



PRODUCT INFORMATION

HIGH TECHNOLOGY MATERIALS

METADUCT 1240

ELECTRICALLY CONDUCTIVE FLEXIBLE ELASTOMERIC ONE-COMPONENT EPOXY ADHESIVE SOLDER REPLACEMENT DIE-ATTACH BONDER

METADUCT 1240 imparts a new dimension to “one-component” electrically conductive technology. Flexibility, coupled with superior electrical performance and ease of handling provide the outstanding characteristics described below:

- **Exceptionally high conductivity (0.0001 ohm-cm) yet flexible**
- **Flexes and “folds over” full 180° without cracking or tearing!**
- **Screen printable**
- **Resists heat aging and modulus change**
- **Sprayable for EMI/RFI shielding coatings and ground planes**
- **Superior adhesion to Kapton**
- **Produces fully flexible circuit lines on flexible substrates and FR-4**
- **No mixing required - “one-component” use “As Is” to “silk screen” with no bleed!**
- **Compatible with wave soldering and solder reflow operations**
- **Continuous operations at 150°C with virtually no change**

METADUCT 1240 provides a flexible elastomeric die-attach bonder which insulates sensitive devices from mechanical and thermal shock in cyclic operations. **METADUCT 1240** also functions as an excellent “solder substitute” in flexible circuitry bonding and staking LED’s, other devices and SMD components to circuit lines. **METADUCT 1240** also screens to provide shielding ground planes on flexible and rigid circuit substrates.

METADUCT 1240 bonds tenaciously to “difficult to bond” surfaces such as polysulfone, Kapton and polyimide, and has superior adhesion to most common materials including glass, ceramics, metals and FR-4 laminate board as well as all bondable plastics including treated Rulon, Teflon and polyethylene.

DIRECTIONS FOR USE

A. Preparation

- (1) Prepare all surfaces as required for bonding with adhesives.*

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FORM 1105 REV. 0

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*Refer to applicable Technical Service Bulletin 3-640 for specific substrate preparation procedure.

- (2) Mix **METADUCT 1240** well in its container before removing the desired amount.
- (3) Select appropriate application instruction procedure, and cure schedule, as described below.

B. For use as a solder, micro-dot adhesive or die attach bonder

Apply **METADUCT 1240** with a spatula, syringe, dental amalgam dispenser for any other convenient mechanical device. **METADUCT 1240** stays exactly where it is placed and adheres aggressively to form flexible tenacious conductive bonds. Cure as directed below.

C. For use as a coating

Mix **METADUCT 1240** with Toluol to desired consistency. Apply by any suitable method: spray, roller, brush, screen. Allow solvent to dry at room temperature or force dry before curing. **METADUCT 1240** is designed to provide a well defined, smooth, uniform clean image through a 235 mesh screen when thinned with approximately 5% Toluol. To assure uniformity of thinned mixture after storage, remix before using. Cure as directed below.

D. Cure schedule

Typical cure schedules are:*

15 to 30 minutes at 150°C, or
40 to 70 minutes at 125°C

Cure schedules can be varied to suit time and temperature of application requirements.

*Thinned mixtures may require predrying cycles.

TYPICAL PROPERTIES

PHYSICAL

Linear Shrinkage	0.005
Hardness Shore, D-ASTM	45
Specific Gravity, 25°C/25°C	2.4
Viscosity, 10 ³ cps	400 to 500
Shelf stability [@ average room temperature 60° to 72°F]	3 months**

**Shelf life can be extended by storage at temperatures below 40°F

THERMAL

Thermal Conductivity K-Factor cal/sec/cm ² c°/cm	100
Operating Range, °C	-55 to 175

ELECTRICAL

Volume Resistivity, ASTM D-1002, ohm-cm	0.0001
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For additional information contact your Mereco Sales Representative or our Technical Service Department at 1-800-556-7164.

Users of METADUCT 1240 are cautioned to exercise the usual precautions in handling and dispensing of epoxy materials. Refer to applicable Material Safety Data Sheets. For further instructions on safe handling of materials, refer to general handling instructions for epoxy materials issued by Mereco Technical Service Department.