CHO-SHIELD® 2056

Electrically Conductive Silver-Plated Copper Acrylic EMI Coating

Parker Chomerics CHO-SHIELD 2056 is an electrically conductive, one-component silver and silver/copper-filled acrylic coating that is specially formulated for application on plastics to provide high levels of EMI shielding.

CHO-SHIELD 2056 is ideal for use on medical electronic enclosures and assemblies which require high level, reliable EMI shielding performance and may benefit from silvers' antimicrobial properties.

The excellent electrical conductivity of the coating allows for thinner applied coatings, saving time and money in processing. Thinner coatings limit material wastage due to overspray and reduce the frequency of mask washing steps.

Meets UL Specification 746-C for adhesion.





Product Features

- Easy to use, can be applied with standard spray paint equipment, no expensive capital equipment required
- Thermoplastic acrylic
- Material dries at room temperature-no high temperature cure ovens required, fast throughput. Good adhesion to a variety of plastics.
- Cost- effective solution for electronic enclosures and assemblies which require high level EMI shielding and conductivity
- Excellent leveling, wets and covers surfaces smoothly

Typical Applications

- High levels of EMI shielding (see shielding effectiveness curve)
- Anti-static protection
- Surface grounding
- Coating of ABS, PC/ABS, and many other types of plastic enclosures

Parker Chomerics

CHO-SHIELD® 2056 Product Information

Typical Properties	Typical Values	Test Method	
Polymer	Acrylic	N/A	
Filler	Silver-Plated Copper and Pure Silver	N/A	
Mix Ratio (A/B by weight)	1-part	N/A	
Color	Copper	N/A	(Q)
Spray Viscosity	14 to 20 seconds	Zahn Cup Number 2	(Q)
Surface Resistance at 0.001 inches (25 µm, 1 mil)	0.030 ohms / square	CEPS-0002	(Q/C)
Shielding Effectiveness	>70 dB	CHO-TM-TP11*	(Q)
Recommended Dry Film Thickness	.001" (25 µm)	N/A	
Wet Density	1.1	ASTM D792	(Q/C)
Average solids (weight)	32%	Calculated	(Q)
Continuous Use Temperature	-40 to 85°C (-40 to 185°F)	N/A	(Q)
Pot Life	Unlimited	N/A	(Q)
Drying Time - Room Temperature Tack Free	0.5 hr @ 21°C (70°F)	N/A	
Drying Time - Room Temperature Full Dry	24 hrs @ 21°C (70°F)	N/A	
Drying Time - Elevated Temperature Full Dry	0.25 hr @ 21°C (70°F), followed by 0.5 hr @ 66°C (150°F)	N/A	
Calculated VOC	718 g /L	Calculated	
Theoretical Coverage at Recommended Dry Film Thickness	0.062 ft^2/gram 0.0058 m^2/gram 260 ft^2/gallon	N/A	
Shelf Life, unopened, from date of manufacture	12 months	N/A	(Q)
Storage Conditions	70°F/21°C +/- 9°F/5°C	N/A	

Notes: N/A – Not Applicable, (Q/C) - Qualification and Conformance Test, (Q) - Qualification Test
* This test method is available from Parker Chomerics.

