

# CHO-SEAL® 6452

EMI Shielding Environmental Sealing Gaskets  
Nickel plated Graphite (Ni/Gr) Filled EPDM



## Customer Value Proposition:

**CHO-SEAL® 6452** is an electrically conductive, extrusion grade environmental seal specifically formulated to lower your total cost of ownership by reducing the incidence of field repairs and maintenance. Consisting of a precise composite of nickel plated graphite particles dispersed within an EPDM binder system, CHO-SEAL 6452 provides the ideal combination of physical and electrical properties tailored for applications involving harsh outdoor, high humidity and salt environments.

The low compression set characteristics provided by CHO-SEAL 6452 ensure a long lasting environmental seal that will decrease the risk of premature repair and/or replacement as a result of contamination from moisture, chemicals and foreign debris. The stable mechanical properties also guarantee the long-term integrity of the EMI seal, decreasing the need for field diagnostic inspections.

CHO-SEAL 6452 is also galvanically compatible with chromate conversion coated aluminum, minimizing flange corrosion, pitting and wear over the life of the gasket. In addition to MIL-DTL-5541F Type 2 Class 3 trivalent chromate conversion coated substrates, particle "bite through" also allows for the use of the more corrosion resistant Class 1A coatings while maintaining a comparable level of shielding effectiveness, further reducing flange repair costs.

Low galvanic activity combined with the intrinsic properties of EPDM allows CHO-SEAL 6452 to be employed as a standalone, chemically resistant environmental EMI seal, eliminating the need for a secondary non-conductive outboard gasket. Assembly time, inventory, complexity and costs are all reduced. Utilizing a single multipurpose seal also allows for narrower flange designs that can condense the overall package size or increase space for PCB components.

CHO-SEAL 6452 is available in a wide variety of low deflection force cross sections and geometries that simplify design, reduce the need for fasteners and allow for thinner lighter covers potentially reducing the total cost of ownership of a durable EMI gasket system by 25-50% while improving field performance.

## Contact Information:

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## Product Features:

### Nickel plated graphite particles:

- High shielding effectiveness >80 dB
- Low flange galvanic corrosion <35 mg weight loss per CHO-TM-101
- High electrical conductivity for grounding applications
- Performance compatible with RoHS compliant trivalent chromate MIL-DTL-5541F Class 1A and Class 3 treatments.

### EPDM Polymer System:

- Excellent resistance against caustics, acids, ketones, alcohols, esters and water
- Compatible with Nuclear Biological & Chemical (NBC) warfare decontamination fluids

### Excellent compression set resistance providing:

- Years of mechanical sealing
- No damage to the PCB caused by environmental leaks
- No gaps for EMI leaks.

### Low closure force extruded cross sections allowing for:

- Thinner covers
- Fewer fasteners
- Low weight thermoplastic housings
- Greater deflection ranges
- Enhanced seal properties

### Available in over 100 different cross sections:

- Hollow O, D and Omega profiles offering greatest design flexibility
- See Chomerics Extruded Product Catalog for a complete listing

