

# Stable Corrosion Resistant EMI Shielding Gaskets

Nickel plated Aluminum (Ni/Al) Filled Silicone & Fluorosilicone

## CHO-SEAL® 6502 & 6503



### Customer Value Proposition:

CHO-SEAL® Ni/Al materials provide the highest shielding effectiveness after long term aging testing of any EMI shielding elastomer gasket material (see shielding graphs). Ni/Al filled elastomers have the highest reliability, lowest need for field service and reduced warranty needs, **reducing costs by 30 to 40%.**

Ni/Al particles have low transfer impedance (Per SAE ARP 1705). They are both inherently stable and have the best galvanic compatibility with Al flanges. This combination delivers the best durability and stability.

Ni/Al particle filled elastomers provide the lowest amount of flange pitting due to galvanic corrosion. CHO-SEAL Ni/Al materials reduce flange pitting on all chromate treated flanges as compared to Ag/Al filled materials by 20 to 50%. Gasket designs for use in uncontrolled environments can avoid:

- Ni or Sn plating of Al flanges and housings
- Secondary outboard nonconductive gaskets
- Secondary outer enclosures
- Complicated partial flange painting

**These eliminations can reduce the cost of a durable EMI gasket system up to 45%.**

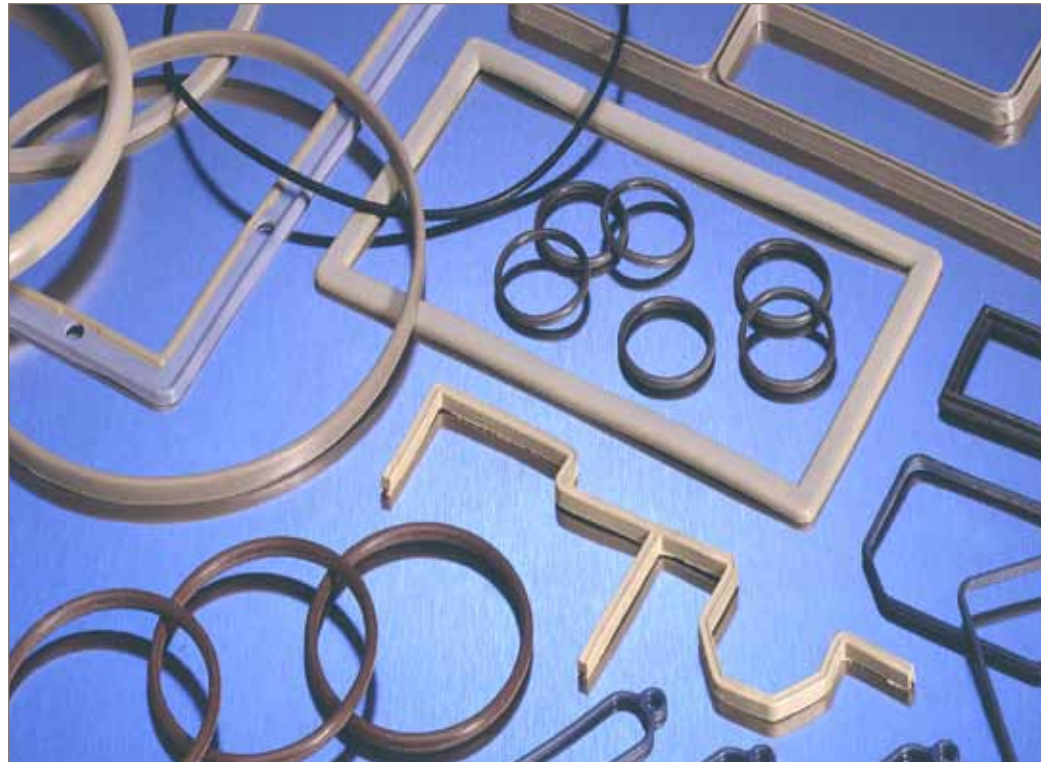
For applications in marine or aerospace environments Ni/Al gaskets may still need outboard seals however they will provide:

- Reliable long term shielding and;
- Flange protection in case of outer seal failure.

CHO-SEAL 6502 & 6503 can be over-molded directly onto the cover to reduce assembly costs. They can be extruded in low deflection force cross sections and reduce closure forces. This eliminates fasteners or allows the use of less rigid enclosures lowering the total cost of ownership.

