

CHO-SHIELD® 610

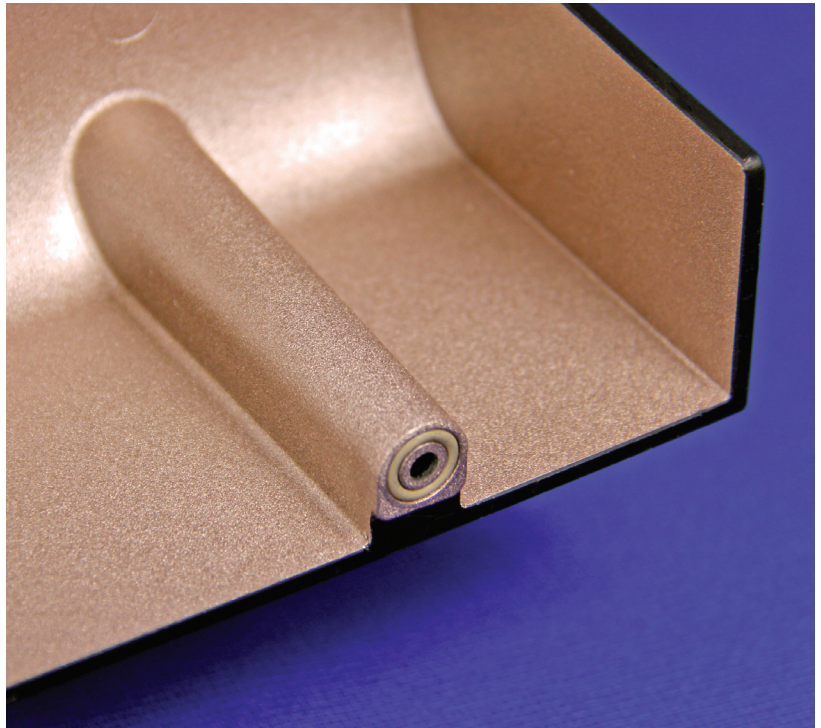
ELECTRICALLY CONDUCTIVE SILVER-PLATED COPPER EPOXY EMI COATING



Customer Value Proposition:

CHO-SHIELD 610 is a two component, silver-plated copper filled, conductive epoxy paint designed to provide EMI shielding and electrical grounding on plastic and composite substrates. This conductive epoxy system has great adhesion to a variety of substrates, making it a good choice for chemical resistant plastics or other hard to adhere to substrates. Due to its silver-plated copper filler, CHO-SHIELD 610 is a cost effective EMI solution for applications where good EMI shielding and electrical conductivity are required. CHO-SHIELD 610 demonstrates exceptional environmental stability, maintaining electrical conductivity, adhesion, and abrasion resistance when subjected to high and low temperature extremes, high humidity, and salt fog corrosion environments.

Typical applications include military and commercial electronic enclosures, missile canisters, man portable electronics, radar systems, avionic boxes, engines, and aluminum flanges and structures.



Features and Benefits:

- Two component
- Pre-measured kit allows easy mixing of components in one container. Long pot life (8 hours)
- Silver-plated copper flake filler
- Cost effective.
- Epoxy coating
- Very good conductivity and EMI shielding of components.
- Coating maintains electrical and mechanical stability in harsh environments. Good chemical/moisture barrier. Hard abrasion resistant coating.

* Trademark of General Electric Co.

Contact Information:

Parker Hannifin Corporation
Chomerics Division
77 Dragon Court
Woburn, MA 01801

phone 781 935 4850
fax 781 933 4318
chomailbox@parker.com

www.chomerics.com
www.parker.com/chomerics



ENGINEERING YOUR SUCCESS.

CHO-SHIELD 610 - Product Information

Table 1 Typical Properties

CHO-BOND 610		
Typical Properties	Typical Values	Test Method
Polymer	Epoxy	N/A
Filler	Silver-Plated Copper	N/A
Mix Ratio (A:B by weight)	100 : 28.3	N/A
Color	Copper	N/A (Q)
Spray Viscosity	20 to 26 seconds	Zahn Cup Number 2 (Q)
Surface Resistance (max.) at 0.002 inches (50 µm, 2 mil)	<= 0.150 ohms / square	CEPS-0002 (Q/C)
Shielding Effectiveness (see Figure 1)	>70 dB	CHO-TM-TP11 * (Q)
Recommended Dry Film Thickness	.002" (50 µm)	N/A
Wet Density	1.2	ASTM D792 (Q/C)
Wear Resistance (Taber Abrasion) 1000 Cycles, 1 kg, CS-10, G-10 substrate	Pass	ASTM D4060 (Q)
Continuous Use Temperature	-65 to 125° C (-85 to 257°F)	N/A (Q)
Pot Life	8.0 hrs	N/A (Q)
Drying Time- Room Temperature Tack Free	1 hour @ 21°C (70°F)	N/A
Drying Time- Room Temperature Full Dry**	1 week @ 21°C (70°F)	N/A
Drying Time- Elevated Temperature Full Dry	Cure Cycle Option 1: 2 hours @ 21°C (70°F), followed by 1 hour @ 66°C (150°F), followed by 1 hour @ 121°C (250°F) Cure Cycle Option 2: 2 hours @ 21°C (70°F), followed by 4 hours @ 79°C (175°F)	N/A
Shelf Life at 21°C (70°F), unopened, from Date of Manufacture	9 months ***	N/A (Q)
Calculated VOC	591 g /L	Calculated
Theoretical coverage at recommended dry film thickness	0.051 ft ² /gram 0.0047 m ² /gram 228 ft ² /gallon	N/A