### Available as:

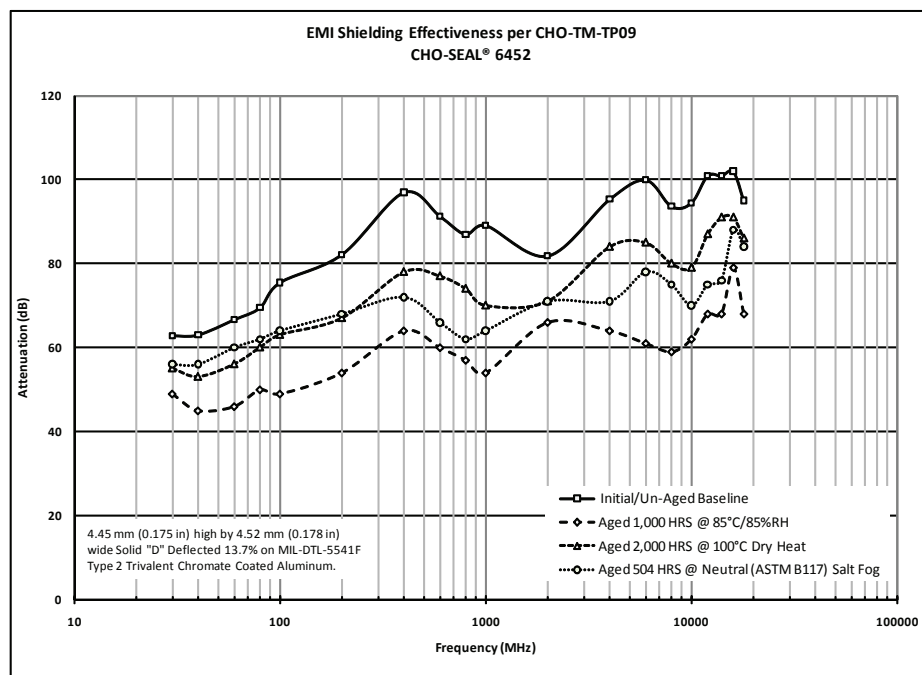
- Bulk extrusion
- Spliced O-rings
- Four corner spliced gaskets

### Rapid prototyping

# Product Information - CHO-SEAL® 6452

CHO-SEAL® 6452 Typical Properties		
Conductive Filler		Nickel Plated Graphite
Elastomer Binder		EPDM
Material Grade		Extrusion
RoHS and REACH Compliant		Yes
Typical Properties	Test Procedure	Test Values
<b>Volume Resistivity - Disc, <math>\Omega</math> - cm</b> Initial After 1,000 HR @ 100°C (212°F)	MIL-DTL-83528 Para. 4.6.11	0.130 0.180
<b>Transfer Impedance (Zt), dB <math>\Omega</math> - m</b> 1 MHz 10 MHz 100 MHz	SAE ARP 1705	-50 -52 -52
<b>Hardness, Shore A</b> Initial @ RT 1,000 HR @ 100°C (212°F) 1,000 HR @ 85°C (185°F)/85%RH	ASTM D2240	72 75 75
<b>Tensile Strength, psi (kPa)</b> Initial @ RT 1,000 HR @ 100°C (212°F) 1,000 HR @ 85°C (185°F)/85%RH	ASTM D412	370 (2,551) 315 (2,172) 380 (2,620)
<b>Elongation, %</b> Initial @ RT 1,000 HR @ 100°C (212°F) 1,000 HR @ 85°C (185°F)/85%RH	ASTM D412	245 180 225
<b>Specific Gravity</b>	ASTM D792	1.87
<b>Compression Set @ 25% Deflection, %</b> 70 HR @ 100°C	ASTM D395 METHOD B	30.0
<b>Low Temperature Flex: TR10, °C</b>	ASTM D1329	-40
<b>Maximum Use Temperature, °C</b>	--	100
<b>Galvanic Corrosion Wt. Loss @ 504 HR, mg</b> Cr (III) - MIL-DTL-5541F Type 2 Class 1A 6061 Al Cr (VI) - MIL-DTL-5541F Type 1 Class 1A 6061 Al Cr (III) - MIL-DTL-5541F Type 2 Class 3 6061 Al Cr (VI) - MIL-DTL-5541F Type 1 Class 3 6061 Al Cr (VI) - MIL-DTL-5541F Type 1 Class 3 6061 Al - Bleached	CHO-TM-101	27 25 29 24 35
<b>Smallest Recommended Solid Round Cross Section, inch (mm)</b> <b>Minimum Gasket Wall Thickness.</b>	-- --	0.039 (1.00) 0.030 (0.76)

Shielding Effectiveness per Chomerics CHO-TM-TP09 (procedure available upon request).



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