                   | 2.153 | 1.725 | .050 - .070                   | 2.177 | 1.545 | .010 - .020                   | 2.205 | 1.772 | .070 - .090                   |
| 2.098 | 1.635 | .010 - .020                   | 2.122 | 1.877 | .005 - .010                   | 2.128 | 1.626 | .005 - .010                   | 2.153 | 2.013 | .040 - .060                   | 2.177 | 2.051 | .040 - .060                   | 2.205 | 1.779 | .005 - .010                   |
| 2.098 | 1.909 | .020 - .040                   | 2.122 | 1.878 | .020 - .040                   | 2.128 | 1.668 | .005 - .010                   | 2.154 | .132  | .016 - .030                   | 2.178 | .362  | .050 - .070                   | 2.205 | 1.912 | .070 - .090                   |
| 2.099 | 1.200 | .010 - .020                   | 2.123 | .890  | .090 - .105                   | 2.129 | .251  | .050 - .070                   | 2.154 | 1.780 | .040 - .060                   | 2.179 | 1.208 | .005 - .010                   | 2.206 | .631  | .005 - .010                   |
| 2.099 | 1.638 | .005 - .010                   | 2.123 | .906  | .090 - .125                   | 2.129 | .533  | .105 - .135                   | 2.154 | 1.957 | .010 - .020                   | 2.179 | 1.500 | .030 - .050                   | 2.206 | 1.616 | .060 - .080                   |
| 2.100 | .505  | .005 - .020                   | 2.123 | 1.008 | .050 - .070                   | 2.129 | .735  | .020 - .040                   | 2.155 | 1.097 | .050 - .070                   | 2.180 | .780  | .005 - .010                   | 2.206 | 1.791 | .005 - .010                   |
| 2.100 | .753  | .025 - .040                   | 2.123 | 1.645 | .105 - .125                   | 2.129 | 1.282 | .050 - .070                   | 2.155 | 1.325 | .005 - .010                   | 2.180 | .781  | .015 - .030                   | 2.206 | 1.980 | .050 - .100                   |
| 2.100 | .755  | .005 - .020                   | 2.123 | 1.659 | .105 - .125                   | 2.129 | 1.500 | .010 - .020                   | 2.155 | 1.957 | .015 - .030                   | 2.180 | 1.133 | .070 - .090                   | 2.208 | 1.832 | .010 - .020                   |
| 2.100 | .794  | .010 - .020                   | 2.123 | 1.811 | .005 - .010                   | 2.129 | 1.524 | .100 - .125                   | 2.156 | .345  | .030 - .060                   | 2.180 | 1.200 | .005 - .075                   | 2.208 | 1.928 | .060 - .070                   |
| 2.100 | 1.391 | .020 - .030                   | 2.124 | .312  | .080 - .100                   | 2.130 | .293  | .050 - .070                   | 2.156 | .877  | .110 - .130                   | 2.180 | 1.662 | .080 - .100                   | 2.209 | 1.219 | .010 - .020                   |
| 2.100 | 1.406 | .050 - .070                   | 2.124 | 1.127 | .015 - .030                   | 2.130 | .516  | .040 - .060                   | 2.156 | 1.312 | .050 - .070                   | 2.181 | .499  | .015 - .030                   | 2.210 | 1.015 | .050 - .060                   |
| 2.100 | 1.640 | .005 - .015                   | 2.124 | 1.250 | .010 - .020                   | 2.130 | .532  | .134 - .156                   | 2.156 | 2.006 | .015 - .030                   | 2.181 | 1.507 | .025 - .040                   | 2.210 | 1.215 | .090 - .125                   |
| 2.100 | 1.656 | .105 - .125                   | 2.124 | 1.580 | .040 - .060                   | 2.130 | .549  | .040 - .060                   | 2.157 | .344  | .050 - .075                   | 2.182 | 1.511 | .050 - .070                   | 2.210 | 1.625 | .040 - .125                   |
| 2.100 | 1.675 | .005 - .010                   | 2.124 | 1.815 | .070 - .090                   | 2.130 | .860  | .100 - .125                   | 2.157 | .350  | .005 - .010                   | 2.182 | 2.067 | .010 - .020                   | 2.211 | .127  | .040 - .060                   |
| 2.100 | 1.700 | .040 - .060                   | 2.124 | 1.974 | .015 - .030                   | 2.130 | 1.030 | .015 - .030                   | 2.157 | .629  | .120 - .135                   | 2.182 | 2.092 | .025 - .035                   | 2.211 | 1.933 | .010 - .020                   |
| 2.100 | 1.825 | .005 - .010                   | 2.125 | .346  | .050 - .075                   | 2.130 | 1.057 | .005 - .010                   | 2.157 | 1.253 | .005 - .010                   | 2.183 | 1.384 | .100 - .125                   | 2.213 | 1.657 | .010 - .020                   |
| 2.100 | 1.830 | .010 - .020                   | 2.125 | .380  | .100 - .125                   | 2.130 | 1.625 | .040 - .060                   | 2.157 | 1.344 | .050 - .075                   | 2.184 | 1.788 | .030 - .040                   | 2.215 | .880  | .050 - .075                   |
| 2.100 | 1.900 | .050 - .075                   | 2.125 | .500  | .080 - .100                   | 2.130 | 1.762 | .005 - .010                   | 2.157 | 1.427 | .040 - .050                   | 2.185 | 1.781 | .030 - .050                   | 2.215 | .913  | .005 - .040                   |
| 2.100 | 1.933 | .005 - .010                   | 2.125 | .507  | .005 - .010                   | 2.130 | 1.869 | .025 - .040                   | 2.157 | 1.670 | .015 - .030                   | 2.186 | 1.550 | .020 - .040                   | 2.215 | .916  | .005 - .010                   |
| 2.100 | 1.971 | .010 - .020                   | 2.125 | .562  | .100 - .125                   | 2.130 | 1.871 | .010 - .020                   | 2.157 | 2.006 | .010 - .020                   | 2.187 | .251  | .050 - .070                   | 2.215 | .933  | .040 - .060                   |
| 2.101 | .564  | .010 - .020                   | 2.125 | .565  | .010 - .020                   | 2.131 | 1.658 | .015 - .030                   | 2.158 | 1.060 | .075 - .090                   | 2.187 | .565  | .005 - .010                   | 2.215 | 1.153 | .060 - .090                   |
| 2.101 | 1.731 | .025 - .040                   | 2.125 | .626  | .015 - .030                   | 2.131 | 1.878 | .080 - .105                   | 2.158 | 1.063 | .080 - .120                   | 2.187 | .822  | .060 - .080                   | 2.215 | 1.434 | .075 - .100                   |
| 2.102 | .792  | .030 - .040                   | 2.125 | .655  | .075 - .100                   | 2.131 | 2.031 | .030 - .050                   | 2.158 | 1.469 | .005 - .010                   | 2.187 | 1.756 | .005 - .010                   | 2.215 | 1.510 | .005 - .010                   |
| 2.103 | 1.781 | .010 - .020                   | 2.125 | .695  | .090 - .105                   | 2.132 | .250  | .090 - .110                   | 2.158 | 1.564 | .080 - .120                   | 2.188 | .320  | .050 - .070                   | 2.215 | 1.976 | .010 - .020                   |
| 2.104 | 1.250 | .060 - .080                   | 2.125 | .705  | .005 - .010                   | 2.132 | 1.190 | .060 - .080                   | 2.158 | 1.727 | .030 - .050                   | 2.188 | .446  | .050 - .070                   | 2.215 | 1.977 | .010 - .020                   |
| 2.104 | 1.680 | .040 - .060                   | 2.125 | .761  | .060 - .090                   | 2.132 | 1.658 | .020 - .040                   | 2.159 | .386  | .010 - .020                   | 2.188 | .781  | .100 - .134                   | 2.216 | .914  | .050 - .060                   |
| 2.106 | 1.808 | .015 - .030                   | 2.125 | .813  | .110 - .135                   | 2.134 | 1.410 | .015 - .030                   | 2.159 | 1.690 | .025 - .040                   | 2.188 | 1.069 | .030 - .050                   | 2.216 | 1.575 | .025 - .040                   |
| 2.106 | 1.814 | .050 - .075                   | 2.125 | .895  | .005 - .010                   | 2.134 | 1.729 | .060 - .080                   | 2.160 | 1.127 | .020 - .030                   | 2.188 | 1.126 | .050 - .075                   | 2.217 | 1.632 | .040 - .060                   |
| 2.107 | .314  | .105 - .125                   | 2.125 | .907  | .020 - .030                   | 2.134 | 1.752 | .005 - .012                   | 2.160 | 1.400 | .040 - .125                   | 2.189 | 1.690 | .025 - .040                   | 2.218 | .127  | .042 - .060                   |
| 2.108 | 1.801 | .075 - .090                   | 2.125 | 1.015 | .105 - .125                   | 2.134 | 1.898 | .020 - .040                   | 2.160 | 1.730 | .020 - .040                   | 2.190 | 1.125 | .025 - .040                   | 2.218 | .328  | .010 - .020                   |
| 2.109 | 1.726 | .025 - .040                   | 2.125 | 1.070 | .005 - .010                   | 2.135 | 1.120 | .100 - .120                   | 2.162 | .668  | .020 - .030                   | 2.190 | 1.455 | .020 - .040                   | 2.218 | 1.437 | .040 - .060                   |
| 2.109 | 1.829 | .080 - .100                   | 2.125 | 1.075 | .010 - .020                   | 2.135 | 1.900 | .020 - .040                   | 2.162 | .756  | .025 - .040                   | 2.190 | 1.517 | .015 - .030                   | 2.219 | 1.408 | .020 - .040                   |
| 2.110 | 1.929 | .005 - .010                   | 2.125 | 1.100 | .030 - .050                   | 2.136 | 1.578 | .060 - .080                   | 2.162 | .857  | .020 - .030                   | 2.190 | 1.627 | .005 - .010                   | 2.219 | 1.686 | .010 - .020                   |
| 2.111 | 1.436 | .010 - .020                   | 2.125 | 1.123 | .060 - .080                   | 2.137 | 1.969 | .005 - .010                   | 2.162 | 1.512 | .080 - .105                   | 2.190 | 1.711 | .015 - .030                   | 2.220 | .190  | .005 - .010                   |
| 2.112 | 1.260 | .080 - .105                   | 2.125 | 1.251 | .050 - .075                   | 2.138 | 1.897 | .005 - .010                   | 2.162 | 1.724 | .134 - .160                   | 2.191 | 1.254 | .015 - .030                   | 2.220 | .886  | .005 - .010                   |
| 2.112 | 1.509 | .020 - .040                   | 2.125 | 1.252 | .090 - .105                   | 2.138 | 1.968 | .025 - .040                   | 2.162 | 1.760 | .032 - .050                   | 2.191 | 1.892 | .060 - .080                   | 2.220 | 1.290 | .150 - .164                   |
| 2.112 | 1.831 | .050 - .070                   | 2.125 | 1.260 | .075 - .090                   | 2.139 | 1.417 | .080 - .104                   | 2.163 | .252  | .030 - .050                   | 2.191 | 2.005 | .015 - .030                   | 2.220 | 1.832 | .010 - .030                   |
| 2.113 | .256  | .006 - .016                   | 2.125 | 1.308 | .025 - .050                   | 2.139 | 1.454 | .005 - .010                   | 2.163 | .678  | .005 - .010                   | 2.192 | 1.636 | .040 - .062                   | 2.220 | 1.906 | .050 - .070                   |
| 2.113 | .876  | .015 - .030                   | 2.125 | 1.339 | .080 - .105                   | 2.139 | 1.818 | .005 - .010                   | 2.163 | 1.929 | .060 - .080                   | 2.192 | 1.754 | .030 - .040                   | 2.221 | 1.312 | .100 - .125                   |
| 2.113 | 1.497 | .070 - .090                   | 2.125 | 1.376 | .015 - .030                   | 2.139 | 1.821 | .025 - .040                   | 2.163 | 2.028 | .005 - .010                   | 2.193 | .972  | .025 - .042                   | 2.222 | .826  | .030 - .050                   |