Notes: N/A - Not Applicable, (Q/C) - Qualification and Conformance Test, (Q) - Qualification Test, the above properties are based on Cure Cycle 1.

* This test Method is available from Parker Chomerics.

** Cure is sufficient for handling in 24 hours. Full specification properties are developed after 1 week (168 hours) at room temperature.

*** Shelf life may be extended by 3 months. Contact Chomerics for details.

CHO-SHIELD 610 - Product Information

Table 2 Typical Test Data

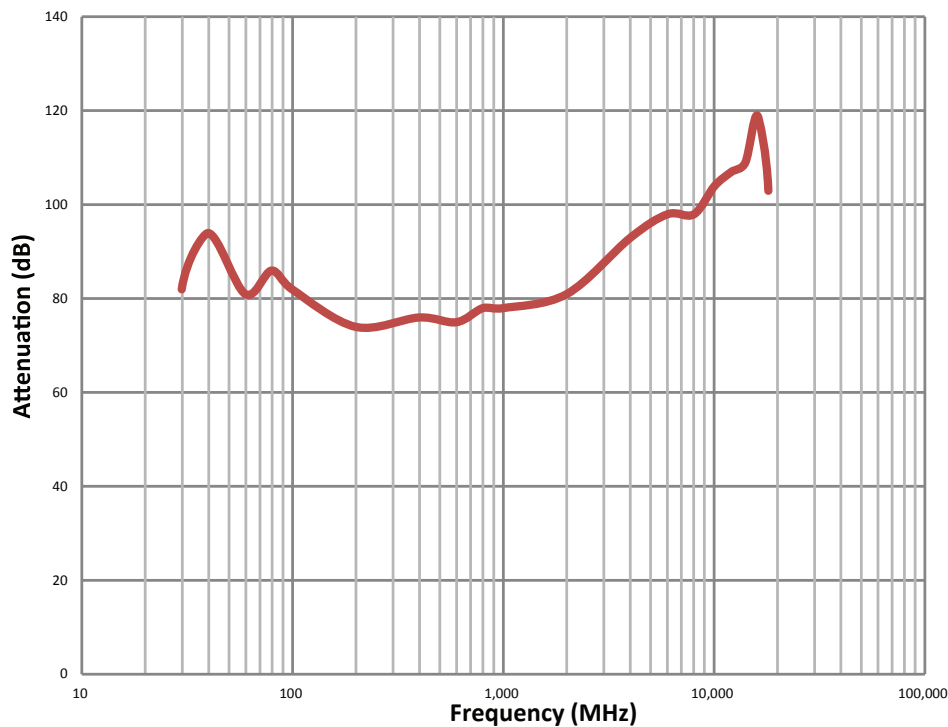
CHO-SHIELD 610				
Test	Test Conditions	Initial Resistance (mOhm/sq.)	Final Resistance (mOhm/sq.)	Post Adhesion
High Temperature	240 hrs. @ 85 °C	129	151	5B
Low Temperature	240 hrs. @ -40 °C	133	137	5B
Humidity	240 hrs. @ 65 °C and 85-95% RH	125	125	5B
Salt Fog	96 hrs ASTM B-117	119	196	5B
Taber Abrasion	Taber CS-10 wheel, 1000 cycles, 500 gram weights	Weight loss 75 mg	-	-

Table 3 Ordering Information

Product	Weight (grams)	Packaging	Chomerics Part No.	Primer Included
CHO-SHIELD 610	3750	2 component kit A: 1 gallon aluminum can B: 1 quart aluminum can	52-03-0610-0000	Not Required

Figure 1

CHO-SHIELD 610 Shield Effectiveness PER CHO-TM-TP11*



* This test Method is available from Parker Chomerics.

www.chomerics.com
www.parker.com/chomerics

CHOMERICS and CHO-SHIELD is a registered trademark of Parker Hannifin Corporation. © 2013

TB 1148 EN April 2014