



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>

Die-Attach Film Adhesive
ESP8680-W

**High Flow
 Electrically Conductive
 Epoxy Film Adhesive
 Low Temperature Curable**
IDEAL FOR:

- Precision Die Attach**
- Stack-Memory Die-Attach**
- Wafer-Prelamination Die-Attach**

DESCRIPTION:

ESP8680-W is a high flow, low temperature curable epoxy film version of ESP8680. It contains a dicing interface tape and is a silver-filled high bond strength epoxy film adhesive specifically designed for bonding die, component, and substrate. Low temperature curing reduces internal stresses. ESP8680-W has excellent thermal conductivity. Because of its high bond strength and low stress induced with low temperature curing, ESP8680-W is recommended for both small and larger dies.

Preforms of ESP8680-W may be tacked onto substrate or dies with nominal pressure at 80-200°C in less than a second. Curing at 80-200°C without pressure is complete in less than 30 minutes. Higher temperatures may be used for shorter duration of curing.

AVAILABILITY:

ESP8680-W is available in custom preforms in waffle-packs or customer wafer sheet. Standard thickness is 0.002". Special thicknesses are available.

APPLICATION PROCEDURE

- (1) Keep product at room temperature for 15 minutes before using.
- (2) Before using, remove protective liner from film.
- (3) Laminate onto wafer using UV release tape. Dice and remove dies.

TYPICAL PROPERTIES*

Electrical Resistivity (150 °C/ 5 minutes)	<5x10 ⁻⁴ ohm-cm
Dielectric Strength (Volts/mil)	Not Applicable
Glass Transition Temp.(°C)	80
Current Carrying Capabilities	Not Available
Lap-Shear Strength	
Device Push-off Strength	>3300 psi >22.8 N/mm ²
Hardness (Type)	88
Cured Density (gm/cc)	3.8
Thermal Conductivity	>45Btu-in/hr-ft ² -°F >6.4 W/m-°C
Linear Thermal Expansion Coeff. (ppm/°C)	40
Maximum Continuous Operation Temp. (°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.

TACK & CURE PROCESS:

<u>Temperature</u>	<u>Time</u>	<u>Pressure</u>
TACKING	Pressure)	
80-200°C	1 sec	>5 psi
CURING	Pressure)	
125°C	60 min	
150°C	30 min	
175°C	5 min	

Wafer lamination may be performed when adhesive reaches 80-200°C @ 5 psi for few seconds. Wafer may be diced with standard wafer dicing tape with dies storable for more than one year before bonding.

SHELF LIFE:

<u>Storage temperature</u>	<u>Shelf Life</u>
25°C	1 yr

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.

While AI Technology owns all proprietary rights of material formulations of its products, specific usage in the manufacturing of certain products may involve patent rights of other companies.

(4) Cure according to one of the cure schedules.

in sealed package

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.

While AI Technology owns all proprietary rights of material formulations of its products, specific usage in the manufacturing of certain products may involve patent rights of other companies.