| 2.113 | 1.535 | .010 - .020                   | 2.125 | 1.408 | .030 - .050                   | 2.139 | 1.896 | .030 - .040                   | 2.164 | .987  | .050 - .070                   | 2.193 | 1.934 | .030 - .040                   | 2.225 | .812  | .020 - .040                   |
| 2.113 | 1.735 | .040 - .060                   | 2.125 | 1.439 | .015 - .030                   | 2.140 | 1.730 | .025 - .040                   | 2.164 | 1.801 | .025 - .040                   | 2.193 | 2.006 | .010 - .020                   | 2.225 | 1.804 | .050 - .070                   |
| 2.113 | 1.890 | .020 - .040                   | 2.125 | 1.500 | .005 - .010                   | 2.140 | 2.012 | .040 - .060                   | 2.164 | 1.898 | .070 - .090                   | 2.196 | 1.698 | .010 - .020                   | 2.226 | 1.616 | .080 - .100                   |
| 2.113 | 1.916 | .005 - .010                   | 2.125 | 1.500 | .015 - .104                   | 2.142 | 1.545 | .030 - .050                   | 2.164 | 1.908 | .050 - .070                   | 2.196 | 1.702 | .005 - .010                   | 2.226 | 1.650 | .020 - .040                   |
| 2.114 | 1.190 | .025 - .040                   | 2.125 | 1.504 | .040 - .060                   | 2.142 | 1.941 | .005 - .010                   | 2.165 | .254  | .005 - .010                   | 2.196 | 1.982 | .005 - .010                   | 2.227 | 1.451 | .050 - .070                   |
| 2.114 | 1.900 | .015 - .030                   | 2.125 | 1.507 | .005 - .060                   | 2.142 | 2.003 | .005 - .010                   | 2.165 | .323  | .030 - .050                   | 2.197 | 1.650 | .040 - .060                   | 2.227 | 1.800 | .020 - .070                   |
| 2.115 | .986  | .080 - .100                   | 2.125 | 1.510 | .020 - .040                   | 2.143 | 1.621 | .005 - .010                   | 2.165 | .502  | .010 - .020                   | 2.198 | 1.047 | .040 - .060                   | 2.227 | 1.855 | .105 - .135                   |
| 2.115 | 1.762 | .020 - .030                   | 2.125 | 1.526 | .040 - .060                   | 2.143 | 1.730 | .020 - .040                   | 2.165 | .670  | .105 - .135                   | 2.198 | 1.126 | .040 - .060                   | 2.228 | 1.685 | .105 - .125                   |
| 2.116 | 1.330 | .030 - .050                   | 2.125 | 1.529 | .005 - .010                   | 2.143 | 1.791 | .010 - .020                   | 2.165 | 1.379 | .020 - .040                   | 2.198 | 2.047 | .005 - .010                   | 2.228 | 1.857 | .060 - .090                   |
| 2.117 | 1.152 | .005 - .010                   | 2.125 | 1.562 | .050 - .070                   | 2.144 | 1.831 | .050 - .070                   | 2.165 | 1.380 | .005 - .010                   | 2.199 | .250  | .005 - .010                   | 2.230 | 1.600 | .010 - .020                   |
| 2.117 | 1.764 | .005 - .010                   | 2.125 | 1.580 | .005 - .010                   | 2.144 | 1.890 | .005 - .010                   | 2.165 | 1.506 | .050 - .070                   | 2.199 | .629  | .015 - .030                   | 2.230 | 1.800 | .030 - .120                   |
| 2.118 | 1.382 | .070 - .090                   | 2.125 | 1.586 | .005 - .010                   | 2.145 | .845  | .005 - .010                   | 2.165 | 1.645 | .005 - .010                   | 2.199 | .706  | .050 - .070                   | 2.230 | 1.937 | .072 - .090                   |
| 2.118 | 1.508 | .085 - .125                   | 2.125 | 1.625 | .015 - .030                   | 2.145 | 1.730 | .005 - .010                   | 2.165 | 1.660 | .080 - .100                   | 2.199 | .840  | .005 - .010                   | 2.230 | 1.939 | .005 - .010                   |
| 2.118 | 1.537 | .005 - .010                   | 2.125 | 1.641 | .010 - .040                   | 2.145 | 1.967 | .005 - .010                   | 2.165 | 1.701 | .030 - .050                   | 2.200 | .360  | .050 - .070                   | 2.231 | 1.763 | .050 - .060                   |
| 2.118 | 1.610 | .070 - .080                   | 2.125 | 1.642 | .040 - .060                   | 2.146 | 1.645 | .070 - .090                   | 2.165 | 1.790 | .040 - .050                   | 2.200 | .628  | .010 - .020                   | 2.232 | 1.761 | .050 - .070                   |
| 2.118 | 1.641 | .060 - .080                   | 2.125 | 1.671 | .010 - .020                   | 2.146 | 1.654 | .075 - .090                   | 2.165 | 1.800 | .005 - .010                   | 2.200 | .880  | .060 - .070                   | 2.232 | 1.764 | .010 - .030                   |
| 2.118 | 1.887 | .025 - .040                   | 2.125 | 1.750 | .010 - .020                   | 2.146 | 1.743 | .005 - .020                   | 2.165 | 1.968 | .005 - .010                   | 2.200 | 1.010 | .005 - .060                   | 2.233 | 1.845 | .010 - .020                   |
| 2.119 | 1.061 | .075 - .090                   | 2.125 | 1.751 | .090 - .105                   | 2.147 | 1.671 | .030 - .050                   | 2.166 | .458  | .090 - .105                   | 2.200 | 1.378 | .105 - .125                   | 2.233 | 2.033 | .015 - .030                   |
| 2.119 | 1.414 | .020 - .040                   | 2.125 | 1.757 | .025 - .050                   | 2.148 | .626  | .015 - .030                   | 2.166 | 1.216 | .050 - .070                   | 2.200 | 1.519 | .030 - .050                   | 2.234 | 1.250 | .015 - .025                   |
| 2.119 | 1.503 | .005 - .010                   | 2.125 | 1.781 | .025 - .040                   | 2.148 | .690  | .105 - .135                   | 2.166 | 1.594 | .060 - .090                   | 2.200 | 1.599 | .048 - .075                   | 2.235 | 1.034 | .005 - .010                   |
| 2.119 | 1.512 | .005 - .010                   | 2.125 | 1.811 | .015 - .030                   | 2.148 | .878  | .105 - .135                   | 2.167 | 1.    |                               |       |       |                               |       |       |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.         | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|--------------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 2.240 | 2.010 | .005 - .040                   | <b>2.250</b> |       |                               | 2.250 | 1.631 | .005 - .020                   | 2.270 | 1.890 | .036 - .060                   | 2.310 | 1.136 | .080 - .105                   | 2.346 | 1.750 | .005 - .010                   |
| 2.240 | 2.025 | .005 - .010                   |              |       |                               | 2.250 | 1.668 | .020 - .075                   | 2.270 | 1.967 | .070 - .090                   | 2.310 | 1.636 | .005 - .010                   | 2.346 | 2.074 | .030 - .050                   |
| 2.241 | .698  | .020 - .040                   |              |       |                               | 2.250 | 1.687 | .025 - .040                   | 2.270 | 1.980 | .015 - .030                   | 2.310 | 1.693 | .005 - .010                   | 2.347 | 1.437 | .050 - .070                   |
| 2.241 | .880  | .030 - .050                   |              |       |                               | 2.250 | 1.751 | .005 - .020                   | 2.271 | .258  | .060 - .080                   | 2.310 | 1.873 | .070 - .090                   | 2.347 | 2.110 | .005 - .010                   |
| 2.241 | 1.578 | .100 - .125                   |              |       |                               | 2.250 | 1.761 | .040 - .060                   | 2.271 | 1.979 | .005 - .010                   | 2.310 | 1.997 | .010 - .025                   | 2.348 | .747  | .050 - .070                   |
| 2.241 | 1.700 | .015 - .030                   | 2.250        | .125  | .050 - .070                   | 2.250 | 1.768 | .050 - .075                   | 2.271 | 1.980 | .005 - .010                   | 2.311 | .312  | .030 - .050                   | 2.348 | .783  | .075 - .090                   |
| 2.242 | .644  | .005 - .010                   | 2.250        | .136  | .015 - .025                   | 2.250 | 1.780 | .005 - .010                   | 2.272 | .443  | .080 - .100                   | 2.311 | .532  | .050 - .070                   | 2.348 | 1.380 | .060 - .080                   |
| 2.242 | 1.565 | .005 - .010                   | 2.250        | .164  | .010 - .020                   | 2.250 | 1.781 | .050 - .070                   | 2.273 | .590  | .100 - .125                   | 2.311 | .633  | .030 - .050                   | 2.348 | 2.000 | .042 - .062                   |
| 2.242 | 1.726 | .080 - .105                   | 2.250        | .216  | .060 - .080                   | 2.250 | 1.782 | .090 - .105                   | 2.273 | .665  | .100 - .125                   | 2.311 | 1.067 | .005 - .010                   | 2.348 | 2.067 | .015 - .030                   |
| 2.242 | 1.761 | .050 - .070                   | 2.250        | .257  | .020 - .040                   | 2.250 | 1.801 | .100 - .134                   | 2.273 | 1.910 | .010 - .020                   | 2.311 | 1.688 | .025 - .040                   | 2.349 | .502  | .100 - .120                   |
| 2.242 | 1.844 | .080 - .105                   | 2.250        | .325  | .075 - .104                   | 2.250 | 1.810 | .125 - .135                   | 2.273 | 1.968 | .005 - .020                   | 2.311 | 1.934 | .050 - .070                   | 2.349 | 1.494 | .025 - .040                   |
| 2.243 | .762  | .030 - .050                   | 2.250        | .370  | .050 - .070                   | 2.250 | 1.844 | .040 - .075                   | 2.274 | 1.544 | .010 - .020                   | 2.311 | 2.080 | .030 - .050                   | 2.349 | 2.005 | .060 - .090                   |
| 2.243 | 1.009 | .060 - .080                   | 2.250        | .378  | .050 - .075                   | 2.250 | 1.875 | .050 - .075                   | 2.275 | .881  | .025 - .040                   | 2.312 | .250  | .050 - .070                   | 2.350 | .505  | .005 - .020                   |
| 2.243 | 1.551 | .010 - .020                   | 2.250        | .394  | .030 - .050                   | 2.250 | 1.900 | .040 - .060                   | 2.275 | 2.000 | .005 - .010                   | 2.312 | .502  | .125 - .135                   | 2.350 | .754  | .015 - .030                   |
| 2.244 | 1.857 | .015 - .030                   | 2.250        | .400  | .100 - .125                   | 2.250 | 1.912 | .070 - .090                   | 2.277 | 1.184 | .060 - .080                   | 2.312 | .563  | .050 - .070                   | 2.350 | 1.070 | .110 - .130                   |
| 2.245 | .330  | .005 - .010                   | 2.250        | .439  | .100 - .125                   | 2.250 | 1.920 | .020 - .040                   | 2.277 | 1.785 | .005 - .010                   | 2.312 | 1.003 | .005 - .010                   | 2.350 | 1.250 | .090 - .105                   |
| 2.245 | .633  | .005 - .010                   | 2.250        | .478  | .030 - .050                   | 2.250 | 1.969 | .010 - .015                   | 2.278 | 1.674 | .105 - .135                   | 2.312 | 1.430 | .070 - .090                   | 2.350 | 1.267 | .050 - .070                   |
| 2.245 | .886  | .105 - .125                   | 2.250        | .500  | .105 - .120                   | 2.250 | 1.980 | .005 - .010                   | 2.278 | 1.868 | .050 - .070                   | 2.312 | 1.640 | .015 - .030                   | 2.350 | 1.396 | .005 - .010                   |
