CHEMTRONICS
Technical Data Sheet

TDS # CW2900

CircuitWorks® Flex Conductive Pen

PRODUCT DESCRIPTION

CircuitWorks® Flex Conductive Pen makes instant highly adherent silver traces on flexible polymeric substrates used in flex circuitry. CW2900 is used in prototype, rework and repair of Mylar®, Melinex®, and other flexible circuits by linking components, repairing defective traces, and making smooth jumpers. The Flex Conductive Pen traces also have excellent adherence to Indium Tin Oxide (ITO) substrates. The silver traces dry in minutes and have excellent mechanical properties.

- Single component system
- Highly adherent/flexible polymer
- Fast drying
- Excellent electrical conductivity
- Operating temperature to 212°F (100°C)

TYPICAL APPLICATIONS

CircuitWorks® Flex Conductive Pen may be used for electronics applications including:

- Circuit Trace Repair
- Solderless Linking of Components
- EMI Shielding
- Grounding
- Quick Prototype Modifications

TYPICAL PRODUCT DATA AND PHYSICAL PROPERTIES

Composition	
Material	Silver Filled Polymer
Silver Particle Size	< 20 microns
Color	Silver Gray
Properties	
Conductivity	0.05-0.15 ohms/sq/mil
Max. Temperature	212°F (100°C)
Tack-Free Time @ 25°C	5 minutes
Initial Cure Time @ 25°C	1 hour
Cure Time @ 80°C	15 minutes
Electrical Conductivity	Excellent
Tape Adhesion	Excellent
Flexibility	Excellent
Chemical Resistance	Very Good
RoHS Compliant	
Shelf life	12 months@ 25 °C

COMPATIBILITY

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

USAGE INSTRUCTIONS

Read MSDS carefully prior to use.

Cleaning: For best adhesion, clean board with Chemtronics Electro-Wash® PX Cleaner Degreaser 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: The conductive ink is dispensed through the CircuitWorks® Flex Conductive Pen. Squeezing the pen body while pressing down on the surface will allow the material to flow through the tip, enabling the trace to be drawn. Practice with the pen before attempting detail work.

Thinning: The conductive ink has been optimized for the CircuitWorks® Flex Conductive Pen and thinning is not normally necessary. However, a small amount of Butyl Acetate may be added with thorough mixing to make slight adjustments for ease of application for other dispensing systems.

Clean-up/Removal: The conductive ink may be cleaned or removed using a strong organic solvent such as acetone or Chemtronics® Electro-Wash® Two-Step (ES125a).

Curing: Dries tack-free in about 5 minutes at room temperature. Achieves electrical conductivity within 15 minutes. Full conductivity after 24 hours at room temperature. Heat cure for 15 minutes at 80 to 90 °C for maximum conductivity, durability and chemical resistance.

TECHNICAL & APPLICATION ASSISTANCE

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

AVAILABILITY

CW2900 8.5 g (0.3 oz.) pen

ENVIRONMENTAL IMPACT DATA			
ODP	None	VOC	Yes
HCFC	None	HFC	None

Ozone depletion potential (ODP) is determined in accordance with the Montreal Protocol and U.S. Clean Air Act of 1990. Hydrochlorofluorocarbons (HCFCs) are regulated under the Montreal Protocol as Class II ozone depleting substances. Volatile Organic Compound (VOC) information is calculated on a weight basis using the VOC definition of California Air Resources Board (CARB) Consumer Product Regulations, South Coast Air Quality Management District (SCAQMD) Rule 102 and the Federal definition published in 40 CFR 51.100(s). Hydrofluorocarbons (HFCs) are not currently regulated.

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.

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