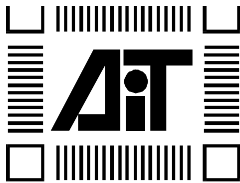

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SOLDER-SUB

ESS8457

Flexible
Gold-Based
High Electrical Conductivity
B-Stageable Paste
Ambient Storable After B-Staging

IDEAL FOR:

- **Solder Substitution**
- **Solder-Bump Replacement**
- **Flip Chip Soldering**
- **Bonding to Any Substrates**

DESCRIPTION:

ESS8457 is a flexible, gold-based filled, electrically conductive epoxy paste adhesive. It exhibits outstanding flexibility for bonding materials with highly mismatched CTE's (i.e., alumina to aluminum, silicon to copper). The adhesive must be pre-dried or B-Staged (60°C for 30-60 minutes) before bonding. Silver cystallites have been engineered to be deposited to fine pattern of 0.002" or less.

AVAILABILITY:

ESS8457 is available in jars.

APPLICATION PROCEDURES:

(1) Store tightly sealed adhesive under refrigeration.

(2) Thaw for 30 minutes before opening jar.

(3) Deposit adhesive onto clean substrate.

(4) Bake open face at 60°C for 30-60 minutes.

(5) Attach part and cure as per one of the cure schedule

TYPICAL PROPERTIES*

Property	Value
Electrical Resistivity (150 ^{o}C/ 60 minut)	<1x10^{-3} ohm-cm
Dielectric Strength (Volts/mil)	Not Applicable
Glass Transition Temp.(^{o}C)	-60
Lap-Shear Strength	>2000 psi >13.8 N/mm^{2}
Device Push-off Strength	>2000 psi >13.8 N/mm^{2}
Hardness (Type)	80
Cured Density (gm/cc)	3.5
Thermal Conductivity	40 Btu-in/hr-ft^{2}-^{o}F 5.7 W/m-^{o}C
Linear Thermal Expansion Coeff. (ppm/^{o}C)	120
Maximum Continuous Operation Temp. (^{o}C)	150

* Properties given are typical values and not intended for use in preparing specifications. The user is advised to evaluate the product in the manner the product is intended to be used in manufacturing and in the final product.

CURE SCHEDULES:

Temperature	Time	Pressure
125°C	30 min	5-10 psi
150°C	5 min	5-10 psi
200°C	30 sec	5-10 psi

Solder-Sub may be used with underfill such as MEE7650-5. The dies with pre-applied Solder-Sub may be stored at ambient for future flip-chip die bonding.

SHELF LIFE:

Storage temperature	Shelf Life
-40°C	1 yr
25°C	3 mo

CAUTION: This product may cause skin irritation. Avoid skin contact. If contact does occur, wash immediately with soap and water. Please refer to MSDS for more details.

The information contained herein is believed to be reliable. All recommendations or suggestions are made without guarantee inasmuch as conditions and methods of commercial use are beyond our control. Properties given are typical values and not intended for use in preparing specifications. The user is advised to evaluate the product in the manner the product is to be used in manufacturing and in the final product. Under no circumstance shall A.I. Technology be liable for accidental, consequential or other damages arising from the use or handling of this product.

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