| 2.245 | 1.005 | .060 - .070                   | 2.250        | .504  | .005 - .020                   | 2.250 | 2.025 | .020 - .040                   | 2.278 | 1.919 | .040 - .060                   | 2.312 | 1.651 | .105 - .134                   | 2.350 | 1.815 | .005 - .010                   |
| 2.245 | 1.192 | .005 - .010                   | 2.250        | .507  | .030 - .050                   | 2.250 | 2.062 | .015 - .030                   | 2.278 | 1.940 | .040 - .060                   | 2.312 | 1.802 | .005 - .010                   | 2.350 | 1.947 | .090 - .105                   |
| 2.245 | 1.259 | .090 - .105                   | 2.250        | .517  | .005 - .110                   | 2.250 | 2.082 | .005 - .010                   | 2.278 | 1.990 | .050 - .070                   | 2.312 | 1.881 | .010 - .020                   | 2.350 | 2.010 | .010 - .040                   |
| 2.245 | 1.319 | .025 - .040                   | 2.250        | .519  | .170 - .190                   | 2.251 | .266  | .005 - .010                   | 2.279 | .313  | .030 - .050                   | 2.312 | 2.000 | .040 - .060                   | 2.351 | .270  | .080 - .100                   |
| 2.245 | 1.343 | .025 - .042                   | 2.250        | .531  | .050 - .060                   | 2.251 | .378  | .025 - .040                   | 2.279 | 1.746 | .020 - .030                   | 2.313 | 1.828 | .015 - .030                   | 2.351 | .628  | .010 - .020                   |
| 2.245 | 1.375 | .080 - .105                   | 2.250        | .562  | .135 - .156                   | 2.251 | .540  | .134 - .156                   | 2.280 | 1.070 | .040 - .060                   | 2.313 | 1.992 | .005 - .010                   | 2.351 | 1.659 | .010 - .020                   |
| 2.245 | 1.380 | .030 - .050                   | 2.250        | .620  | .030 - .050                   | 2.251 | .579  | .090 - .105                   | 2.280 | 1.150 | .025 - .040                   | 2.313 | 2.185 | .005 - .010                   | 2.352 | .638  | .156 - .190                   |
| 2.245 | 1.395 | .010 - .020                   | 2.250        | .626  | .015 - .030                   | 2.251 | .812  | .005 - .010                   | 2.280 | 2.032 | .050 - .070                   | 2.314 | .745  | .070 - .090                   | 2.352 | 1.660 | .005 - .010                   |
| 2.245 | 1.417 | .080 - .125                   | 2.250        | .629  | .040 - .060                   | 2.251 | .905  | .030 - .050                   | 2.282 | 1.575 | .125 - .135                   | 2.314 | 1.313 | .020 - .060                   | 2.354 | 2.100 | .010 - .020                   |
| 2.245 | 1.738 | .110 - .130                   | 2.250        | .639  | .015 - .030                   | 2.251 | 1.083 | .120 - .140                   | 2.282 | 1.771 | .050 - .070                   | 2.314 | 1.758 | .025 - .040                   | 2.355 | 1.873 | .005 - .010                   |
| 2.245 | 1.921 | .020 - .040                   | 2.250        | .640  | .156 - .187                   | 2.251 | 1.377 | .040 - .060                   | 2.283 | .334  | .060 - .080                   | 2.314 | 1.991 | .005 - .010                   | 2.355 | 2.217 | .010 - .020                   |
| 2.245 | 2.007 | .010 - .015                   | 2.250        | .641  | .125 - .156                   | 2.251 | 1.501 | .030 - .050                   | 2.283 | 1.261 | .080 - .104                   | 2.315 | 1.496 | .010 - .020                   | 2.356 | .815  | .080 - .105                   |
| 2.246 | .378  | .080 - .100                   | 2.250        | .642  | .105 - .125                   | 2.251 | 1.519 | .025 - .040                   | 2.283 | 1.948 | .015 - .030                   | 2.315 | 1.906 | .040 - .060                   | 2.358 | 1.095 | .025 - .040                   |
| 2.246 | .627  | .025 - .040                   | 2.250        | .643  | .135 - .156                   | 2.251 | 1.538 | .005 - .010                   | 2.284 | 2.043 | .040 - .060                   | 2.315 | 1.986 | .090 - .105                   | 2.358 | 1.542 | .030 - .050                   |
| 2.246 | .631  | .156 - .179                   | 2.250        | .662  | .140 - .160                   | 2.251 | 1.563 | .030 - .040                   | 2.284 | 2.070 | .030 - .040                   | 2.315 | 2.032 | .040 - .060                   | 2.358 | 1.600 | .020 - .040                   |
| 2.246 | 1.048 | .050 - .070                   | 2.250        | .688  | .104 - .125                   | 2.251 | 2.025 | .105 - .135                   | 2.285 | .768  | .075 - .090                   | 2.316 | .173  | .040 - .060                   | 2.358 | 1.932 | .135 - .156                   |
| 2.246 | 1.058 | .050 - .070                   | 2.250        | .745  | .020 - .040                   | 2.251 | 2.125 | .040 - .060                   | 2.285 | 2.070 | .005 - .010                   | 2.316 | .623  | .020 - .040                   | 2.358 | 2.130 | .010 - .020                   |
| 2.246 | 1.064 | .025 - .040                   | 2.250        | .750  | .075 - .104                   | 2.252 | .377  | .025 - .040                   | 2.287 | .770  | .080 - .104                   | 2.316 | 1.757 | .032 - .050                   | 2.359 | 1.260 | .020 - .040                   |
| 2.246 | 1.813 | .050 - .075                   | 2.250        | .759  | .090 - .105                   | 2.252 | .758  | .040 - .060                   | 2.290 | 1.125 | .105 - .134                   | 2.316 | 2.058 | .005 - .010                   | 2.360 | .438  | .070 - .090                   |
| 2.247 | .538  | .010 - .020                   | 2.250        | .771  | .060 - .080                   | 2.252 | .781  | .090 - .120                   | 2.290 | 2.160 | .020 - .040                   | 2.317 | 1.941 | .025 - .040                   | 2.360 | .728  | .050 - .070                   |
| 2.247 | .762  | .005 - .010                   | 2.250        | .781  | .100 - .134                   | 2.252 | 1.000 | .040 - .060                   | 2.291 | 1.630 | .030 - .050                   | 2.317 | 1.969 | .070 - .080                   | 2.360 | 1.003 | .050 - .070                   |
| 2.247 | .905  | .010 - .020                   | 2.250        | .790  | .040 - .060                   | 2.252 | 1.032 | .005 - .010                   | 2.293 | 1.127 | .090 - .105                   | 2.318 | .771  | .005 - .010                   | 2.360 | 1.133 | .160 - .190                   |
| 2.247 | 1.200 | .010 - .020                   | 2.250        | .795  | .050 - .070                   | 2.252 | 1.253 | .050 - .070                   | 2.295 | 1.857 | .030 - .050                   | 2.318 | 1.760 | .005 - .010                   | 2.360 | 1.262 | .005 - .010                   |
| 2.248 | .250  | .105 - .120                   | 2.250        | .874  | .060 - .080                   | 2.252 | 1.511 | .050 - .075                   | 2.295 | 1.857 | .080 - .090                   | 2.318 | 1.942 | .020 - .040                   | 2.360 | 1.375 | .015 - .060                   |
| 2.248 | .620  | .015 - .030                   | 2.250        | .875  | .125 - .156                   | 2.252 | 1.656 | .005 - .010                   | 2.295 | 1.858 | .020 - .030                   | 2.320 | 1.580 | .070 - .090                   | 2.360 | 1.578 | .005 - .040                   |
| 2.248 | .656  | .156 - .187                   | 2.250        | .877  | .070 - .090                   | 2.252 | 1.887 | .005 - .010                   | 2.295 | 2.052 | .025 - .040                   | 2.320 | 1.681 | .005 - .010                   | 2.360 | 1.958 | .010 - .020                   |
| 2.248 | .883  | .005 - .010                   | 2.250        | .880  | .005 - .010                   | 2.252 | 1.979 | .080 - .105                   | 2.296 | .187  | .025 - .040                   | 2.321 | 1.580 | .010 - .020                   | 2.360 | 2.165 | .005 - .010                   |
| 2.248 | 1.033 | .105 - .120                   | 2.250        | .885  | .125 - .135                   | 2.253 | .188  | .025 - .040                   | 2.296 | .501  | .015 - .025                   | 2.321 | 2.053 | .005 - .010                   | 2.361 | 1.009 | .025 - .070                   |
| 2.248 | 1.127 | .050 - .075                   | 2.250        | 1.004 | .080 - .100                   | 2.253 | .252  | .025 - .040                   | 2.296 | 2.068 | .025 - .040                   | 2.322 | .192  | .015 - .030                   | 2.361 | 1.047 | .005 - .010                   |
| 2.248 | 1.190 | .005 - .010                   | 2.250        | 1.014 | .005 - .010                   | 2.253 | .517  | .105 - .125                   | 2.297 | 1.960 | .005 - .010                   | 2.322 | 1.770 | .030 - .040                   | 2.361 | 1.181 | .080 - .120                   |
| 2.248 | 1.249 | .015 - .030                   | 2.250        | 1.022 | .090 - .104                   | 2.253 | .642  | .120 - .135                   | 2.298 | .402  | .105 - .125                   | 2.322 | 2.000 | .015 - .030                   | 2.361 | 1.774 | .010 - .020                   |
| 2.248 | 1.250 | .090 - .105                   | 2.250        | 1.040 | .010 - .090                   | 2.253 | .780  | .005 - .010                   | 2.298 | 1.325 | .005 - .010                   | 2.323 | .311  | .015 - .030                   | 2.361 | 2.026 | .040 - .060                   |
| 2.248 | 1.290 | .105 - .125                   | 2.250        | 1.060 | .015 - .030                   | 2.253 | 1.011 | .030 - .050                   | 2.299 | 1.205 | .005 - .010                   | 2.323 | 1.693 | .040 - .060                   | 2.362 | .240  | .020 - .030                   |
| 2.248 | 1.315 | .005 - .010                   | 2.250        | 1.067 | .005 - .010                   | 2.253 | 1.063 | .120 - .156                   | 2.300 | .158  | .040 - .060                   | 2.323 | 1.813 | .005 - .010                   | 2.362 | .502  | .010 - .020                   |
| 2.248 | 1.507 | .030 - .050                   | 2.250        | 1.180 | .105 - .135                   | 2.253 | 1.145 | .120 - .134                   | 2.300 | 1.196 | .005 - .010                   | 2.323 | 1.948 | .070 - .090                   | 2.362 | 1.002 | .005 - .010                   |
| 2.248 | 1.508 | .005 - .010                   | 2.250        | 1.255 | .040 - .060                   | 2.253 | 1.751 | .105 - .135                   | 2.300 | .504  | .010 - .020                   | 2.323 | 2.165 | .050 - .070                   | 2.362 | 1.541 | .020 - .050                   |
| 2.248 | 1.655 | .005 - .090                   | 2.250        | 1.256 | .005 - .010                   | 2.253 | 1.752 | .050 - .070                   | 2.300 | .628  | .005 - .010                   | 2.324 | 1.253 | .025 - .040                   | 2.362 | 1.575 | .020 - .040                   |
| 2.248 | 1.749 | .015 - .035                   | 2.250        | 1.257 | .025 - .042                   | 2.253 | 1.973 | .050 - .070                   | 2.300 | .631  | .005 - .010                   | 2.324 | 1.811 | .020 - .040                   | 2.362 | 1.875 | .005 - .010                   |
| 2     |       |                               |              |       |                               |       |       |                               |       |       |                               |       |       |                               |       |       |                               |