Parker | Chomerics

CHO-SHIELD® 2056 Shielding Effectiveness

Figure 1 - Typical Shielding Effectiveness

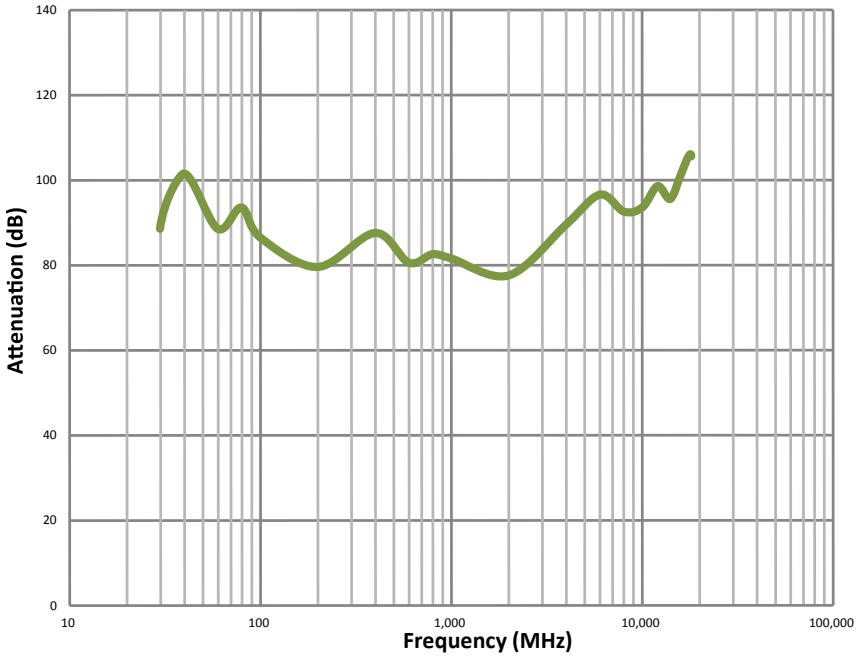
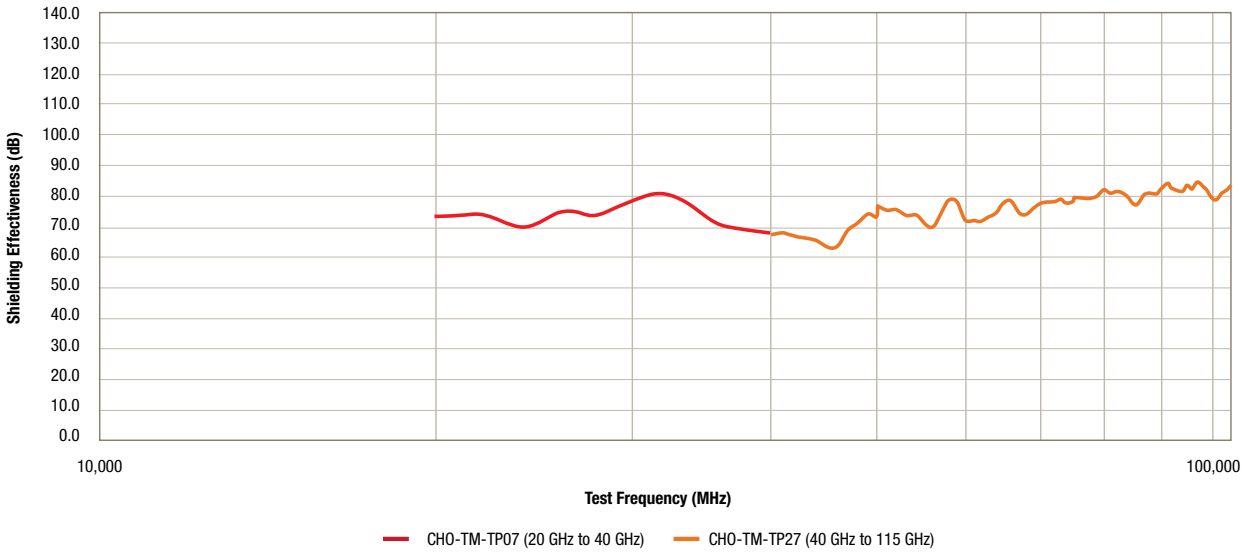


Figure 2 - CHO-SHIELD 2056 Typical Shielding Effectiveness per CHO-TM-TP07 and CHO-TM-TP27



A Note on Test Methods Used

Figure 1 illustrates traditional shielding effectiveness test data from 30 MHz to 18 GHz using the CHO-TM-TP11 test method. This method used a 26 inch (660.4 mm) square test sample size, mounted on a 24 inch square (609.6 mm) aperture on the shielded room wall.

Two new test methods are used for testing the frequency range from 20 GHz to 110 GHz. Test methods CHO-TM-TP07 (20 GHz to 40 GHz) and CHO-TM-TP27 (40 GHz to 115 GHz) were developed to be able to use the same test sample throughout the wide frequency range.

Figure 2 illustrates the new test data using a 5.25 inch diameter (133.4 mm) test sample size over the frequency range from 20 GHz to 110 GHz. This smaller test sample size is required to cover such a wide frequency range.

