



# CUSTOM MOLDING & STAMPING

## Master Seal® Bonded Washers Meeting the Need... Volume with Quality



A major factor in **Aztec's** rise to a leadership position in this industry lies in our tooling resources and 40 years of experience. Our capabilities enable us to produce both "standards" and "specials" in a range of sizes to accommodate fasteners ranging from #4 diameter up to 1-1/2" diameter bolts, with outside diameters from 1/4" to 3" and the corresponding metric range. **Aztec's** vast tooling capabilities coupled with numerous elastomers, metal and alloy options enable us to offer our customers a variety of choices to fill virtually every need. This exceptional tooling capability permits us to begin with almost any application concept and develop a viable product within time constraints. Our production department, equipped with state-of-the-art high-speed and variable-speed presses, surface finishing machines and inspection equipment, manufactures your exact part **Aztec** meets the needs of customers with daily requirements in the hundreds to millions - we can meet your volume and quality needs too!

## Master Seal® Washers Stocking Standards & Specials

### More than just Washers...

Because of an unique bonding process, which bonds a strong backing material to a resilient facing material, Aztec's **Master Seal®** will perform a function that neither material could perform alone. Where sealing challenges are presented, the conical design directs the flow of the elastomeric portion toward problem areas. When problems call for cushioning or vibration control, the facing material will also provide the solution.

#### Features Include:

- Quality elastomerics, meeting the need for elasticity, memory, temperature extremes, chemical, ozone and sunlight-resistance.
- Conical design directs flow of facing materials to form a seal conforming to both fastener and sealing surface.
- Full-face design cushions fragile surfaces and minimizes vibration.
- Inside diameter sizes from -1/4" to 3" and corresponding metric range.
- Choice of many backing materials.
- Choice of various colors and finishes.
- Choice of various facing materials.



<b>Insufficient Tightening</b> Likely to cause leakage under seal and around fastener.	<b>Correct Installation</b> Tight against surface. Seal flows inward to seal minor fastener diameter and surface voids	<b>Excessive Torque</b> Causes reverse dishing. Leakage under seal possible

• Strength of backing provides load bearing, compresses the seal vertically and protects it against turning fastener head.

• Facing element provides barrier against leakage at surface and around fastener. Protects surface from damage. Helps in reducing noise or vibration

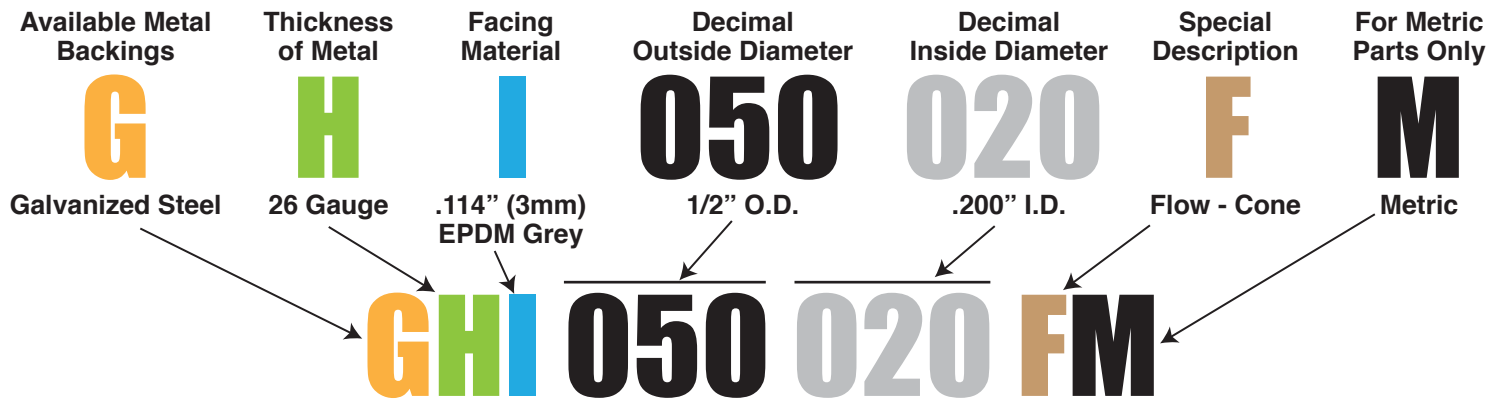
• Effective seal develops around fastener when sealant is forced inward during tightening.

• Fastener may be pre-assembled to Master Seal® washer and installed as a unit. Effective with virtually all fastener types and sizes, and assemblies may be painted to match the color of fastened panels.