# BOKER'S METAL WASHERS ARE FLAT AND TUMBLE DEBURRED

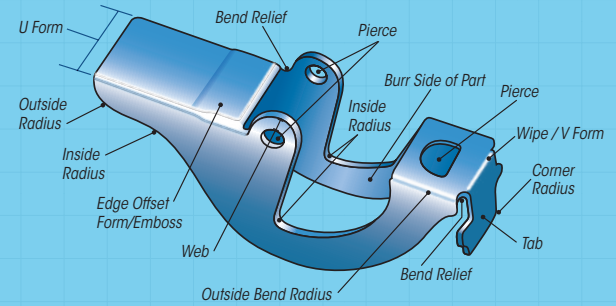
| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 2.369 | 1.875 | .050 - .070                   | 2.375 | 2.105 | .005 - .010                   | 2.400 | .505  | .010 - .020                   | 2.434 | 1.501 | .050 - .075                   | 2.475 | .870  | .120 - .135                   | 2.498 | .752  | .005 - .010                   |
| 2.370 | .135  | .005 - .010                   | 2.375 | 2.125 | .040 - .060                   | 2.400 | .511  | .105 - .135                   | 2.434 | 1.531 | .030 - .050                   | 2.475 | 1.351 | .070 - .080                   | 2.498 | .755  | .005 - .010                   |
| 2.370 | .246  | .005 - .010                   | 2.376 | .314  | .060 - .080                   | 2.400 | .753  | .010 - .020                   | 2.434 | 2.187 | .050 - .070                   | 2.475 | 1.770 | .005 - .010                   | 2.498 | 1.062 | .090 - .105                   |
| 2.370 | .510  | .005 - .010                   | 2.376 | .631  | .120 - .140                   | 2.400 | 1.320 | .015 - .030                   | 2.435 | 1.255 | .125 - .156                   | 2.477 | 1.968 | .030 - .080                   | 2.498 | 1.126 | .090 - .120                   |
| 2.370 | .852  | .005 - .010                   | 2.376 | .755  | .030 - .060                   | 2.400 | 1.734 | .080 - .105                   | 2.435 | 1.900 | .050 - .075                   | 2.478 | 1.230 | .075 - .105                   | 2.498 | 1.261 | .060 - .080                   |
| 2.370 | .884  | .050 - .060                   | 2.376 | 1.406 | .010 - .020                   | 2.400 | 1.818 | .005 - .010                   | 2.435 | 2.255 | .010 - .015                   | 2.478 | 1.598 | .005 - .010                   | 2.498 | 1.359 | .015 - .030                   |
| 2.370 | 1.254 | .110 - .130                   | 2.376 | 1.443 | .040 - .060                   | 2.400 | 1.838 | .060 - .080                   | 2.435 | 2.263 | .015 - .030                   | 2.478 | 1.757 | .080 - .090                   | 2.498 | 1.449 | .070 - .090                   |
| 2.370 | 1.588 | .090 - .105                   | 2.376 | 1.828 | .030 - .050                   | 2.400 | 1.850 | .010 - .020                   | 2.436 | 1.750 | .090 - .105                   | 2.478 | 1.889 | .020 - .040                   | 2.498 | 1.515 | .125 - .135                   |
| 2.370 | 1.681 | .005 - .010                   | 2.376 | 1.875 | .040 - .060                   | 2.400 | 1.933 | .005 - .010                   | 2.436 | 1.877 | .005 - .010                   | 2.478 | 1.980 | .060 - .070                   | 2.498 | 1.532 | .110 - .135                   |
| 2.370 | 1.704 | .005 - .020                   | 2.377 | .261  | .090 - .120                   | 2.400 | 1.999 | .045 - .060                   | 2.437 | 1.257 | .050 - .070                   | 2.479 | 2.100 | .015 - .030                   | 2.498 | 1.568 | .020 - .050                   |
| 2.370 | 2.001 | .080 - .105                   | 2.377 | .502  | .005 - .010                   | 2.400 | 2.001 | .005 - .010                   | 2.437 | 1.313 | .040 - .060                   | 2.480 | .750  | .060 - .075                   | 2.498 | 1.625 | .010 - .020                   |
| 2.370 | 2.152 | .005 - .020                   | 2.377 | 1.512 | .050 - .075                   | 2.400 | 2.047 | .050 - .070                   | 2.437 | 1.425 | .025 - .042                   | 2.480 | 2.255 | .005 - .010                   | 2.498 | 1.687 | .005 - .010                   |
| 2.370 | 2.153 | .050 - .070                   | 2.377 | 1.783 | .005 - .010                   | 2.400 | 2.062 | .020 - .040                   | 2.437 | 1.498 | .010 - .020                   | 2.481 | 1.673 | .105 - .135                   | 2.498 | 1.881 | .020 - .030                   |
| 2.371 | 1.515 | .050 - .070                   | 2.378 | .689  | .040 - .060                   | 2.400 | 2.200 | .015 - .050                   | 2.437 | 1.875 | .020 - .035                   | 2.481 | 2.185 | .005 - .010                   | 2.498 | 1.910 | .060 - .070                   |
| 2.371 | 1.815 | .020 - .040                   | 2.378 | 1.255 | .005 - .010                   | 2.400 | 2.205 | .005 - .010                   | 2.437 | 2.000 | .005 - .075                   | 2.482 | 2.142 | .025 - .040                   | 2.498 | 2.002 | .005 - .015                   |
| 2.371 | 1.865 | .015 - .030                   | 2.378 | 1.785 | .025 - .035                   | 2.400 | 2.220 | .050 - .070                   | 2.437 | 2.187 | .025 - .040                   | 2.482 | 2.150 | .050 - .070                   | 2.498 | 2.015 | .050 - .070                   |
| 2.372 | .418  | .015 - .030                   | 2.378 | 1.800 | .090 - .125                   | 2.401 | .761  | .010 - .030                   | 2.437 | 2.250 | .020 - .040                   | 2.483 | 1.591 | .080 - .090                   | 2.498 | 2.032 | .015 - .030                   |
| 2.372 | .866  | .025 - .060                   | 2.378 | 1.849 | .090 - .105                   | 2.401 | 1.209 | .015 - .030                   | 2.438 | .350  | .005 - .010                   | 2.483 | 2.110 | .020 - .030                   | 2.498 | 2.119 | .060 - .080                   |
| 2.372 | 1.000 | .025 - .040                   | 2.378 | 1.997 | .090 - .115                   | 2.401 | 1.889 | .015 - .010                   | 2.438 | .390  | .042 - .060                   | 2.484 | 1.640 | .005 - .010                   | 2.498 | 2.198 | .005 - .020                   |
| 2.372 | 1.015 | .100 - .125                   | 2.378 | 2.000 | .040 - .060                   | 2.401 | 2.067 | .025 - .040                   | 2.438 | .660  | .110 - .120                   | 2.485 | 1.055 | .135 - .156                   | 2.498 | 2.310 | .070 - .080                   |
| 2.372 | 1.512 | .050 - .075                   | 2.378 | 2.005 | .040 - .060                   | 2.402 | .760  | .015 - .030                   | 2.438 | .691  | .105 - .135                   | 2.485 | 1.395 | .105 - .125                   | 2.499 | .325  | .060 - .080                   |
| 2.372 | 1.654 | .040 - .060                   | 2.379 | .876  | .060 - .080                   | 2.402 | .857  | .050 - .070                   | 2.438 | .940  | .100 - .125                   | 2.485 | 1.667 | .010 - .020                   | 2.499 | 1.026 | .005 - .010                   |
| 2.372 | 1.990 | .015 - .030                   | 2.379 | 1.505 | .040 - .060                   | 2.402 | 1.970 | .070 - .090                   | 2.438 | 1.693 | .020 - .040                   | 2.487 | 1.015 | .134 - .187                   | 2.499 | 1.061 | .050 - .070                   |
| 2.373 | .193  | .060 - .080                   | 2.379 | 1.630 | .010 - .030                   | 2.402 | 2.000 | .060 - .075                   | 2.438 | 2.007 | .040 - .060                   | 2.487 | 1.425 | .030 - .050                   | 2.499 | 1.270 | .005 - .010                   |
| 2.373 | .210  | .030 - .050                   | 2.379 | 2.011 | .030 - .040                   | 2.402 | 2.295 | .005 - .030                   | 2.438 | 2.160 | .015 - .025                   | 2.487 | 1.635 | .005 - .010                   | 2.499 | 1.313 | .105 - .135                   |
| 2.373 | .630  | .015 - .030                   | 2.380 | .551  | .080 - .105                   | 2.403 | 2.196 | .005 - .010                   | 2.438 | 2.214 | .040 - .060                   | 2.488 | 1.998 | .010 - .020                   | 2.499 | 1.379 | .060 - .070                   |
| 2.373 | .642  | .080 - .100                   | 2.380 | .670  | .050 - .075                   | 2.404 | 1.903 | .005 - .010                   | 2.439 | 1.966 | .040 - .060                   | 2.489 | 1.748 | .050 - .070                   | 2.499 | 1.387 | .060 - .080                   |
| 2.373 | .755  | .005 - .010                   | 2.380 | .870  | .060 - .090                   | 2.405 | .135  | .005 - .010                   | 2.439 | 1.977 | .005 - .015                   | 2.489 | 1.776 | .015 - .020                   | 2.499 | 1.498 | .025 - .040                   |
| 2.373 | .876  | .050 - .070                   | 2.380 | 1.000 | .040 - .060                   | 2.405 | .467  | .050 - .070                   | 2.439 | 2.164 | .015 - .030                   | 2.489 | 2.002 | .005 - .010                   | 2.499 | 1.749 | .005 - .020                   |
| 2.373 | 1.125 | .025 - .040                   | 2.380 | 1.250 | .030 - .040                   | 2.405 | .993  | .080 - .104                   | 2.440 | .837  | .105 - .135                   | 2.490 | 1.436 | .005 - .010                   | 2.499 | 1.757 | .040 - .060                   |
| 2.373 | 1.281 | .030 - .045                   | 2.380 | 1.632 | .010 - .020                   | 2.405 | 2.125 | .010 - .025                   | 2.440 | 1.274 | .050 - .070                   | 2.490 | 1.853 | .005 - .010                   | 2.499 | 1.889 | .010 - .020                   |
| 2.373 | 1.300 | .040 - .060                   | 2.380 | 1.649 | .030 - .050                   | 2.405 | 2.217 | .040 - .060                   | 2.440 | 1.968 | .005 - .010                   | 2.490 | 1.980 | .090 - .110                   | 2.499 | 1.952 | .005 - .010                   |
| 2.373 | 1.500 | .050 - .070                   | 2.380 | 1.700 | .050 - .060                   | 2.407 | .658  | .100 - .120                   | 2.440 | 1.978 | .020 - .030                   | 2.490 | 1.996 | .105 - .125                   | 2.499 | 2.040 | .010 - .020                   |
| 2.373 | 1.739 | .015 - .025                   | 2.380 | 1.937 | .040 - .060                   | 2.408 | 1.875 | .020 - .040                   | 2.440 | 1.982 | .015 - .030                   | 2.490 | 2.060 | .005 - .010                   | 2.499 | 2.061 | .015 - .020                   |
| 2.373 | 1.912 | .005 - .010                   | 2.380 | 1.997 | .015 - .030                   | 2.409 | 1.873 | .030 - .050                   | 2.440 | 2.175 | .005 - .010                   | 2.491 | 1.011 | .120 - .156                   |       |       |                               |
| 2.373 | 1.937 | .030 - .050                   | 2.380 | 2.020 | .090 - .105                   | 2.410 | 1.908 | .007 - .035                   | 2.440 | 2.219 | .090 - .105                   | 2.491 | 1.508 | .080 - .125                   |       |       |                               |
| 2.373 | 2.166 | .040 - .060                   | 2.380 | 2.090 | .010 - .020                   | 2.411 | 2.187 | .005 - .010                   | 2.440 | 2.262 | .040 - .050                   | 2.492 | 1.069 | .005 - .010                   |       |       |                               |
| 2.374 | .346  | .105 - .125                   | 2.381 | .328  | .050 - .070                   | 2.414 | 1.624 | .005 - .010                   | 2.440 | 2.290 | .005 - .010                   | 2.493 | .752  | .048 - .062                   |       |       |                               |
| 2.374 | .560  | .040 - .060                   | 2.381 | 1.437 | .025 - .040                   | 2.414 | 1.935 | .025 - .040                   | 2.440 | 2.330 | .010 - .020                   | 2.493 | 1.255 | .080 - .100                   |       |       |                               |
| 2.374 | .625  | .050 - .075                   | 2.381 | 1.552 | .020 - .040                   | 2.416 | 1.519 | .040 - .060                   | 2.441 | 1.527 | .050 - .070                   | 2.493 | 1.400 | .025 - .035                   |       |       |                               |
| 2.374 | .900  | .020 - .040                   | 2.382 | 2.014 | .105 - .125                   | 2.416 | 1.911 | .030 - .040                   | 2.446 | .315  | .105 - .125                   | 2.493 | 1.562 | .080 - .105                   | 2.500 | .100  | .015 - .030                   |
| 2.374 | 1.066 | .005 - .010                   | 2.383 | .881  | .060 - .080                   | 2.417 | 1.465 | .050 - .070                   | 2.447 | 1.500 | .005 - .010                   | 2.493 | 1.785 | .125 - .156                   | 2.500 | .113  | .015 - .035                   |
| 2.374 | 1.170 | .030 - .187                   | 2.383 | 2.144 | .005 - .010                   | 2.418 | 1.873 | .020 - .040                   | 2.447 | 2.040 | .015 - .030                   | 2.493 | 1.850 | .120 - .135                   | 2.500 | .144  | .005 - .020                   |
| 2.374 | 1.374 | .050 - .070                   | 2.384 | .318  | .090 - .110                   | 2.419 | 2.187 | .005 - .010                   | 2.447 | 2.059 | .005 - .010                   | 2.493 | 2.000 | .040 - .060                   | 2.500 | .149  | .080 - .090                   |
| 2.374 | 1.535 | .040 - .060                   | 2.385 | .254  | .080 - .100                   | 2.420 | 1.873 | .020 - .030                   | 2.447 | 2.129 | .040 - .060                   | 2.493 | 2.062 | .040 - .060                   | 2.500 | .188  | .090 - .105                   |
| 2.374 | 1.537 | .020 - .040                   | 2.385 | 1.877 | .010 - .020                   | 2.420 | 2.100 | .020 - .030                   | 2.448 | 1.749 | .005 - .010                   | 2.494 | .616  | .030 - .050                   | 2.500 | .198  | .010 - .020                   |
| 2.374 | 1.757 | .010 - .020                   | 2.385 | 1.935 | .060 - .080                   | 2.420 | 2.180 | .020 - .035                   | 2.448 | 1.989 | .070 - .090                   | 2.494 | 1.257 | .005 - .010                   | 2.500 | .261  | .100 - .135                   |
| 2.374 | 1.811 | .005 - .050                   | 2.387 | 1.366 | .050 - .075                   | 2.420 | 2.186 | .015 - .030                   | 2.448 | 2.089 | .005 - .010                   | 2.495 | .508  | .105 - .125                   | 2.500 | .266  | .005 - .010                   |
| 2.374 | 1.990 | .100 - .120                   | 2.388 | 1.433 | .060 - .070                   | 2.420 | 2.187 | .030 - .050                   | 2.449 | 1.970 | .015 - .035                   | 2.495 | .616  | .010 - .020                   | 2.500 | .312  | .125 - .156                   |
| 2.375 | .139  | .040 - .062                   | 2.388 | 1.701 | .050 - .070                   | 2.421 | 1.751 | .050 - .070                   | 2.450 | .504  | .010 - .020                   | 2.495 | .620  | .015 - .060                   | 2.500 | .346  | .040 - .060                   |
| 2.375 | .165  | .030 - .050                   | 2.388 | 2.048 | .040 - .060                   | 2.421 | 2.125 | .020 - .040                   | 2.450 | .754  | .010 - .030                   | 2.495 | 1.150 | .005 - .010                   | 2.500 | .370  | .050 - .070                   |
| 2.375 | .280  | .025 - .040                   | 2.389 | 1.443 | .050 - .060                   | 2.422 | 1.522 | .110 - .130                   | 2.450 | 1.192 | .040 - .060                   | 2.495 | 1.257 | .060 - .080                   | 2.500 | .375  | .080 - .104                   |
| 2.375 | .369  | .156 - .187                   | 2.390 | .799  | .015 - .030                   | 2.422 | 2.040 | .100 - .125                   | 2.450 | 2.133 | .015 - .032                   | 2.495 | 1.319 | .105 - .135                   | 2.500 | .385  | .125 - .156                   |
| 2.375 | .375  | .104 - .134                   | 2.390 | 1.120 | .015 - .030                   | 2.422 | 2.215 | .005 - .010                   | 2.450 | 2.135 | .005 - .030                   | 2.495 | 1.400 | .005 - .010                   | 2.500 | .390  | .090 - .120                   |
| 2.375 | .390  | .160 - .190                   | 2.390 | 1.188 | .050 - .070                   | 2.423 | 1.422 | .005 - .008                   | 2.450 | 2.140 | .012 - .020                   | 2.495 | 1.651 | .030 - .050                   | 2.500 | .400  | .005 - .010                   |
| 2.375 | .503  | .015 - .025                   | 2.390 | 1.328 | .010 - .050                   | 2.423 | 1.623 | .030 - .050                   | 2.450 | 2.305 | .040 - .050                   | 2.495 | 2.046 | .005 - .010                   | 2.500 | .405  | .105 - .135                   |
| 2.375 | .506  | .080 - .100                   | 2.390 | 1.850 | .020 - .040                   | 2.424 | 1.125 | .110 - .130                   | 2.451 | .629  | .010 - .020                   | 2.495 | 2.060 | .050 - .075                   | 2.500 | .438  | .090 - .110                   |
| 2.375 | .640  | .040 - .060                   | 2.391 | 2.070 | .005 - .010                   | 2.425 | 1.520 | .040 - .060                   | 2.451 | .814  | .005 - .010                   | 2.495 | 2.120 | .090 - .110                   | 2.500 | .440  | .080 - .100                   |
| 2.375 | .687  | .050 - .075                   | 2.391 | 2.078 | .040 - .060                   | 2.425 | 1.552 | .020 - .030                   | 2.452 | 1.630 | .060 - .080                   | 2.496 | 1.122 | .005 - .010                   | 2.500 | .454  | .105 - .135                   |
| 2.375 | .717  | .100 - .135                   | 2.393 | 1.100 | .010 - .050                   | 2.425 | 1.899 | .010 - .020                   | 2.453 | 1.565 | .060 - .075                   | 2.496 | 1.123 | .010 - .050                   | 2.500 | .475  | .120 - .140                   |
| 2.375 | .945  | .006 - .020                   | 2.395 | .813  | .040 - .060                   | 2.427 | 1.187 | .010 - .020                   | 2.453 | 1.791 | .075 - .095                   | 2.496 | 1.665 | .080 - .093                   | 2.500 | .500  | .060 - .080                   |
| 2.375 | .955  | .100 - .120                   | 2.395 | 1.435 | .0                            |       |       |                               |       |       |                               |       |       |                               |       |       |                               |

