

CHO-SHIELD® 579

ELECTRICALLY CONDUCTIVE LOW VOLATILE ORGANIC CONTENT (VOC) SILVER EPOXY EMI COATING



Customer Value Proposition:

CHO-SHIELD 579 is a low VOC version of CHO-SHIELD 596. Like CHO-SHIELD 596, CHO-SHIELD 579 is a two component, silver filled, conductive epoxy paint formulated to provide EMI shielding and electrical grounding on plastic and composite substrates. It is a great material choice for chemical resistant plastics or other hard to adhere to substrates. In addition, CHO-SHIELD 579 may be used to provide a compatible conductive metal coating for mating silver filled EMI shielding gaskets to aluminum flanges. By forming a barrier over the aluminum substrate this silver epoxy coating reduces the overall galvanic corrosion of the EMI gasket/aluminum flange system. CHO-SHIELD 579 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, avionics boxes, engines, and aluminum flanges and structures.



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

Features and Benefits:

- Two component
- Silver flake filler
- Low VOC's
- Epoxy coating
- Pre-measured kit allows easy mixing of components in one container. Long pot life (8 hours)
- Excellent conductivity and EMI shielding of components.
- 35% lower VOCs than CHO-SHIELD 596 (376 g/L).
- Coating maintains electrical and mechanical stability in harsh environments. Good chemical/moisture barrier. Hard abrasion resistant coating. Meets military spec MIL-C-22750.



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CHO-SHIELD 579 - Application Information

Mix parts A and B in the ratio of 100 parts of A to 32.2 parts of B and the solvent blend. ***The solvent blend should be added to achieve a spray viscosity of 18 to 24 seconds (using a Zahn #2 cup). Part B and the solvent blend should always be added to the part A to minimize waste. To apply the coating, use a standard HVLP spray gun with approximately 20-40psi (138-276kPa) atomizing air and a fluid nozzle with a minimum orifice diameter of 0.040 inches (1.016mm).

The coating should be ready to use as mixed. NOTE: Overthinning degrades electrical performance and may inhibit spraying. Apply the coating to a 1.0 mil thickness (a wet film of 2 mils is approximately 1 mil when dry). A 30-minute solvent flash is required between coats. The last coat should dry at room temperature for at least one hour prior to any elevated cure. Consult Parker Chomerics Applications Department for assistance.

Table 1 Thinning of CS 579 for Application

Weight of CS 579 Part A (grams)	Weight of CS 579 Part B (grams)	Weight of Solvent Blend (grams)
100	32.2	Refer to Apps Info
349*	112*	Refer to Apps Info

NOTE:

Before spraying CHO-SHIELD 579, age the compound for at least 1 hour at room temperature after mixing.

* Full kit of 52-01-0579-0000

*** Solvent blend is 20% of PCBTF (parachlorobenzotrifluoride), 30% of Toluene, and 50% of Acetone by weight (or 10% of PCBTF, 35% of Toluene, and 55% of Acetone by volume)

Table 1 Typical Properties

CHO-SHIELD 579		
Typical Properties	Typical Values	Test Method
Polymer	Epoxy	N/A
Filler	Silver	N/A
Mix Ratio (A:B by weight)	100 : 32.2	N/A
Color	Silver	N/A (Q)
Spray Viscosity	18 to 24 seconds	Zahn Cup Number 2 (Q)
Surface Resistance (max.) at 0.001 inches (25 µm, 1 mil)	<= 0.060 ohms / square	CEPS-0002 (Q/C)
Shielding Effectiveness	>90 dB (80 MHz to 18 GHz)	CHO-TM-TP11* (Q)
Recommended Dry Film Thickness	.001" (25 µm)	N/A
Wet Density	1.7	ASTM D792 (Q/C)
Continuous Use Temperature	-40 to 150°C (-40 to 302°F)	N/A (Q)
Pot Life	8.0 hrs	N/A (Q)
Drying Time- Room Temperature Tack Free	1.0 hr @ 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: 0.5 hr @ 21°C (70°F), followed by 1.0 hr @ 121°C (250°F) Cure Cycle Option 2: 0.5 hr @ 21°C (70°F), followed by 6.0 hr @ 66°C (150°F)	N/A
Shelf Life at 21°C (70°F), unopened, from Date of Manufacture	9 months***	N/A (Q)
Calculated VOC	376 g /L	Calculated
Theoretical coverage at recommended dry film thickness	0.088 ft ² /gram 0.0082 m ² /gram 571 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.

