

Electrically Conductive Form-In-Place Gaskets

Selector Guide and Shielding Solutions



Customer Value Proposition:

This selector guide lists nine EMI shielding Form In Place "FIP" gasket materials. They provide the lowest total cost of ownership for small cross section and complex pattern applications, Chomerics FIP materials can reduce installed cost of an EMI gasket by up to 60%.

A range of conductive particle technologies combined with thermoset and RTV silicone systems provides a unique material selection for any opportunity. Multiple filler grades balance material cost versus performance and can provide low cost alternatives for less demanding applications. Chomerics corrosion resistant materials inherently provide protection against galvanic activity. They may eliminate the need for Ni or Sn plating and or secondary environmental gaskets. Chomerics general purpose materials exhibit excellent electrical and mechanical properties on metallic and shielded plastic housings. Chomerics Ag/Ni and Ag filled materials provide high shielding and conductivity critical for inter-compartmental shielding.

Dispensing a high profile bead in one low cost pass is available. They deliver a greater deflection range, lower deflection forces & improved reliability. FIP materials are available in both uncured bulk form and dispensed onto housings. We can reduce costs by material selection, design, dispense technique and supply chain management. Let us work with you in the design phase to avoid unnecessary manufacturing costs.

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Product Features:

- Lower costs by integrating EMI shielding gasket and housing
- Eliminate gasket packaging, handling & assembly
- Reduction of final housing assembly time
- No separate procurement or inventory costs
- Supply chain management providing ongoing logistics
- Corrosion resistant materials eliminate plating or secondary environmental gasket
- >75 dB shielding effectiveness 200 MHz to 12 GHz
- Electrical conductivity as low as .006 ohm-cm
- Excellent adhesion to many substrates
- Precise dispensing of gasket beads
- Flange width reduction frees PCB area for components
- EMI shielding, electrical and mechanical stability
- High profile beads
- Lower deflection forces
- Greater deflection range
- Supplied as dispensed gasket or bulk compound
- RoHS compliant and halogen free
- UL 94 V-0 rated materials as tested by Chomerics
- Rapid prototyping

Form-In-Place Selector Guide

Typical Properties	Test Procedure	Units	5538	5541	5550	5526
Description	--	--	Corrosion Resistant, Small Bead	Corrosion Resistant, High Heat & Low Cost	Soft, Corrosion Resistant, Low Cost	High Conductivity, Excellent Grounding and Shielding
Conductive Filler	--	--	Ni/C	Ni/C	Ni/C	Ag
Resin System	--	--	Silicone	Silicone	Silicone	Silicone
Number of Components	--	--	1	1	1	1
Cure System	--	--	Moisture	Thermal	Thermal	Moisture
Cure Schedule Tack Free Time Handling time Full Cure	--	--	18 mins at 22°C & 50% RH 4 hours at 22°C & 50% RH 4 hours at 22°C & 50% RH	30 minutes at 150°C 30 minutes at 150°C 30 minutes at 150°C	30 minutes at 150°C 30 minutes at 150°C 30 minutes at 150°C	18 mins at 22°C & 50% RH 4 hours at 22°C & 50% RH 24 hours at 22°C & 50% RH
Hardness	ASTM D 2240	Shore A	65 ± 8	75 ± 8	43 ± 8	65 ± 8
Tensile Strength	ASTM D 412	kPa (psi)	2,240 (325)	3,100 (450)	1,380 (200)	550 (80)
Elongation	ASTM D 412	%	75	150	200	180
Specific Gravity	ASTM D 395	--	2.2	2.4	2.2	3.8
Volume Resistivity Initial Aged 1000 hours at max use temperature Aged 1,000 hours @ 85°C & 85% RH Aged 360 Salt Fog	Chomerics MAT-1002 Chomerics MAT-1002 Chomerics MAT-1002 Chomerics MAT-1002	Ω-cm Ω-cm Ω-cm Ω-cm	0.030 0.050 0.050 0.050	0.030 0.050 0.050 0.050	0.035 0.050 0.050 0.050	0.006 0.006 0.006 NR
Galvanic Corrosion resistance	Chomerics TM-100	Weight Loss mg	10	32	20	NR
Compression Set 22 hrs. @ 70°C	ASTM D 395 Method B	%	50	50	25	55
Maximum Use Temperature	--	°C (°F)	85 (185)	150 (302)	125 (257)	85 (185)
Flammability rating	UL 94	--	V-0	V-0	V-0	V-0
Shielding Effectiveness (avg 200 MHz→12 GHz)	Modified IEEE-299	dB	> 60	>65	>65	>100
Adhesion Trivalent Chromate Coating on Aluminum Hexavalent Chromate Coating on Aluminum Nickel plating on aluminum Ag/Cu filled conductive paint Electrically Conductive Plastic (PREMIER®)	Chomerics W1038 Chomerics W1038 Chomerics W1038 Chomerics W1038 Chomerics W1038	N/cm N/cm N/cm N/cm N/cm	9 9 NR NR 8	18 15 12 NR NR	12 12 10 NR NR	9 9 NR NR NR
Force Deflection 10% 10% 30% 30%	ASTM D 575 Modified ASTM D 575 Modified ASTM D 575 Modified ASTM D 575 Modified	N/cm lb-f/in N/cm lb-f/in	15.3 8.7 49.8 28.5	51.5 29.4 141.8 81.0	23.1 13.2 56.7 32.4	5.4 3.1 26.3 15.0
Bead Size Smallest Recommended Largest Recommended (Single pass)	Height by Width Height by Width	mm mm	0.38 X 0.50 0.76 X 0.06	0.66 X 0.81 1.50 X 1.80	0.96 X 1.14 1.50 X 1.80	0.46 X 0.56 1.07 X 1.24
Shelf Life (Bulk Material)	Chomerics	months	5 at 22±5°C	6 at < -10°C	6 at < -10°C	6 at 22±5°C

NR - Not Recommended, NA - Not Applicable
See Chomerics for product specifications if needed
UL 94 V-0 testing performed by Chomerics

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.

Value-Added Capabilities

High Aspect Ratio Beads

Using 4-axis dispense equipment Parker-Chomerics can dispense high aspect ratio FIP gasket beads to lower deflection forces and increase deflection range in a single cost effective dispensing pass. The beads can be up to 1.4 times higher than their widths.

Supply Chain Management

We will coordinate with the housing supplier or can provide in-house injection molding to ensure on-time delivery. We will do secondary assembly of components, labeling, pad printing, painting. Our management will provide one supplier responsible for on time delivery of a quality part.

Bulk Material Ordering Information		
Material	Size	Part Number
5526	850 gram (Aluminum Cartridge)	19-26-5526-0850
5538	650 gram (Aluminum Cartridge)	19-26-5538-0650
5541	650 gram (Aluminum Cartridge)	19-26-5541-0650
5541	2000 gram (Aluminum Cartridge)	19-26-5541-2000
5550	575 gram (12 fl. oz. Semco® Cartridge)	19-26-5550-0575

SEMCO is a registered trademark of Semco, Inc.

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