**NO TOOLING CHARGE FOR ANY OF THE SIZES LISTED**

| O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To | O.D.  | I.D.  | Choose Any Thickness* From To |
|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|
| 2.500 | .822  | .120 - .135                   | 2.501 | .688  | .160 - .190                   | 2.549 | 1.904 | .005 - .010                   | 2.600 | .755  | .010 - .020                   | 2.625 | 1.000 | .060 - .070                   | 2.652 | 1.910 | .005 - .010                   |
| 2.500 | .845  | .105 - .125                   | 2.501 | 1.199 | .005 - .010                   | 2.549 | 2.049 | .005 - .010                   | 2.600 | .812  | .005 - .020                   | 2.625 | 1.020 | .005 - .010                   | 2.655 | 1.137 | .050 - .060                   |
| 2.500 | .871  | .015 - .030                   | 2.501 | 1.249 | .005 - .070                   | 2.550 | .410  | .005 - .010                   | 2.600 | 1.185 | .005 - .010                   | 2.625 | 1.075 | .005 - .010                   | 2.657 | 2.219 | .040 - .050                   |
| 2.500 | .879  | .005 - .010                   | 2.501 | 1.250 | .060 - .090                   | 2.550 | .505  | .005 - .020                   | 2.600 | 1.456 | .020 - .030                   | 2.625 | 1.250 | .030 - .040                   | 2.660 | 2.217 | .010 - .020                   |
| 2.500 | .912  | .090 - .110                   | 2.501 | 1.500 | .005 - .010                   | 2.550 | .755  | .010 - .020                   | 2.600 | 1.542 | .040 - .060                   | 2.625 | 1.257 | .005 - .010                   | 2.662 | 2.050 | .040 - .060                   |
| 2.500 | .934  | .070 - .090                   | 2.501 | 1.530 | .005 - .010                   | 2.550 | 2.022 | .005 - .010                   | 2.600 | 1.782 | .020 - .030                   | 2.625 | 1.315 | .080 - .100                   | 2.665 | 2.055 | .040 - .060                   |
| 2.500 | .951  | .040 - .060                   | 2.501 | 1.625 | .080 - .100                   | 2.550 | 2.300 | .005 - .010                   | 2.600 | 2.120 | .060 - .080                   | 2.625 | 1.413 | .080 - .104                   | 2.665 | 2.230 | .040 - .060                   |
| 2.500 | .984  | .070 - .090                   | 2.501 | 1.745 | .104 - .134                   | 2.550 | 2.442 | .010 - .020                   | 2.600 | 2.176 | .018 - .031                   | 2.625 | 1.516 | .100 - .125                   | 2.666 | 1.715 | .040 - .060                   |
| 2.500 | 1.000 | .005 - .040                   | 2.501 | 2.137 | .020 - .040                   | 2.554 | 1.848 | .030 - .050                   | 2.600 | 2.180 | .018 - .030                   | 2.625 | 1.531 | .104 - .134                   | 2.673 | 1.003 | .020 - .040                   |
| 2.500 | 1.006 | .060 - .070                   | 2.501 | 2.186 | .005 - .010                   | 2.555 | 1.873 | .005 - .010                   | 2.600 | 2.300 | .040 - .060                   | 2.625 | 1.640 | .010 - .060                   | 2.674 | 1.003 | .010 - .020                   |
| 2.500 | 1.014 | .110 - .130                   | 2.502 | .314  | .005 - .010                   | 2.555 | 1.899 | .030 - .048                   | 2.601 | 1.391 | .070 - .090                   | 2.625 | 1.701 | .025 - .040                   | 2.675 | 1.440 | .040 - .060                   |
| 2.500 | 1.020 | .005 - .010                   | 2.502 | .401  | .015 - .030                   | 2.556 | 2.364 | .040 - .060                   | 2.601 | 2.011 | .040 - .060                   | 2.625 | 1.760 | .005 - .010                   | 2.676 | 1.003 | .040 - .060                   |
| 2.500 | 1.034 | .036 - .050                   | 2.502 | .637  | .005 - .010                   | 2.557 | 1.640 | .010 - .020                   | 2.602 | 1.378 | .010 - .020                   | 2.625 | 1.781 | .015 - .030                   | 2.677 | 2.362 | .030 - .050                   |
| 2.500 | 1.038 | .005 - .010                   | 2.502 | .771  | .005 - .010                   | 2.558 | 1.385 | .050 - .075                   | 2.602 | 2.402 | .030 - .050                   | 2.625 | 1.882 | .010 - .020                   | 2.677 | 2.382 | .060 - .080                   |
| 2.500 | 1.062 | .120 - .156                   | 2.502 | 1.134 | .040 - .060                   | 2.558 | 1.930 | .030 - .050                   | 2.603 | 1.250 | .020 - .040                   | 2.625 | 1.926 | .050 - .075                   | 2.677 | 2.440 | .020 - .032                   |
| 2.500 | 1.130 | .010 - .060                   | 2.502 | 1.500 | .020 - .030                   | 2.558 | 2.070 | .060 - .070                   | 2.603 | 1.932 | .050 - .070                   | 2.625 | 1.998 | .050 - .070                   | 2.684 | 2.178 | .020 - .032                   |
| 2.500 | 1.150 | .093 - .100                   | 2.502 | 1.501 | .080 - .100                   | 2.559 | .417  | .135 - .156                   | 2.603 | 2.180 | .020 - .031                   | 2.625 | 1.998 | .105 - .125                   | 2.685 | .843  | .020 - .040                   |
| 2.500 | 1.165 | .020 - .040                   | 2.502 | 1.796 | .070 - .090                   | 2.559 | 1.639 | .010 - .020                   | 2.604 | 1.559 | .050 - .070                   | 2.625 | 2.002 | .005 - .010                   | 2.685 | .844  | .030 - .050                   |
| 2.500 | 1.192 | .040 - .060                   | 2.502 | 1.800 | .070 - .090                   | 2.559 | 1.897 | .105 - .120                   | 2.605 | 1.685 | .050 - .070                   | 2.625 | 2.010 | .020 - .030                   | 2.685 | 2.177 | .010 - .030                   |
| 2.500 | 1.262 | .010 - .020                   | 2.502 | 1.999 | .125 - .156                   | 2.560 | .531  | .135 - .187                   | 2.605 | 1.810 | .050 - .070                   | 2.625 | 2.367 | .040 - .060                   | 2.687 | 1.635 | .090 - .105                   |
| 2.500 | 1.268 | .050 - .070                   | 2.502 | 2.273 | .005 - .010                   | 2.560 | 1.136 | .050 - .070                   | 2.607 | 2.015 | .010 - .030                   | 2.626 | .440  | .005 - .010                   | 2.692 | .126  | .005 - .010                   |
| 2.500 | 1.272 | .015 - .025                   | 2.502 | 2.282 | .025 - .040                   | 2.560 | 1.220 | .040 - .050                   | 2.607 | 2.063 | .050 - .070                   | 2.626 | .500  | .104 - .134                   | 2.692 | 1.267 | .005 - .010                   |
| 2.500 | 1.275 | .105 - .125                   | 2.503 | .509  | .010 - .020                   | 2.560 | 1.250 | .025 - .040                   | 2.608 | 2.063 | .025 - .040                   | 2.626 | .895  | .105 - .135                   | 2.694 | 2.081 | .080 - .093                   |
| 2.500 | 1.279 | .100 - .125                   | 2.503 | .625  | .040 - .060                   | 2.560 | 1.422 | .030 - .050                   | 2.608 | 2.200 | .035 - .050                   | 2.626 | 1.516 | .100 - .125                   | 2.700 | .780  | .040 - .060                   |
| 2.500 | 1.280 | .005 - .010                   | 2.503 | 1.252 | .090 - .100                   | 2.560 | 1.879 | .005 - .010                   | 2.610 | .513  | .090 - .135                   | 2.626 | 1.532 | .006 - .015                   | 2.700 | 2.370 | .020 - .040                   |
| 2.500 | 1.295 | .010 - .020                   | 2.503 | 1.578 | .020 - .030                   | 2.560 | 1.898 | .090 - .105                   | 2.610 | 2.185 | .020 - .040                   | 2.626 | 1.562 | .015 - .025                   | 2.700 | 2.540 | .005 - .010                   |
| 2.500 | 1.300 | .070 - .090                   | 2.503 | 2.076 | .070 - .090                   | 2.560 | 2.366 | .005 - .010                   | 2.610 | 2.262 | .005 - .010                   | 2.626 | 1.577 | .030 - .050                   | 2.713 | 2.380 | .020 - .035                   |
| 2.500 | 1.306 | .005 - .010                   | 2.503 | 2.139 | .030 - .040                   | 2.561 | .760  | .020 - .040                   | 2.611 | 2.303 | .030 - .050                   | 2.626 | 1.658 | .060 - .090                   | 2.720 | 1.125 | .020 - .040                   |
| 2.500 | 1.311 | .040 - .060                   | 2.504 | .875  | .100 - .120                   | 2.561 | 1.657 | .100 - .134                   | 2.612 | 2.300 | .050 - .070                   | 2.626 | 1.745 | .060 - .090                   | 2.725 | 2.010 | .035 - .050                   |
| 2.500 | 1.323 | .005 - .010                   | 2.504 | 1.501 | .050 - .070                   | 2.561 | 2.091 | .042 - .060                   | 2.613 | 1.697 | .025 - .040                   | 2.626 | 1.807 | .025 - .040                   | 2.730 | 2.007 | .020 - .035                   |
| 2.500 | 1.346 | .005 - .010                   | 2.504 | 1.515 | .020 - .040                   | 2.561 | 2.177 | .010 - .020                   | 2.615 | .560  | .100 - .125                   | 2.626 | 1.825 | .060 - .090                   | 2.730 | 2.060 | .040 - .060                   |
| 2.500 | 1.375 | .030 - .040                   | 2.505 | .145  | .025 - .040                   | 2.562 | .407  | .030 - .050                   | 2.615 | 2.136 | .010 - .020                   | 2.626 | 1.836 | .060 - .080                   | 2.734 | 2.323 | .020 - .030                   |
| 2.500 | 1.392 | .040 - .060                   | 2.505 | .195  | .060 - .080                   | 2.562 | 1.521 | .020 - .040                   | 2.615 | 2.140 | .050 - .075                   | 2.626 | 1.849 | .005 - .010                   | 2.735 | 1.985 | .030 - .040                   |
| 2.500 | 1.394 | .040 - .060                   | 2.505 | .929  | .050 - .070                   | 2.562 | 1.562 | .100 - .125                   | 2.615 | 2.354 | .020 - .030                   | 2.626 | 1.871 | .010 - .020                   | 2.735 | 2.000 | .050 - .060                   |
| 2.500 | 1.500 | .105 - .125                   | 2.505 | 1.413 | .120 - .135                   | 2.562 | 1.811 | .020 - .035                   | 2.615 | 2.380 | .015 - .030                   | 2.626 | 1.933 | .060 - .090                   | 2.736 | 2.253 | .010 - .020                   |
| 2.500 | 1.510 | .020 - .050                   | 2.505 | 1.416 | .100 - .134                   | 2.562 | 2.313 | .010 - .020                   | 2.617 | 1.549 | .050 - .075                   | 2.626 | 2.000 | .015 - .050                   | 2.738 | 2.267 | .030 - .050                   |
| 2.500 | 1.511 | .050 - .060                   | 2.505 | 1.989 | .005 - .010                   | 2.563 | .756  | .020 - .040                   | 2.618 | 1.760 | .105 - .125                   | 2.626 | 2.062 | .060 - .080                   | 2.739 | 2.403 | .020 - .040                   |
| 2.500 | 1.517 | .005 - .010                   | 2.507 | .562  | .050 - .125                   | 2.563 | 2.003 | .020 - .040                   | 2.618 | 2.007 | .015 - .030                   | 2.626 | 2.074 | .060 - .080                   | 2.740 | 1.501 | .010 - .030                   |
| 2.500 | 1.523 | .050 - .070                   | 2.507 | 2.310 | .015 - .025                   | 2.563 | 2.006 | .015 - .030                   | 2.619 | 1.754 | .015 - .030                   | 2.627 | .394  | .010 - .020                   | 2.740 | 2.200 | .020 - .030                   |
| 2.500 | 1.529 | .070 - .090                   | 2.510 | .502  | .090 - .105                   | 2.563 | 2.028 | .005 - .010                   | 2.619 | 2.124 | .015 - .025                   | 2.627 | .395  | .005 - .010                   | 2.740 | 2.250 | .010 - .020                   |
| 2.500 | 1.561 | .050 - .075                   | 2.511 | .698  | .105 - .125                   | 2.564 | 1.706 | .080 - .105                   | 2.620 | .412  | .010 - .020                   | 2.627 | .500  | .135 - .187                   | 2.742 | 1.728 | .030 - .040                   |
| 2.500 | 1.606 | .025 - .042                   | 2.511 | .781  | .040 - .060                   | 2.564 | 2.435 | .005 - .010                   | 2.620 | .553  | .005 - .010                   | 2.627 | 1.266 | .025 - .040                   | 2.743 | 2.520 | .030 - .040                   |
| 2.500 | 1.624 | .040 - .060                   | 2.511 | 1.980 | .030 - .060                   | 2.565 | .412  | .005 - .010                   | 2.620 | 1.124 | .005 - .008                   | 2.627 | 1.296 | .060 - .075                   | 2.745 | .888  | .005 - .010                   |
| 2.500 | 1.625 | .005 - .060                   | 2.515 | .145  | .015 - .030                   | 2.565 | 2.146 | .015 - .045                   | 2.620 | 1.255 | .040 - .060                   | 2.627 | 1.317 | .060 - .080                   | 2.745 | 2.345 | .020 - .030                   |
| 2.500 | 1.635 | .090 - .125                   | 2.515 | 2.218 | .080 - .100                   | 2.565 | 2.434 | .005 - .020                   | 2.620 | 1.322 | .005 - .010                   | 2.627 | 1.461 | .060 - .075                   | 2.747 | 1.400 | .025 - .040                   |
| 2.500 | 1.750 | .040 - .060                   | 2.516 | 1.581 | .070 - .090                   | 2.566 | 2.320 | .040 - .060                   | 2.620 | 2.381 | .010 - .020                   | 2.627 | 1.561 | .060 - .075                   | 2.749 | 1.376 | .040 - .050                   |
| 2.500 | 1.755 | .005 - .010                   | 2.516 | 1.683 | .030 - .050                   | 2.567 | .407  | .030 - .050                   | 2.622 | .252  | .120 - .134                   | 2.627 | 1.674 | .105 - .125                   | 2.749 | 2.497 | .005 - .010                   |
| 2.500 | 1.756 | .105 - .125                   | 2.518 | 1.575 | .060 - .080                   | 2.570 | 1.827 | .070 - .090                   | 2.622 | .341  | .075 - .090                   | 2.627 | 1.949 | .025 - .040                   |       |       |                               |
| 2.500 | 1.759 | .090 - .105                   | 2.518 | 1.918 | .040 - .060                   | 2.570 | 1.828 | .010 - .020                   | 2.622 | 1.067 | .015 - .030                   | 2.627 | 2.263 | .010 - .020                   |       |       |                               |
| 2.500 | 1.770 | .040 - .060                   | 2.520 | .354  | .060 - .080                   | 2.571 | .710  | .080 - .100                   | 2.622 | 1.130 | .050 - .075                   | 2.627 | 2.321 | .040 - .060                   |       |       |                               |
| 2.500 | 1.777 | .015 - .062                   | 2.520 | .368  | .005 - .010                   | 2.574 | 2.250 | .010 - .020                   | 2.622 | 1.637 | .030 - .050                   | 2.628 | .351  | .005 - .010                   |       |       |                               |
| 2.500 | 1.787 | .040 - .060                   | 2.520 | 1.921 | .020 - .030                   | 2.575 | .711  | .040 - .060                   | 2.622 | 1.868 | .040 - .060                   | 2.628 | .634  | .080 - .100                   |       |       |                               |
| 2.500 | 1.796 | .075 - .156                   | 2.520 | 2.091 | .005 - .010                   | 2.578 | 1.025 | .030 - .060                   | 2.622 | 2.002 | .015 - .030                   | 2.628 | 1.878 | .040 - .060                   |       |       |                               |
| 2.500 | 1.814 | .010 - .031                   | 2.520 | 2.121 | .015 - .030                   | 2.578 | 2.076 | .005 - .010                   | 2.623 | .514  | .005 - .010                   | 2.628 | 1.881 | .005 - .010                   |       |       |                               |
| 2.500 | 1.820 | .005 - .010                   | 2.520 | 2.194 | .050 - .070                   | 2.579 | 2.060 | .090 - .120                   | 2.623 | 2.025 | .075 - .090                   | 2.628 | 2.253 | .050 - .070                   |       |       |                               |
| 2.500 | 1.850 | .015 - .030                   | 2.520 | 2.255 | .005 - .010                   | 2.580 | 1.381 | .120 - .135                   | 2.623 | 2.372 | .010 - .020                   | 2.629 | 1.920 | .050 - .070                   | 2.750 | .505  | .010 - .020                   |
| 2.500 | 1.889 | .030 - .050                   | 2.522 | 1.921 | .005 - .010                   | 2.580 | 2.137 | .020 - .040                   | 2.623 | 2.376 | .005 - .010                   | 2.629 | 2.065 | .005 - .010                   | 2.750 | .563  | .090 - .125                   |
| 2.500 | 1.890 | .020 - .030                   | 2.523 | 2.040 | .035 - .062                   | 2.580 | 2.196 | .015 - .025                   | 2.624 | .124  | .030 - .050                   | 2.629 | 2.290 | .005 - .010                   | 2.750 | .628  | .010 - .030                   |
| 2.500 | 1.900 | .010 - .025                   | 2.524 | .533  | .005 - .010                   | 2.580 | 2.338 | .020 - .040                   | 2.624 | .750  | .105 - .125                   | 2.630 | .254  | .020 - .040                   | 2.750 | .629  | .010 - .020                   |
| 2.500 | 1.945 | .010 - .060                   | 2.528 | 2.328 | .020 - .030                   | 2.582 | 1.750 | .010 - .020                   | 2.624 | .754  | .040 - .060                   | 2.630 | .411  | .015 - .030                   | 2.750 | .760  | .020 - .040                   |
| 2.500 | 1.954 | .025 - .040                   | 2.530 | 1.251 | .060 - .070                   | 2.583 | .880  | .040 - .060                   | 2.624 | 1.533 | .080 - .100                   | 2.630 | 1.419 | .030 - .050                   | 2.750 | 1.200 | .020 - .030                   |
| 2.500 | 1.978 | .042 - .062                   | 2.530 | 1.875 | .060 - .080                   |       |       |                               |       |       |                               |       |       |                               |       |       |                               |