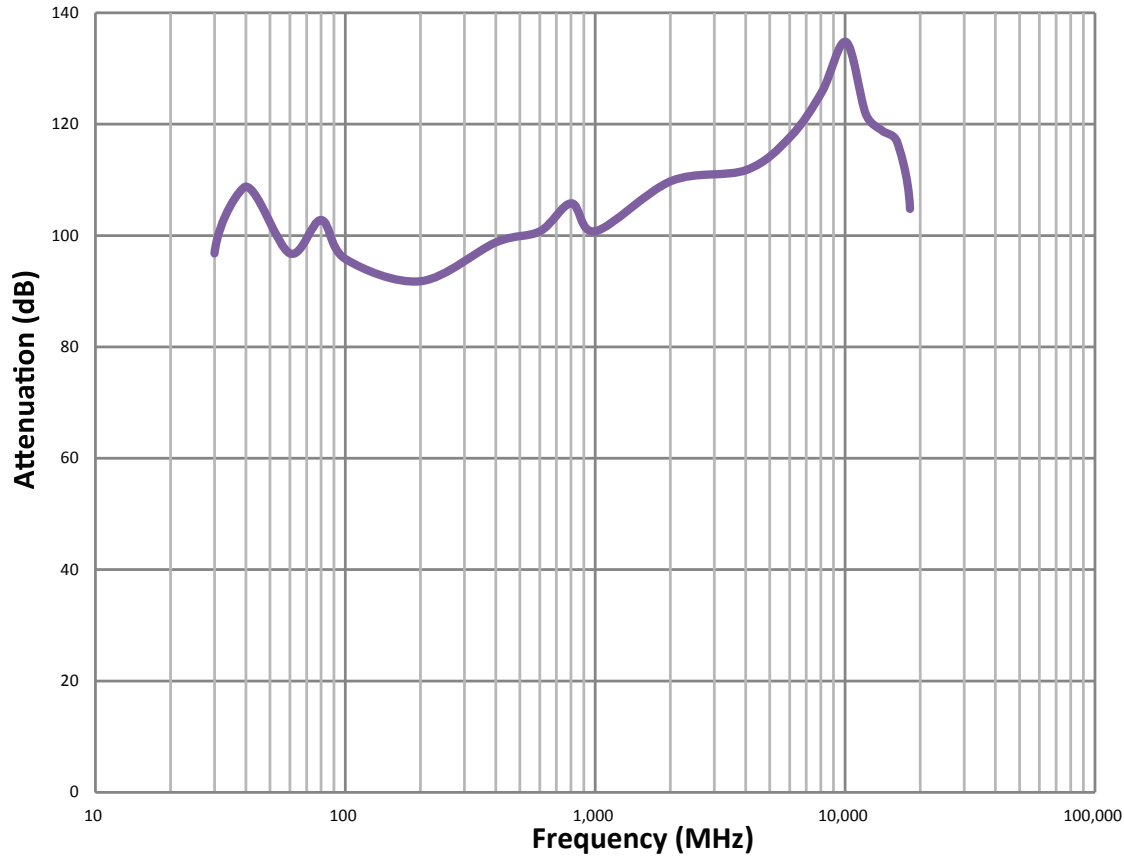
* This test Method is available from Parker Chomerics.

** 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.

Figure 1

CHO-SHIELD 579 Shield Effectiveness PER CHO-TM-TP11*



* This test Method is available from Parker Chomerics.

Ordering Information

Product	Weight (grams)	Packaging	Chomerics Part No.	Primer Included
CHO-SHIELD 579	454	2 component kit A: 1 pint aluminum can B: 4 fluid ounce amber glass bottle	52-01-0579-0000	Not Required

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.

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