**SEALS AGAINST ANY SURFACE**  
Smooth or irregular, durable or fragile.



# Master Seal® Bonded Washers Part Number Key



METAL BACKING	THICKNESS OF METAL	FACING MATERIALS <small>Rubber (type, color, &amp; thickness) or alternate material</small>	SPECIAL DESCRIPTION
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<b>A</b> - Aluminum	<b>A</b> - 10 Gauge	<b>A</b> - .031" (.8mm) EPDM Black	<b>A</b> - Oval Inside Dia.
<b>B</b> - Brass	<b>B</b> - 12 Gauge	<b>B</b> -	<b>B</b> - See Print
<b>C</b> - Copper	<b>C</b> - 14 Gauge	<b>C</b> - .060" (1.5mm) EPDM Grey	<b>C</b> - Cleared ID -See Print
<b>D</b> - Silicone Bronze	<b>D</b> - 16 Gauge	<b>D</b> - .060" (1.5mm) EPDM Black Conductive	<b>D</b> - Saddle Washer
<b>E</b>	<b>E</b> - 18 Gauge	<b>E</b> - .060" (1.5mm) EPDM Black	<b>E</b>
<b>F</b>	<b>F</b> - 22 Gauge	<b>F</b> - .076" (2mm) EPDM Grey	<b>F</b> - Flow - Cone
<b>G</b> - Galvanized STL	<b>G</b> - 24 Gauge	<b>G</b> - .076" (2mm) EPDM Black	<b>G</b> - 20 Durometer
<b>H</b>	<b>H</b> - 26 Gauge	<b>H</b> - .100" (2.5mm) EPDM Conductive	<b>H</b> - 30 Durometer
<b>I</b>	<b>I</b>	<b>I</b> - .114" (3mm) EPDM Grey	<b>I</b> - 40 Durometer
<b>J</b>	<b>J</b> - 20 Gauge	<b>J</b> - .114" (3mm) EPDM Black	<b>J</b> - 50 Durometer
<b>K</b>	<b>K</b>	<b>K</b> - .130" (3.3mm) EPDM Black	<b>K</b> - 60 Durometer
<b>L</b>	<b>L</b> - .036" Min	<b>L</b> - .152" (4mm) EPDM Grey	<b>L</b> - Liko Washer
<b>M</b> - Monel	<b>M</b> - .041" Min	<b>M</b>	<b>M</b>
<b>N</b>	<b>N</b>	<b>N</b> - .065" (1.7mm) Neoprene Black	<b>N</b>
<b>O</b>	<b>O</b> - .040" Thick	<b>O</b> - Asbestos Substitute	<b>O</b> - Oval Outside Dia.
<b>P</b>	<b>P</b> - .062" Thick	<b>P</b> - Plain Steel - No Rubber	<b>P</b> - #4/6
<b>Q</b>	<b>Q</b>	<b>Q</b> - Special Material	<b>Q</b> - #6/8
<b>R</b>	<b>R</b> - .125" Thick	<b>R</b> - .065" (1.7mm) White Butyl	<b>R</b> - #8/10
<b>S</b> - Stainless STL Type 304	<b>S</b>	<b>S</b> - .076" (2mm) Silicone Red	<b>S</b> - #10/12
<b>T</b> - Stainless STL Type 316	<b>T</b>	<b>T</b> - .040"(1mm) Neoprene Black	<b>T</b> - #12/14
<b>U</b>	<b>U</b>	<b>U</b> - .065" (1.7mm) Neoprene White	<b>U</b> - #10/14
<b>V</b>	<b>V</b>	<b>V</b> - .076"(2mm) Viton (Black or Brown)	<b>V</b> - #8/12
<b>W</b>	<b>W</b>	<b>W</b> - .090" (2.3mm) Neoprene Black	<b>W</b>
<b>X</b>	<b>X</b>	<b>X</b> - .130" (3.3mm) Neoprene Black	<b>X</b> - Standard
<b>Y</b>	<b>Y</b>	<b>Y</b> - .188" (1.7mm) Neoprene -Per-Mil-Spec	<b>Y</b>
<b>Z</b> - Zinc-A-Lume	<b>Z</b>	<b>Z</b> - .188" (4.8mm) Neoprene Foam Black	<b>Z</b> - Punch Out



# Reference sheet for Master Seal<sup>®</sup> Bonded Washers

**Screw / Bolt**

**Popular outside diameter**

#4	(.120)		1/4" (GA. / .040 NEO
#6	(.150)		*3/8, 7/16
#8	(.180)		*3/8, 7/16, *1/2"
#10	(.200)		*1/2, 14mm, 15mm, *5/8"
#12	(.240)		*9/16 (SUB 14mm), *5/8"
#14	(.275)		*5/8, *15mm
#17	(.305)		*5/8, 3/4" (SUB .720)
5/16"	(.360)		*3/4 (SUB .720), 5/8"
3/8"	(.410)		*3/4 (SUB .720), 7/8"
7/16"	(.475)		*3/4 (SUB .720), 7/8"
1/2"	(.532)		*1", 1-1/8, 1-3/16"
5/8"	(.650)		*1-3/16, 1-1/8, 1-1/2"
3/4"	(.810)		*1-1/2"
7/8"	(.910)		*1-1/2
1"	(1.080)		*2"

\*1<sup>st</sup> Option / most standard

**NOTE:**

**The inside diameter may change according to the outside diameter.**

# Measuring Table for Master Seal<sup>®</sup> Bonded Washers

<b>I.D.</b>		<b>O.D.</b>		
.120	#4	1/4"	250	-
.150	#6	3/8"	.375	10mm
.180	#8	7/16"	.434	-
.200 ST	#10	465	.465	12mm
.218	#10	1/2"	.500	13mm
230 Only 1/2" O.D.	#12	.545	.545	14mm
.240 ST	#12	9/16"	.562	-
.260 Only 1/2" O.D.	1/4"	19/32"	.593	15mm
.275 ST	#14	5/8"	.625	16mm
.305	#17	3/4"	.750	19mm
.330 5/8" - 7/8"	5/16"	.787	.787	20mm
.360 23/32"	5/16"	7/8"	.875	22mm
.4001 1/2"	3/8"	1"	1.0	25mm
.410 3/4"	3/8"	1-1/8"	1.125	28mm
.434 ST	3/8"	1-3/16"	1.187	30mm
.475	7/16"	1-1/4"	1.250	32mm
.532 ST	1/2"	1-3/8"	1.375	-
.555 Special	1/2"	1-1/2"	1.5	38mm
.560	9/16"	2"	2.0	-
.650 ST	5/8"	2-1/4"	2.25	-
.660	5/8"	2-1/2"	2.50	-
.810	3/4"	2-5/8"	2.625	-
.910	7/8"	-	-	-
1.05	1"	-	-	-