

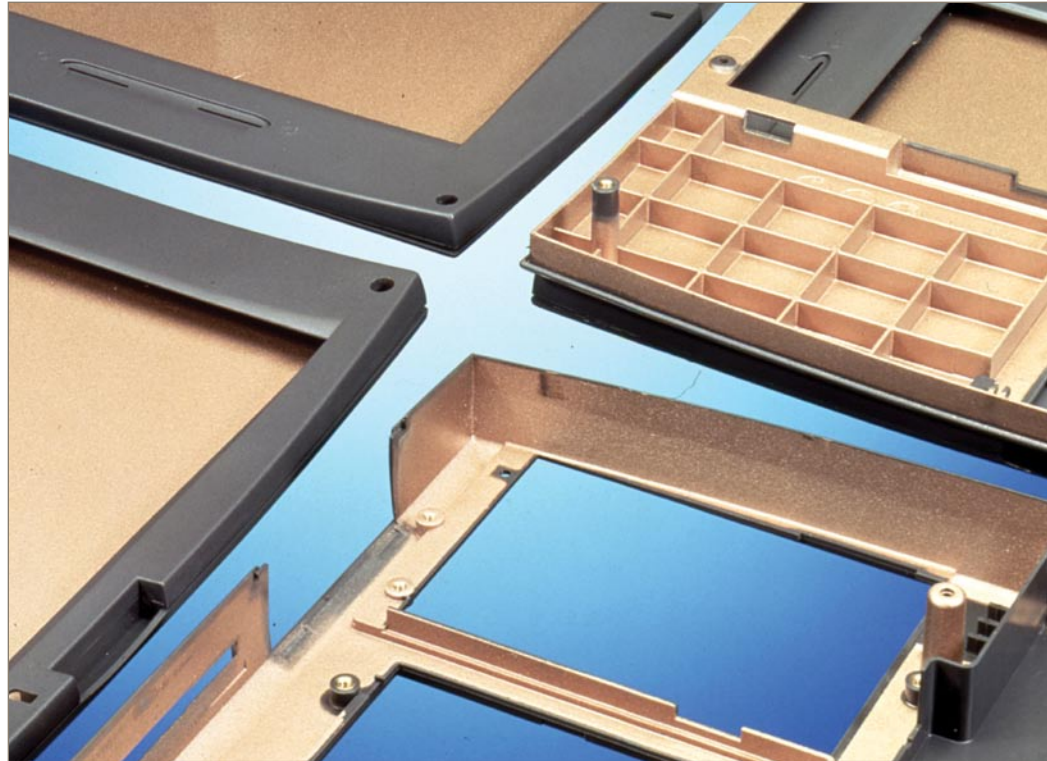
CHO-SHIELD® 2056

High Performance Conductive Coating



Customer Value Proposition:

CHO-SHIELD 2056 conductive coating is a high performance, acrylic system specially formulated for application to plastics. A hybrid combination of silver-plated copper and pure silver provides high levels of EMI shielding for electronic enclosures and assemblies. The superior electrical conductivity of CHO-SHIELD 2056 paint 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.



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.parker.com
www.chomerics.com

Product Features:

- EMI shielding performance greater than that of traditional silver-plated copper coatings – with only half the film thickness
- One component, low settling, ready to use with simple mixing
- Good chemical, environmental and abrasion resistance
- Ability to adhere to a variety of substrates (PC, PC/ABS, ABS, etc.)
- Meets UL Specification 746-C
- Excellent leveling. Wets and covers surfaces smoothly



ENGINEERING YOUR SUCCESS.

Product Information

Recommended Preparation

1. The substrate surface should be clean, dry and free of oils, release agents, dirt and lint.
2. Mix the paint 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. To reduce or eliminate the potential for clogging the spray nozzle, strain the mixed paint 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.
4. During humid days (relative humidity >85% and temperature >85° F/30°C), add up to 5 fluid ounces of butyl alcohol per gallon of paint to eliminate blushing (a white tint on the drying surface).

