



Creative Materials, Inc.  
141 Middlesex Road  
Tyngsboro, MA 01879

T 978.649.4700  
F 978.649.2040

## 123-12

### ELECTRICALLY CONDUCTIVE, CARBON FILLED, EPOXY INK

**DESCRIPTION:** 123-12 is a carbon filled, pad-printable, electrically conductive, epoxy based ink and coating. This product features excellent adhesion to Kapton, Mylar, glass and a variety of other surfaces. Unlike conventional conductive materials, this product is very resistant to flexing and creasing. Some applications for 123-12 include, but are not limited to, printed potentiometers, printed resistors, emi/rfi shielding of polyimide flexible circuits, polymer thick film circuitry, membrane switches and anode coatings for tantalum capacitors.

#### TYPICAL CURED PROPERTIES:

Consistency	Smooth Paste
Filler	Carbon
Volume Resistivity, max. ( $\Omega$ -cm)	38
Sheet Resistivity, max. ( $\Omega$ /sq./ mil.)	15,000
Hydrolytic Stability	Excellent
Useful Temperature Range ( $^{\circ}$ C)	-55 to +200
Thermal Stability ( $^{\circ}$ C)	Good to 325

**SUGGESTED HANDLING & CURING:** 123-12 is ready to use as supplied. Further thinning may be accomplished by adding small amounts of CMI Thinner 113-39 (fast drying) or CMI Thinner 114-20 (slow drying). Prior to using, be certain to resuspend filler. Best properties, for most applications, result when cured for 30 minutes at 175 $^{\circ}$ C. Good properties are obtained on a variety of substrates by dry and curing at temperatures ranging from 50 $^{\circ}$ C to 200 $^{\circ}$ C. End user is advised to experimentally determine temperature and time best suited for individual applications. **Please note:** To achieve optimum resistance stability, a cure of one hour at 175 $^{\circ}$ C is recommended.

**STORAGE:** Shelf life: 6 months -10 $^{\circ}$ C.

**SAFETY & HANDLING:** Use with adequate ventilation. Keep away from sparks and open flames. Avoid prolonged contact with skin and breathing of vapors. Wash with soap and water to remove from skin.

*All technical information is based on data obtained by CMI personnel and is believed to be reliable. No warranty is either expressed or implied with respect to results or possible infringements on patents.*

REVISION DATE: 4/21/03 REVISION: A