CircuitWorks® Conductive Pens & Paint

Product# CW2200STP, CW2200MTP, CW2205

Product Description

CircuitWorks® Conductive Pens and Paint make instant highly conductive silver traces on circuit boards and are used in prototype, rework, and repair of circuit boards by linking components, repairing defective traces, making smooth jumpers and patching EMI shielding. The silver traces dry in minutes and have excellent adhesion to most electronic materials. Engineers, repair technicians, and manufacturers will find that the CircuitWorks Conductive Pens and Paint speed project completion and cuts rework time.

- Single component system
- High electrical conductivity
- Fast drying
- Highly adherent to circuit boards
- Operating temperature to 400°F (205°C)

Typical Applications

CircuitWorks Conductive Pens & Paint may be used for electronics applications including:

- Circuit trace repair
- Solderless linking of components
- EMI shielding
- Solderable terminations
- Quick prototype modifications

Compatibility

CircuitWorks conductive material has excellent compatibility with materials used in printed circuit board fabrication. As with any chemical system, compatibility with the substrate must be determined on a non-critical area prior to use.

Standard Tip   *Micro Tip*

Typical Product Data and Physical Properties

COMPOSITION:	
Material:	Silver Filled Polymer
Silver Concentration:	55% +/-2%
Silver Particle Size:	<20 microns
Color:	Silver Gray
Settle Rate:	< 2mm/hr.

PROPERTIES:	
Conductivity:	0.02-0.05 ohms/sq/mil 0.00005-0.000125 ohm cm
Max. Temperature:	400°F (205°C)
Tack-Free Time: @25ºC	3 to 5 minutes
Full Cure Time: @25ºC	20 to 30 minutes
Solder Wetting:	2 to 3 seconds
Electrical Conductivity:	Excelllent
Adhesion:	Excellent
Flexibility:	Good
Chemical Resistance:	Good

Tip Diameters:
    MTP:
    STP:
	
	0.8 mm (0.03 inches)
	1.2 mm (0.05 inches)

Shelflife	15 months
RoHS Compliant	Yes

CircuitWorks® Conductive Pens & Paint

Product# CW2200STP, CW2200MTP, CW2205

Usage Instructions
For industrial use only. Read SDS carefully prior to use.

Cleaning: For best adhesion, clean board with one of Chemtronics Electro-Wash or Pow-R-Wash solvents in order to remove any surface contamination which may prevent adequate material contact.

Mixing: Although this system has been formulated to resist hard-packing, it should be shaken vigorously for 30 seconds to insure the proper dispersion of the silver flakes. If pen has been allowed to sit idle for a long period of time, the mixing ball may seize in the barrel. To free the ball use force to tap the barrel end of the pen until the ball begins to move inside the pen.

Application:
Pen (CW2200 STP/MTP) - Squeeze the pen body while pressing down on the surface to allow the material to flow, enabling the trace to be drawn. Practice with the pen before attempting detail work.

Bottle (CW2205) - The bulk form of this material may be applied with a brush, pick, or swab.

Thinning: The conductive ink has been optimized for the CircuitWorks Conductive Paint and thinning is not normally necessary. However, Butyl Acetate may be added with thorough mixing to make slight adjustments for ease of application.

Clean-up/Removal: The conductive ink may be cleaned or removed using a strong organic solvent such as Chemtronics Electro-Wash PX

Curing: Tack-free in 3 to 5 minutes at room temperature. Achieves electrical conductivity within 30 minutes. Heat cure for 5 minutes at 250 to 300°F (120 to 150°C) for maximum conductivity, durability and chemical resistance.

Soldering: Low temperature soldering is possible to the *heat-cured* silver conductive traces if done at 350°F (177°C) for <5 seconds.

Availability
CW2200STP 8.5 g (0.3 oz.) pen, Standard 1.2 mm tip
CW2200MTP 8.5 g (0.3 oz.) pen, MicroTip 0.8 mm tip
CW2205   5 g (0.18 oz) bottle, 1 pick, 2 brushes & 2 swabs

Technical and Application Assistance
Chemtronics provides a technical hotline to answer your technical and application related questions.
The toll free number is: 1-800-TECH-401.

Note:
This information is believed to be accurate. It is intended for professional end users having the skills to evaluate and use the data properly. CHEMTRONICS does not guarantee the accuracy of the data and assumes no liability in connection with damages incurred while using it.