Fluid Delivery System

Use a pressure pot (15 psi 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 10-20 psi atomizing air. Re-circulation of the paint from the mixing pot through the spray gun and back via a pump delivery system is recommended for greater uniformity. For large volume ap-

TABLE 1 - TYPICAL PROPERTIES

TYPICAL PROPERTIES	CHO-SHIELD® 2056
Polymer	Acrylic
Filler	Silver-Plated Copper and Pure Silver Flakes
Shielding Effectiveness	>75 dB (80 MHz - 10 GHz)
Max. Surface Resistance	<0.030 ohm/square @ 1 mil (25 µm)
Viscosity	14-19 seconds @ Zahn cup #2
Solids	32%
Specific Gravity	1.1 ± 0.2 g/cc
Theoretical coverage*	192 sq ft/gal/mil
Cure @ Elevated Temperature	5 minutes at room temperature followed by 30 minutes at 140°F to 160°F (60°C to 70°C)
Cure @ Room Temperature (optional)	24 hour air dry
Shelf Life	12 months at 50°F to 85°F (10°C to 30°C)
Use Temperature	-40°F to 212°F (-40°C to 100°C)

*Actual coverage will depend on thickness, geometry and spray efficiency

plications, a robotic spray system with an HLVP 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. A nominal dry film thickness of 0.001 inches (0.0254 mm) is recommended to obtain 75 dB shielding effectiveness. However, a thinner or thicker coat may be acceptable depending on the shielding requirements of the device being protected.

Spray gun and pressure

Use a standard air gun with about 10-20 psi atomizing air. To obtain maximum adhesion and conductivity, dry spraying should be avoided. Adjust the spray pressure to get proper wet film.

Drying conditions

Flash off at room temperature (air day) for 5-10 minutes. Then dry at 140°F to 160°F (60°C to 70°C) for 30 minutes at 1.0 mil (25.4 microns)

thickness. Dry longer if thicker film, shorter if thinner film, to achieve desired conductivity. Drying at room temperature for 24 hours will achieve similar performance, except slightly lower paint cohesion properties.

Clean-up

The spray system including spray gun, mixing pot and containers can be cleaned up with MEK (methyl ethyl ketone) solvent. The masks can be power-washed with Challenge 485S barrier coat.

Storage and Handling

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

Chomerics Worldwide

North America

Division Headquarters
Woburn, MA
phone +1 781-935-4850
fax +1 781-933-4318
chmailbox@parker.com
Cranford, NJ
phone +1 908-272-5500
fax +1 908-272-2741
Millville, NJ
phone +1 856-825-8900
Fax +1 856-825-8969
Fairport, NY
phone +1 585-425-7000
Fax +1 585-425-7238

South America

Sao Paulo, Brazil
phone +55 11 3917 8544
fax +55 11 3917 8563

Europe

Marlow, UK
phone +44 1628 404000
fax +44 1628 404091
chomerics_europe@parker.com
Grantham, UK
phone +44 1476 590600
fax +44 1476 591600
Saint Ouen L'Aumone (Paris),
France
phone +33 1 34 32 39 00
fax +33 1 34 32 58 00

Asia Pacific

Hong Kong
phone +852 2428 8008
fax +852 2786 3446
chomerics_ap@parker.com
Beijing
phone +86 10 6788 4650
fax +86 10 6788 4649
Shanghai
phone +8621 2899 5000
fax +8621 2899 5146
Shenzhen
phone +86 755 8974 8558
fax +86 755 8974 8560
Tokyo, Japan
phone +81 3 6408 2369
fax +81 3 5449 7202

Ordering Information

TABLE 2 - PART NUMBERING

Part Number	Unit/Size
52-03-2056-0000	1 gallon (3.8 L)

www.chomerics.com
www.parker.com