### Contact Information:

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### Product Features:

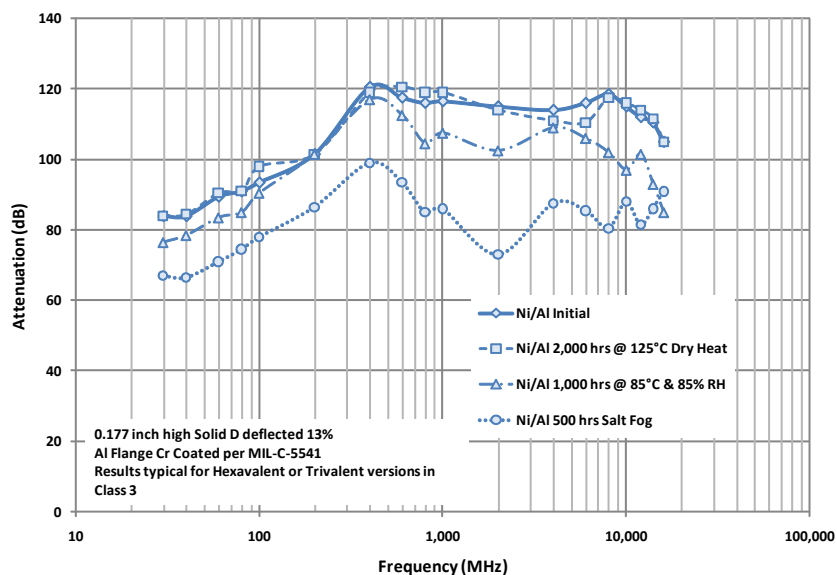
- High and durable shielding effectiveness >100 dB
- Lower cost for gasketing in harsh environments by eliminating:
  - > Outboard non-cond. gaskets
  - > Metallic (Nickel, tin or silver) plating
  - > Complicated partial flange painting designs
  - > Outboard enclosures
- Low transfer impedance
- Lowest galvanic corrosion with all types of chromate conversion coated Al flanges available
- Integrated EMI shielding gasket and housing by overmolding
  - > Eliminate gasket packaging, handling & assembly
  - > Reduced assembly time
  - > No separate procurement or inventory costs
  - > Supply chain management providing ongoing logistics
- Grades Available in both silicone and fluorosilicone for extrusion and molding
- CHO-SEAL 6503 complies to MIL-DTL-83528C fluid immersion
- Excellent resistance to swelling with fluorosilicone
- Fabric reinforcement for world class mechanical tear resistance
- Low compression set for long term sealing
- Low compression force cross sections to reduce closure force needs and minimize fasteners
- Strong long term mechanical performance
- Electrically conductive to provide electrical ground
  - > Available in all configurations
  - > Sheet stock
  - > Die cut
  - > Bulk extrusion
  - > Spliced gaskets
  - > Standard and custom molded parts
  - > Overmolded assemblies

# Product Information

Typical Properties	Test Procedure	Units	CHO-SEAL® 6502 Typical Values	CHO-SEAL® 6503 Typical Values
Conductive Filler	--	--	Ni/Al	Ni/Al
Resin System	--	--	Silicone	Fluorosilicone
Product form	--	--	Molded/Extruded	Molded/Extruded
RoHS Compliant	--	--	YES	YES
Hardness	ASTM D 2240	Shore A	65	75
Tensile Strength	ASTM D 412	psi	200	200
Initial	ASTM D 412	psi	200	200
1,000 hrs at 125 °C	ASTM D 412	psi	200	200
Elongation	ASTM D 412	%	130	65
Initial	ASTM D 412	%	130	65
1000 hrs at 125 °C	ASTM D 412	%	130	65
Tear Strength	ASTM D 624	ppi	60	40
Initial	ASTM D 624	ppi	60	40
1,000 hrs at 125 °C	ASTM D 624	ppi	60	40
Specific Gravity	ASTM D 395	--	1.88	1.96
Galvanic Corrosion	Cho TM-101	mg	3	3
168 Hours on Cr (III) Al Class 3	Cho TM-101	mg	3	3
168 Hours on Cr (VI) Al Class 3	Cho TM-101	mg	11	8
504 Hours on Cr (VI) Al Class 3	Cho TM-101	mg	15	8
504 Hours on Cr (VI) Al Class 1A	Cho TM-101	mg	16	13
504 Hours on Cr (III) Al Class 3	Cho TM-101	mg	17	11
504 Hours on Cr (III) Al Class 1A	Cho TM-101	mg	17	11
Compression Set @ 100 °C	ASTM D 395 Method B	%	30	30
Maximum Use Temperature	--	°C	125	125
Low Temp. Flex TR10 °C	ASTM D 1329	°C	-55	-55
Volume Resistivity	CEPS-1002	Ω - cm	0.150	0.200
Initial	CEPS-1002	Ω - cm	0.150	0.200
Heat aged	CEPS-1002	Ω - cm	0.150	0.200
Fluid Resistance	MIL-DTL-83528 (Paragraph 4.5.10)	--	N/A	Pass

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

Ni/Al Filled Cho-Seal Typical Shielding Effectiveness Per CHO-TP09



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