



AI TECHNOLOGY INC
 70 Washington Road
 Princeton Jct., NJ 08550
 (609) 799-9388 fax (609) 799-9308
 E-Mail: ait@aitechnology.com
 Internet: http://www.aitechnology.com

SOLDER-SUB
ESS8459

Flexible

Gold Filled

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:

ESS8459 is a flexible, gold-based particulate 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.

AVAILABILITY:

ESS8459 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) B-staged by baking open face at 60°C for 30-60 minutes. Thicker deposit may require longer time.
- (5) Attach part and cure as one of the cure schedules.

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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TYPICAL PROPERTIES*

Electrical Resistivity (150 °C/ 30 minut)	<5x10 ⁻⁵ ohm-cm
Dielectric Strength (Volts/mil)	Not Applicable
Glass Transition Temp.(°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 (A)
Cured Density (gm/cc)	3.5
Thermal Conductivity	40 Btu-in/hr-ft ² -°F 5.7 W/m-°C
Linear Thermal Expansion Coeff. (ppm/°C)	120
Maximum Continuous Operation Temp. (°C)	150

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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 MEE7850-5. 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