| O.D.  |       | I.D. |       | Choose Any Thickness* From To |       | O.D. |         | I.D.  |       | Choose Any Thickness* From To |       | O.D.  |       | I.D. |       | Choose Any Thickness* From To |       | O.D. |       | I.D.  |       | Choose Any Thickness* From To |       |
|-------|-------|------|-------|-------------------------------|-------|------|---------|-------|-------|-------------------------------|-------|-------|-------|------|-------|-------------------------------|-------|------|-------|-------|-------|-------------------------------|-------|
| 2.780 | 2.263 | .025 | -.040 | 2.945                         | 1.994 | .040 | -.060   | 3.100 | .628  | .010                          | -.020 | 3.450 | 1.554 | .005 | -.010 | 3.780                         | 3.049 | .020 | -.040 | 4.250 | 3.550 | .050                          | -.060 |
| 2.780 | 2.363 | .020 | -.040 | 2.949                         | 1.511 | .040 | -.060   | 3.100 | 2.500 | .005                          | -.060 | 3.450 | 2.610 | .040 | -.050 | 3.781                         | 1.435 | .030 | -.050 | 4.250 | 3.570 | .020                          | -.030 |
| 2.780 | 2.480 | .010 | -.050 | 2.950                         | .628  | .010 | -.020   | 3.100 | 2.501 | .030                          | -.050 | 3.450 | 3.125 | .030 | -.040 | 3.800                         | 3.300 | .020 | -.035 | 4.250 | 3.660 | .015                          | -.025 |
| 2.781 | 2.531 | .006 | -.010 | 2.950                         | 2.229 | .040 | -.050   | 3.100 | 2.750 | .030                          | -.050 | 3.452 | 3.038 | .010 | -.015 | 3.800                         | 3.350 | .020 | -.040 | 4.254 | 3.018 | .040                          | -.050 |
| 2.787 | 2.390 | .015 | -.025 | 2.950                         | 2.250 | .015 | -.025   | 3.107 | 2.122 | .040                          | -.060 | 3.454 | 3.055 | .015 | -.030 | 3.819                         | 3.415 | .040 | -.060 | 4.270 | 3.935 | .020                          | -.040 |
| 2.790 | 1.747 | .030 | -.040 | 2.950                         | 2.260 | .020 | -.040   | 3.110 | 2.888 | .010                          | -.020 | 3.463 | 2.632 | .020 | -.030 | 3.823                         | 3.332 | .030 | -.040 | 4.300 | 3.200 | .020                          | -.040 |
| 2.795 | 2.430 | .006 | -.010 | 2.953                         | .551  | .015 | -.025   | 3.110 | 2.890 | .010                          | -.020 | 3.466 | 2.230 | .040 | -.060 | 3.850                         | 1.780 | .020 | -.040 | 4.308 | 2.746 | .020                          | -.040 |
| 2.796 | 2.343 | .060 | -.078 | 2.955                         | 1.719 | .040 | -.050   | 3.120 | 2.747 | .040                          | -.060 | 3.470 | .705  | .090 | -.105 | 3.850                         | 2.805 | .005 | -.010 | 4.320 | 2.385 | .020                          | -.040 |
| 2.798 | .750  | .010 | -.030 | 2.958                         | 2.469 | .040 | -.060   | 3.120 | 2.750 | .010                          | -.020 | 3.475 | 2.595 | .010 | -.030 | 3.858                         | 2.765 | .010 | -.020 | 4.358 | .485  | .048                          | -.062 |
| 2.798 | 2.506 | .005 | -.010 | 2.965                         | 2.485 | .020 | -.040   | 3.121 | 1.641 | .048                          | -.062 | 3.481 | 2.415 | .010 | -.020 | 3.870                         | 1.370 | .020 | -.032 | 4.368 | 3.273 | .020                          | -.035 |
| 2.799 | .755  | .020 | -.030 | 2.967                         | .786  | .040 | -.060   | 3.123 | 2.151 | .015                          | -.025 | 3.482 | 2.703 | .032 | -.042 | 3.874                         | 1.642 | .050 | -.062 | 4.370 | 3.670 | .010                          | -.020 |
| 2.800 | .628  | .010 | -.020 | 2.969                         | 2.156 | .010 | -.025   | 3.123 | 2.153 | .010                          | -.020 | 3.484 | 2.880 | .035 | -.048 | 3.875                         | 1.150 | .040 | -.060 | 4.373 | 3.776 | .010                          | -.015 |
| 2.800 | 1.867 | .020 | -.030 | 2.977                         | 2.330 | .020 | -.040   | 3.125 | .625  | .050                          | -.070 | 3.490 | 2.990 | .010 | -.030 | 3.880                         | 2.515 | .030 | -.050 | 4.375 | 4.083 | .030                          | -.040 |
| 2.800 | 2.000 | .010 | -.020 | 2.980                         | 2.450 | .010 | -.020   | 3.125 | 1.900 | .048                          | -.062 | 3.491 | 2.000 | .010 | -.015 | 3.881                         | 2.396 | .050 | -.060 | 4.376 | 3.258 | .025                          | -.040 |
| 2.800 | 2.600 | .010 | -.030 | 2.986                         | 2.230 | .060 | -.080   | 3.125 | 1.902 | .040                          | -.060 | 3.494 | .636  | .090 | -.125 | 3.889                         | 2.315 | .020 | -.030 | 4.380 | 3.375 | .006                          | -.012 |
| 2.810 | .169  | .015 | -.025 | 2.992                         | 2.323 | .010 | -.030   | 3.125 | 2.000 | .020                          | -.040 | 3.497 | 2.670 | .060 | -.080 | 3.900                         | 2.700 | .050 | -.060 | 4.398 | 3.986 | .015                          | -.030 |
| 2.810 | 2.375 | .006 | -.010 | 2.994                         | 2.394 | .010 | -.020   | 3.130 | .315  | .105                          | -.125 | 3.498 | 2.798 | .030 | -.040 | 3.900                         | 3.360 | .020 | -.040 | 4.402 | 2.778 | .010                          | -.020 |
| 2.810 | 2.400 | .010 | -.020 | 2.995                         | .949  | .010 | -.015   | 3.138 | 1.566 | .020                          | -.030 |       |       |      |       | 3.904                         | 3.513 | .030 | -.040 | 4.420 | 3.890 | .020                          | -.030 |
| 2.812 | .192  | .050 | -.062 | 2.997                         | 2.187 | .010 | -.020   | 3.138 | 1.578 | .020                          | -.030 |       |       |      |       | 3.908                         | 2.352 | .020 | -.040 | 4.432 | 3.810 | .020                          | -.035 |
| 2.815 | 1.969 | .020 | -.040 | 2.998                         | 2.380 | .050 | -.060   | 3.140 | 1.446 | .020                          | -.030 |       |       |      |       | 3.924                         | .492  | .030 | -.050 | 4.434 | 3.153 | .010                          | -.015 |
| 2.816 | 2.200 | .020 | -.035 |                               |       |      |         | 3.149 | .722  | .090                          | -.125 |       |       |      |       | 3.925                         | 2.224 | .020 | -.030 | 4.435 | .756  | .050                          | -.070 |
| 2.816 | 2.406 | .020 | -.040 |                               |       |      |         | 3.149 | 1.671 | .020                          | -.050 |       |       |      |       | 3.937                         | 1.673 | .010 | -.020 | 4.470 | 3.470 | .020                          | -.030 |
| 2.819 | 2.565 | .030 | -.040 |                               |       |      |         | 3.150 | .630  | .010                          | -.030 |       |       |      |       | 3.937                         | 2.008 | .015 | -.025 | 4.471 | 3.468 | .020                          | -.030 |
| 2.825 | 2.440 | .010 | -.020 |                               |       |      |         | 3.150 | 1.673 | .040                          | -.060 |       |       |      |       | 3.937                         | 2.362 | .020 | -.032 | 4.480 | 4.030 | .025                          | -.035 |
| 2.828 | 1.435 | .030 | -.040 |                               |       |      |         | 3.150 | 2.835 | .015                          | -.025 |       |       |      |       | 3.937                         | 3.150 | .005 | -.010 | 4.490 | 4.223 | .030                          | -.050 |
| 2.829 | 1.192 | .010 | -.015 | 3.000                         | .250  | .030 | -.050   | 3.175 | 2.700 | .010                          | -.020 | 3.500 | .135  | .015 | -.025 | 3.940                         | 3.150 | .050 | -.060 | 4.499 | 2.058 | .010                          | -.020 |
| 2.829 | 2.270 | .020 | -.040 | 3.000                         | .253  | .005 | -.060   | 3.181 | 2.230 | .040                          | -.050 | 3.500 | .504  | .040 | -.060 | 3.945                         | 3.505 | .020 | -.040 | 4.500 | .504  | .040                          | -.060 |
| 2.830 | 1.810 | .020 | -.040 | 3.000                         | .312  | .040 | -.060   | 3.185 | 1.023 | .005                          | -.010 | 3.500 | 2.000 | .040 | -.060 | 3.960                         | 3.612 | .030 | -.050 | 4.500 | 2.500 | .048                          | -.062 |
| 2.830 | 2.263 | .050 | -.060 | 3.000                         | .343  | .010 | -.015   | 3.185 | 2.940 | .020                          | -.030 | 3.500 | 2.030 | .040 | -.050 | 3.987                         | 1.891 | .010 | -.015 | 4.550 | .243  | .040                          | -.060 |
| 2.835 | .267  | .020 | -.040 | 3.000                         | .375  | .020 | -.040   | 3.191 | 1.955 | .040                          | -.060 | 3.500 | 2.250 | .020 | -.035 | 3.995                         | 1.509 | .005 | -.010 | 4.570 | 3.870 | .020                          | -.030 |
| 2.840 | 2.540 | .010 | -.020 | 3.000                         | .531  | .090 | -.105   | 3.195 | 1.260 | .005                          | -.010 | 3.500 | 2.500 | .010 | -.020 | 3.997                         | 1.381 | .005 | -.010 | 4.623 | 4.328 | .010                          | -.015 |
| 2.843 | .781  | .010 | -.015 | 3.000                         | .535  | .040 | -.060   | 3.195 | 1.355 | .020                          | -.035 | 3.500 | 2.500 | .030 | -.050 | 3.998                         | 2.998 | .010 | -.020 | 4.666 | 3.410 | .030                          | -.042 |
| 2.843 | 2.538 | .010 | -.015 | 3.000                         | .560  | .050 | -.070   | 3.200 | 2.500 | .010                          | -.075 | 3.500 | 2.750 | .005 | -.010 |                               |       |      |       | 4.688 | 3.560 | .005                          | -.010 |
| 2.845 | 2.540 | .005 | -.040 | 3.000                         | .750  | .090 | -.105   | 3.220 | 3.024 | .020                          | -.030 | 3.500 | 3.060 | .010 | -.015 |                               |       |      |       | 4.688 | 3.879 | .005                          | -.010 |
| 2.850 | 2.370 | .005 | -.010 | 3.000                         | .890  | .020 | -.040   | 3.240 | 2.629 | .010                          | -.030 | 3.500 | 3.125 | .020 | -.030 |                               |       |      |       | 4.700 | 3.865 | .010                          | -.020 |
| 2.850 | 2.650 | .020 | -.040 | 3.000                         | .981  | .015 | -.030   | 3.244 | 1.425 | .005                          | -.010 | 3.500 | 3.158 | .020 | -.030 |                               |       |      |       | 4.706 | 3.140 | .020                          | -.030 |
| 2.854 | 1.583 | .010 | -.020 | 3.000                         | 1.020 | .020 | -.035   | 3.248 | 2.776 | .010                          | -.015 | 3.500 | 3.250 | .010 | -.020 |                               |       |      |       | 4.710 | 3.873 | .010                          | -.020 |
| 2.855 | 2.295 | .015 | -.025 | 3.000                         | 1.218 | .010 | -.015   | 3.249 | 1.001 | .005                          | -.010 | 3.503 | 2.702 | .040 | -.060 |                               |       |      |       | 4.720 | 3.884 | .020                          | -.035 |
| 2.867 | 2.476 | .015 | -.025 | 3.000                         | 1.748 | .048 | -.062   | 3.250 | .190  | .010                          | -.020 | 3.510 | 2.510 | .020 | -.040 |                               |       |      |       | 4.730 | 4.083 | .030                          | -.050 |
| 2.869 | 1.765 | .005 | -.010 | 3.000                         | 1.750 | .050 | -.070   | 3.250 | .628  | .010                          | -.020 | 3.511 | 3.207 | .040 | -.050 |                               |       |      |       | 4.850 | 4.450 | .005                          | -.010 |
| 2.869 | 1.900 | .030 | -.050 | 3.000                         | 2.000 | .020 | -.040   | 3.250 | .750  | .010                          | -.015 | 3.515 | 3.050 | .050 | -.060 | 4.000                         | .504  | .040 | -.060 | 4.860 | .390  | .090                          | -.125 |
| 2.870 | 1.780 | .048 | -.062 | 3.000                         | 2.125 | .030 | -.050   | 3.250 | 1.013 | .005                          | -.010 | 3.520 | 2.750 | .020 | -.030 | 4.000                         | .690  | .040 | -.060 | 4.860 | 4.350 | .020                          | -.036 |
| 2.871 | 1.316 | .020 | -.030 | 3.000                         | 2.255 | .010 | -.020   | 3.250 | 1.338 | .005                          | -.010 | 3.537 | 2.186 | .020 | -.040 | 4.000                         | 1.010 | .050 | -.070 | 4.860 | 4.600 | .015                          | -.030 |
| 2.872 | 1.700 | .010 | -.020 | 3.000                         | 2.444 | .020 | -.040   | 3.250 | 2.375 | .030                          | -.050 | 3.537 | 2.280 | .030 | -.050 | 4.000                         | 2.000 | .008 | -.015 | 4.875 | 3.018 | .020                          | -.030 |
| 2.873 | 1.371 | .005 | -.010 | 3.000                         | 2.500 | .048 | -.062   | 3.250 | 2.510 | .020                          | -.030 | 3.540 | 2.890 | .015 | -.030 | 4.000                         | 2.031 | .040 | -.060 | 4.935 | 4.763 | .015                          | -.025 |
| 2.875 | .755  | .040 | -.060 | 3.000                         | 2.527 | .040 | -.060   | 3.250 | 2.563 | .010                          | -.020 | 3.543 | 3.150 | .015 | -.025 | 4.000                         | 2.281 | .008 | -.015 | 4.950 | 4.393 | .010                          | -.020 |
| 2.875 | 1.500 | .005 | -.030 | 3.000                         | 2.550 | .020 | -.040   | 3.250 | 2.670 | .010                          | -.030 | 3.545 | 2.756 | .040 | -.054 | 4.000                         | 2.530 | .030 | -.050 | 4.960 | 4.260 | .020                          | -.030 |
| 2.875 | 2.255 | .020 | -.040 | 3.000                         | 2.625 | .010 | -.030   | 3.259 | 2.694 | .010                          | -.060 | 3.550 | .628  | .020 | -.030 | 4.000                         | 2.562 | .048 | -.062 | 4.975 | 3.165 | .025                          | -.040 |
| 2.875 | 2.275 | .030 | -.050 | 3.009                         | 1.650 | .048 | -.062   | 3.263 | 2.558 | .030                          | -.040 | 3.550 | 2.975 | .020 | -.030 | 4.000                         | 2.577 | .020 | -.040 | 4.994 | 4.904 | .020                          | -.040 |
| 2.880 | 2.020 | .030 | -.040 | 3.010                         | 2.530 | .030 | -.040   | 3.265 | 2.465 | .020                          | -.030 | 3.551 | 3.015 | .020 | -.030 | 4.000                         | 2.780 | .040 | -.060 |       |       |                               |       |
| 2.880 | 2.263 | .050 | -.060 | 3.015                         | 2.665 | .008 | -.015   | 3.290 | 2.280 | .020                          | -.035 | 3.557 | 2.782 | .010 | -.020 | 4.000                         | 3.000 | .008 | -.025 |       |       |                               |       |
| 2.880 | 2.500 | .015 | -.030 | 3.029                         | 2.184 | .050 | -.070   | 3.290 | 3.115 | .020                          | -.035 | 3.570 | .259  | .030 | -.050 | 4.000                         | 3.360 | .010 | -.030 |       |       |                               |       |
| 2.880 | 2.528 | .030 | -.050 | 3.030                         | 2.917 | .010 | -.020   | 3.300 | .630  | .015                          | -.030 | 3.570 | 1.070 | .040 | -.060 | 4.000                         | 3.362 | .010 | -.020 |       |       |                               |       |
| 2.883 | 2.000 | .008 | -.016 | 3.031                         | 2.185 | .030 | -.040   | 3.300 | 2.270 | .020                          | -.035 | 3.570 | 1.090 | .030 | -.040 | 4.000                         | 3.410 | .020 | -.030 |       |       |                               |       |
| 2.885 | 2.177 | .020 | -.040 | 3.031                         | 2.310 | .050 | -.060   | 3.306 | 2.505 | .040                          | -.050 | 3.572 | 3.134 | .030 | -.050 | 4.000                         | 3.426 | .020 | -.030 |       |       |                               |       |
| 2.885 | 2.475 | .015 | -.030 | 3.031                         | 2.435 | .050 | -.060   | 3.312 | 2.375 | .015                          | -.025 | 3.572 | 3.135 | .030 | -.050 | 4.000                         | 3.544 | .015 | -.025 | 5.000 | .270  | .040                          | -.060 |
| 2.890 | 2.390 | .005 | -.010 | 3.032                         | 2.913 | .030 | -.050</ |       |       |                               |       |       |       |      |       |                               |       |      |       |       |       |                               |       |