Further information on the testing can be found by downloading the referenced test methods, available from parker.com/chomerics, or upon request from Parker Chomerics Application Engineering.

Parker | Chomerics

CHO-SHIELD® 2056 Application Information

Recommended Preparation

1. Clean the substrate: The substrate surface should be clean, dry and free of oils, release agents, dirt, and lint.
2. Mix the material: Mix the material well on a paint shaker (typically 1-minute for one-gallon can). Or, mix by hand with a large spatula until all solids are in a homogeneous suspension. Check that no unmixed material remains on the bottom and the sides of the container.
3. Optional: Strain the material to reduce or eliminate the potential for clogging the spray nozzle. The paint can be strained through a coarse mesh (1000 micron) flat strainer into a pressure pot for spray. All metal fillers should be transferred, although a small amount of filler clusters might be collected in the strainer.
3. Optional thinning: Standard thinning can be accomplished with MEK (methyl ethyl ketone) solvent.

   During humid days (relative humidity >50% and temperature >30°C/85°F), use n-Butyl alcohol and add up to 8 fluid ounces per gallon of paint to eliminate blushing (a white tint on the drying surface).

Fluid Delivery System

Use a pressure pot (15 psi, 103 kPa, typical) with large diameter, paddle-type agitator at low mixing speed to keep the metal fillers in uniform suspension.

Conventional spray equipment such as HVLP (High Volume, Low Pressure) or DeVilbiss EGA 503 with propeller agitator pressure pots may be used for spray application with approximately 20 to 50 psi (138 to 345 kPa) atomizing air. Use lowest pressure possible.

Re-circulation of the paint from the mixing pot through the spray gun and back via a pump delivery system is recommended for greater filler uniformity.

For large volume applications, a robotic spray system with an HVLP spray gun should be used to minimize material loss due to overspray and maximize paint transfer efficiency. Siphon feed equipment can be used for small or prototype runs.

Spray Gun and Pressure

Use a standard HVLP spray gun with approximately 20 to 40 psi (138 to 276 kPa) atomizing air.

A fluid nozzle with a minimum orifice diameter of 0.040 inch (1.016 mm) is recommended.

To obtain maximum adhesion and conductivity, dry spraying should be avoided. Adjust the spray pressure to achieve a proper wet film when applying the conductive coating.

Nominal Dry Film Thickness

A nominal dry film thickness of 0.001 inches (25 µm, 1 mil) is recommended to obtain > 75 dB shielding effectiveness from 80 MHz to 18 GHz. However, a thinner or thicker coat may be acceptable depending on the shielding requirements of the device being protected.

Allow material to dry 10 to 20 minutes at room temperature between coats to avoid solvent entrapment.

Drying Conditions

Dry at room temperature for 10 to 20 minutes.

Continue drying for 30 minutes at 65°C ± 5.5°C (150°F ± 10°F) for 0.001 inches (25 µm, 1 mil) thickness.

Dry longer if thicker film, shorter if thinner film, to achieve desired conductivity.

Note: Drying at room temperature for 24 hours will achieve similar performance.

Clean-up

The spray system, including spray gun, mixing pot, and containers can be cleaned with MEK or Acetone (VOC exempt solvent). Masks can be power-washed with Challenge 485S barrier coat.

Storage and Handling

CHO-SHIELD 2056 should be stored at 10°C to 30°C (50°F to 86°F) and has a 12 month shelf life from the date of manufacturing in the original sealed container. CHO-SHIELD 2056 is a flammable liquid. Please consult the material safety data sheet for proper handling procedures before use.

Parker Chomerics

CHO-SHIELD® 2056 Ordering Information

Product	Weight (grams)	Packaging	Part Number	Primer
CHO-SHIELD 2056	4050	1 gallon aluminum can	52-03-2056-0000	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.



We're Here to Help

Scan QR code or visit parker.com/chomerics to:

- Request a Free Sample
- Talk to an Expert
- Get a Quote
- Find Where to Buy

Parker Hannifin Corporation
Chomerics Division
77 Dragon Court
Woburn, MA 01801
Phone 781 935 4850
Fax 781 933 4318
chomailbox@parker.com
parker.com/chomerics

CHODS1023 September 2026

©2026 Parker Hannifin Corporation

Parker | Chomerics