CHO-SEAL S6305

Nickel-Plated Graphite Filled Elastomer

Stable Corrosion Resistant EMI Shielding Gaskets

Customer Value Proposition:

The CHO-SEAL S6305 nickel-plated graphite filled elastomer addresses a range of EMI shielding and environmental needs for both internal and external applications. This material has excellent performance in salt spray corrosion applications and there are options for addressing fluid immersion requirements.
The nickel-plated graphite filler coupled with silicone elastomer provides a solution to a variety of commercial and military application needs.

VERSATILITY

CHO-SEAL S6305 is the premier nickel-plated graphite filled silicone elastomer providing the highest EMI shielding performance and all around versatility for extrusions, molded sheets, and cross-sections. CHO-SEAL S6305 can be co-extruded or co-molded with non-conductive silicone elastomer so as to provide additional environmental sealing to gasketed joints. This material can also be overmolded onto metal or conductively plated plastic housings and is available in a clip-on gasket configuration.

APPLICATIONS

The nickel-plated graphite filled CHO-SEAL S6305 is ideally suited for both internal and external shielding and grounding applications. Excellent conductivity, high EMI shielding, and long term stability in adverse environments address a wide range of applications in the telecommunications, information technology, medical, and industrial electronic equipment markets.

CHO-SEAL S6305 is available in many cross sections, solid and hollow, symmetric and asymmetric, and with or without pressure sensitive adhesives for easy mounting. These materials can also be mounted on clips for mechanical attachment or specifically designed for friction fit in rectangular grooves. Material availability also includes kiss-cut parts on release paper, spliced o-rings, bonded 4-corner gaskets, cut-to-length parts, lathe cut parts, or spooled rolls of extrusions.

For applications in extreme environments CHO-SEAL S6305 can be co-extruded with a non-conductive outer gasket and inner conductive elastomer. The entire Parker Chomerics nickel graphite filled extrusion family performs very well in salt spray environments.

CHO-SEAL S6305 elastomer is especially suitable for grounding applications in which a flexible electrical contact is needed.

Note A:

Compression set is expressed as a percentage of deflection per ASTM D395 Method B, at 25% deflection. To determine percent recovery, subtract 0.25 of the stated compression set value from 100%. For example, in the case of 30% compression set, recovery is 92.5%.

Note B:

Where two values are shown, the first represents max. operating temp. for conformance to MIL-DTL-83528 (which requires Group A life testing at 1.25 times max. operating temp.) and the second value represents the practical limit for exposure up to 1000 hrs. (compressed between flanges 7-10%). Single values conform to both definitions.

Note C:

Copies of CEPS-0002, CHO-TM-TP08 and CHO-TM-TP09 are available from Chomerics. Contact Applications Engineering.

Note F:

It may not be inferred that the same level of shielding effectiveness provided by a gasket material tested in the fixture per MIL-DTL-83528 Para. 4.5.12 would be provided in an actual equipment flange, since many mechanical factors of the flange design (tolerances, stiffness, fastener location and size, etc.) could lower or enhance shielding effectiveness. This procedure provides data applicable only to the test fixture design of MIL-DTL-83528, but which is useful for making comparisons between different gasket materials.
40 GHz test data for all materials uses TP08 test method.

PERFORMANCE

	Property	Test procedure (type of test)	CHO-SEAL S6305
Physical	Molded (M) or Extruded (E)	--	M/E
	Conductive Filler	--	Ni/C
	Elastomer Binder	--	Silicone
	Type (Ref. MIL-DTL-83528)	--	Not Applicable
	Volume Resistivity, ohm-cm, max., as supplied without pressure sensitive adhesive	CEPS-0002 C(Q/C)	0.100
		MIL-DTL-83528 (Q/C)	Not Applicable
	Hardness, Shore A	ASTM D2240 (Q/C)	65 ± 10
	Specific Gravity	ASTM D792 (Q/C)	2.00 ± 0.25
	Tensile Strength, psi (MPa), min.	ASTM D412 (Q/C)	200 (1.38)
	Elongation, % min. or % min./max.	ASTM D412 (Q/C)	100
	Tear Strength, lb/in. (kN/m), min.	ASTM D624 (Q)	50 (8.75)
	Compression Set, 70 hrs at 100°C,% max. A	ASTM D395, Method B (Q)	30
Thermal	Low Temperature Flex TR10, °C, min.	ASTM D1329 (Q)	-45
	Maximum Continuous Use Temperature, °C B	--	150
	Thermal Conductivity, W/m-K (Typical) 300 psi (2.07 MPa)	ASTM D5470	0.8
Electrical	Shielding Effectiveness, dB, min. F	Method 1: CHO-TM-TP08 C(Q)	Method 1
	200 kHz (H Field)		Not Tested
	100 MHz (E Field)	Method 2: MIL-DTL-83528 Para.4.6.12 (Q)	100
	500 MHz (E Field)		100
	2 GHz (Plane Wave)		100
	10 GHz (Plane Wave)	Method 3: CHO-TM-TP09 C (Q)	100
	40 GHz (Plane Wave)		75
	Electrical Stability, ohm-cm, max.		
	Heat Aging	CEPS-0002 C (Q)	0.250(E)
		MIL-DTL-83528 Para 4.6.15 (Q/C)	Not Applicable
	Resistance During Vibration	MIL-DTL-83528 Para 4.6.13 (Q)	Not Applicable
	Resistance After Vibration	MIL-DTL-83528 Para 4.6.13 (Q)	Not Applicable
	Post Tensile Set Volume Resistivity	MIL-DTL-83528 Para 4.6.9 (Q/C)	Not Applicable
Regulatory	EMP Survivability, kA per in. perimeter	MIL-DTL-83528 Para 4.6.16 (Q)	Not Applicable
	RoHS Compliant	--	Yes
	UL 94 Flammability Rating	--	HB

(Q): Qualification (Q/C): Qualification & Conformance

Parker Chomerics