# Designer's Guide to Precision Metal Stampings

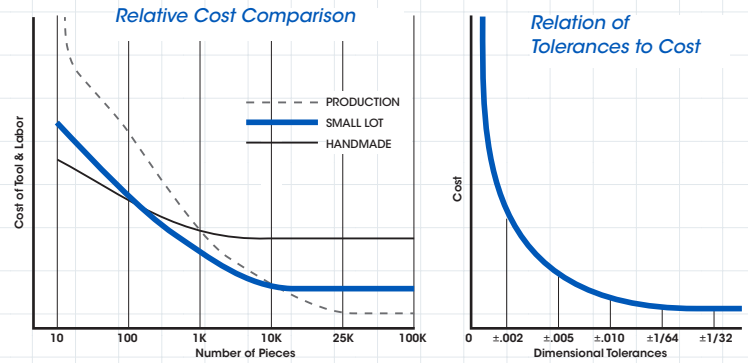
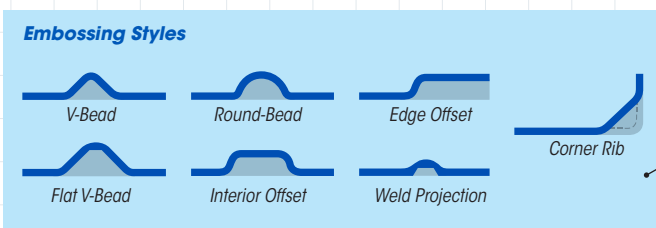
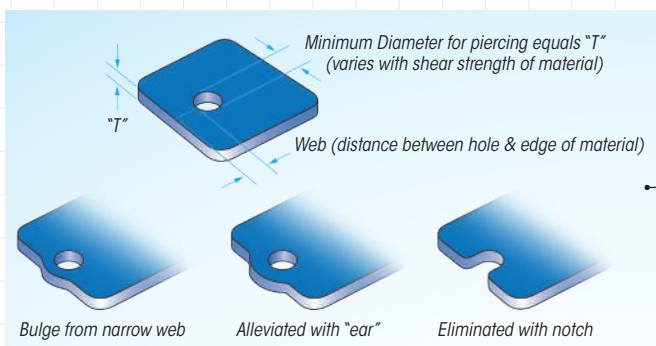
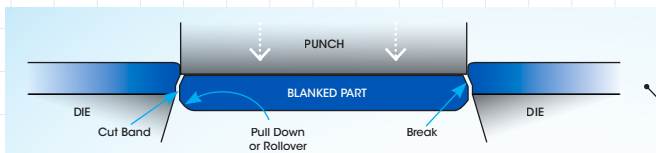


## INTRODUCTION

Boker's has been a metal stamping leader for over 100 years. The following is excerpted from a longer white paper authored by Boker's regarding short-run stamped components and considerations for design engineers regarding these crucial pieces.

### The basics of metal stampings.

Precision metal stampings are produced by converting flat metal sheet or coil into engineered component parts for manufacturers. Parts can be flat and simple or complex profiles. Stampings are produced using a variety of punch presses that brings to bear ten to hundreds-of-tons of stamping pressure onto the sheet or coil. In their most basic operation, punch presses use a corresponding die and punch tool for flat blanking—a flat metal cutout of the exact periphery shape and size of the part. Additional metal forming stages are often employed to produce complex parts and profiles including piercing, and metal forming operations such as bending, drawing, flanging, embossing, rolling, and others.



### What are the advantages of short-run custom stampings?

Compared to permanent production tooling, short-run stamping offers high quality and durability plus considerable manufacturing advantages—primarily in cost and time. Significantly lower initial tooling costs versus permanent tooling offers savings that gives manufacturers greater design and component inventory flexibility. Small quantity needs, customization, pilot runs, testing, frequently-changing designs, functional prototypes and limited production runs are all opportunities for short-run stampings that would be less feasible with expensive permanent tooling.

## STAMPING OPERATIONS

### Flat Blanking

Flat blanking is the process of stamping out the perimeter of a product from sheet or coil material to produce more complex metal blanks. Blanking can also be performed with flat non-metallic sheet or coil material.

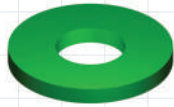
### Metal Piercing

Piercing metal is a shearing process used to produce holes, slots and/or notches with tight tolerances within a component part or raw material. The punched side of pierced metal produces a clean cut with high output rates often making it a more productive method than drilling, machining, or using a laser. Boker's utilizes a CAD drawing system, over 70 different punch presses, digital servo feeders and compound as well as progressive dies to transform raw material into your most complex components.

### Metal Forming

Metal forming is the process of converting a flat piece of metal into a three-dimensional part. Metal forming can be done in a variety of ways including bending, drawing, embossing, rolling etc.

# Selecting the Optimal Washer



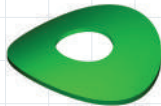
**Flat:** Most common washer category generally used for load disbursement. Internal and external shape may be round, symmetrically square, hexagonal or rectangular.



**Tab:** A type of lock washer designed with one or more tabs or notches to effectively lock a part into place, generally used where heat or heavy vibrations are a factor.



**Lock:** Designed to secure fasteners that have a tendency to rotate or lose friction. Often paired with a flat washer to evenly disburse load without deforming the assembly.



**Cylindrically Curved:** They offer the most uniform spring constant of any of the spring washer types.



**Finishing:** Also referred to as "countersunk" washers, finishing washers are often found on consumer products and used as an appearance part where the washer catches the head of a fastener, allowing it to sit flush with its surrounding surface.

Though this catalog's primary focus is to provide you with thousands of non-standard, round flat washer sizes that are available without tool charges, there are many specific applications that demand a more specialized washer type. Following is an overview of just some of the many washer styles Boker's produces, and what they are optimally designed for.

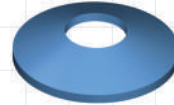
To review Boker's complete *Optimal Washer Solution guide*, visit [bokers.com/washerguide](http://bokers.com/washerguide).



**Shoulder:** Shoulder washers, also known as "step" or "flange" washers, have an appearance of a low-crowned top hat and an integral cylindrical sleeve. The sleeve is designed to mate with a cutout and segregates the fastener from the material it is secured to.



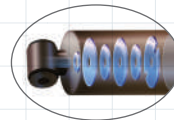
**Wave:** These washers are ideal for obtaining loads when the load is static or the working range is small and the amount of axial space is limited.



**Belleville:** Deliver the highest load capacity of all the spring washers and are very common in thermal expansion applications.



**Fender:** Fender washers have an outside diameter that is much larger in proportion to the center hole to distribute a load evenly across a large surface area.



**Shim Stacks:** Ideal for simple and complex applications as they offer exact dimensions for precise spacing.



Estimated Non-Metallic I.D. Shrinkage Factor

| MATERIAL      | FACTOR % | MATERIAL         | FACTOR % |
|---------------|----------|------------------|----------|
| Polycarbonate | 10-12    | Polypropylene    | 5-10     |
| Nylon         | 10       | PTFE             | 5        |
| Polyethylene  | 10       | Polyester        | 5        |
| Acetal        | 10       | Linen Phenolic   | 5        |
| PVC           | 10       | Vulcanized Fiber | 0-5      |
| A.B.S.        | 10       | FR-4             | 0-5      |
| MD Nylon      | 10       | G-10             | 0-5      |

## Non-Metallic Washers and Spacers

The thickness ranges stated in this catalog are minimum and maximum values for metallic washers and spacers but may be suitable for non-metallic parts as well.

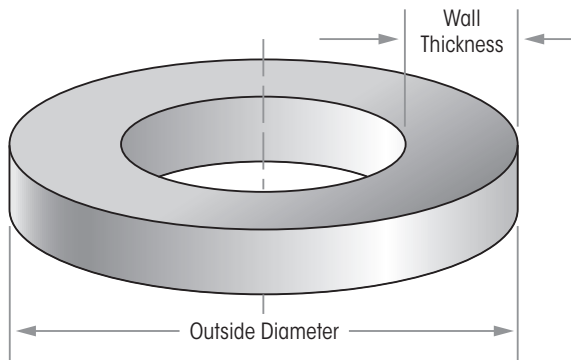
When determining the proper sized tool for your washer or spacer, the outside diameter (O.D.) listed in the catalog typically remains the same for both the metallic and non-metallic part. The inside diameter (I.D.), however, may shrink by as much as twelve percent of the material thickness depending on the material used and its thickness. Rely on Boker's experienced Sales Associates to determine the proper tool to manufacture the size part you specify.



# Did You Know?

## Washer Wall Thickness

Acceptable limits for minimal wall thickness on flat washers can be determined by reviewing the table below. There can be exceptions but you should always check with a Boker's Sales Associate for more information.



**WALL THICKNESS TABLE**

| O.D. RANGE   |             | MINIMUM WALL THICKNESS  |             |
|--|-------------|---|-------------|
| Inches   | Millimeters | Inches  | Millimeters |
| .1875 - .375   | 4.76 - 9.5  | .0625   | 1.6         |
| .375 - 1   | 9.5 - 25    | .09375  | 2.4         |
| 1 - 2  | 25 - 51     | .125  | 3.2         |
| 2 - 3  | 51 - 76     | .1875   | 4.76        |
| 3 - 5  | 76 - 127    | .25   | 6.35        |
| <i>For:</i>  |             | <i>Minimum Wall:</i>  |             |
| Low carbon steel—annealed<br>1050 high carbon steel—annealed<br>Copper alloys—all tempers<br>Aluminum alloys—all tempers |             | Two times material thickness<br>but not less than above chart   |             |
| Stainless steel annealed blue steel*<br>Pre-tempered high carbon steel*  |             | Three times material thickness<br>but not less than above chart |             |

\*Note: Contact your Boker's Sales Associate for exceptions. Special tooling or setup procedures sometimes permit a narrower wall thickness. There is a limit of up to .020" maximum thickness of blue steel and pre-tempered high carbon steel.

## Edge Conditions

Burrs are a normal by-product of the metal stamping blank and piercing process. They can have ragged, sharp and uneven edges.

| MATERIAL THICKNESS | When deburring is NOT specified | When deburring is specified, such as "Must be burr free" |
|--------------------|---------------------------------|--|
| .010" or less      | .001"                           | .0005"   |
| .011" - .039"      | .002"                           | .001"  |
| .040" - .079"      | .003"                           | .002"  |
| .080" - .125"      | .004"                           | .003"  |
| .126" or more      | .006"                           | .004"  |

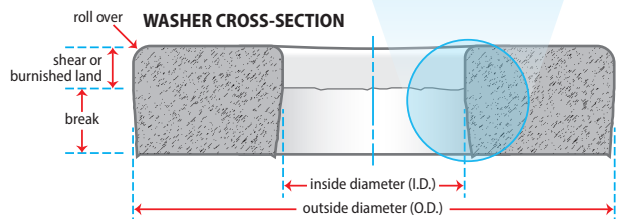
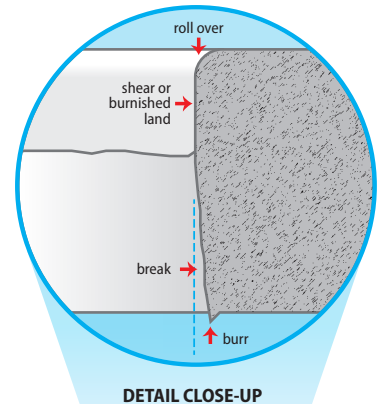
Boker's maximum burr on metallic washers and stampings

**Feature Size:** This is to be measured only in cut portion of the hole and cut portion of the outside diameter.

**Shear or Burnished Land:** This is a burnished area which is approximately one third of the material thickness.

**Break:** This is an area which is tapered about three degrees. This area has a rougher surface than the shear area.

**Roll Over:** This area is a natural consequence of the punching process and the mechanical properties of the material being punched and the die application techniques employed.





# Equipment & Capabilities

Housed in over 165,000 square feet, Boker's manufactures domestically at our single site manufacturing plant. All equipment, listed below, as well as all tooling are protected by a central station security and fire system.

## Tool & Die Department

- CAD CAM Drawing System
- Kitamura Vertical Machine Center
- Mori Seiki Vertical Machine Center (20" x 40")
- Mori Seiki High Precision C.N.C. Lathes
- Digital Optical Comparator
- (2) Clousing Surface Grinders
- Matsui Precision Grinder
- (2) Charmilles Wire E.D.M. (14" x 21" x 8")
- (2) Fanuc Wire E.D.M.
- Ocean Technologies E.D.M. Drill
- Okamoto Precision Grinder
- Stratasys Dimension SST 1200ES 3D Printer



## Washer Department

- (20) Punch Presses (10 to 75 tons)
- Digital Servo Feeders
- Electric Coil Reels (1,200 lb. capacity)
- Coil Straighteners
- Tonnage Monitors

## Stamping Department

- (46) Punch Presses (10 to 180 tons)
- Aida Servo Press
- (2) High Speed Minster Progressive Die Presses (60 to 150 tons)
- Digital Servo Feeders
- Electric Coil Reels (6,000 lb. capacity)
- 48" Press Brake
- Optical Part Detection Systems
- Press Control Automation
- Tonnage Monitors
- (2) Material Handling Conveyors



## Heat Treating Department

- Electric High Temperature Hardening Furnaces
- Electric Tempering Furnaces (all furnaces calibrated)

## Raw Stock & Shear Department

- (3) 10' Shears (.20" thick maximum)
- Stanat Model Rolling Mill
- IRM Rolling Mill
- Cooper Weymouth Roller Levelers
- Coil Set Straightener
- Wilder Coil Slitter
- Computer Inventory & Control System
- (2) Material Slitting Machines

## Secondary Operations Department

- Trimming Lathes
- Production Milling Machines
- Pneumatic Presses
- Tapping Machines
- 6 Spindle Machine Centers (multiple head drilling, tapping, and reaming)
- 4 Straight-liners up to 18"
- Parts Washing System



## Shipping Department

- Toledo Electronic Scales & Printer
- Precision Electronic Scales & Printers
- Automated Protective Packaging Bagger
- Polychem Automatic Plastic Strapping System
- Hercules Ergo Container Handling System
- Wulftec Pallet Wrapper

## Cleaning & Deburring Department

- Agitated Chemical Washing System
- Rotary Deburring Machines
- Vibratory Deburring Machines
- Centrifugal Tumblers
- Heated Centrifugal Dryers
- Lewis Ultrasonic Cleaner
- High Energy Deburring Machines
- Mass Finishing Machines
- Custom Parts Dryer
- Custom Automated Multi-Station Deburring System
- Custom Multi-Station Vibratory Deburring Machine



## Inspection Department

- Numerex Coordinate Measuring Machine
- Digital Optical Comparator
- Digital Buehler Hardness Tester
- Digital Profilometer
- Ceramic Gauge Block Sets
- Plug Gauge Sets
- Height Gauges
- Thread Gauges
- Statistical Process & Capability Studies Available
- Climate-controlled & Monitored
- Keyence Vision System

## Material Capabilities

- Material Thickness: .005" to .190" (varies by material)
- Blank Size: 12" x 12" maximum (flat)
- Draws: 8" diameter, 3" deep

# BOKER'S Delivers



*Proudly made in the USA with domestic and foreign materials.*

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