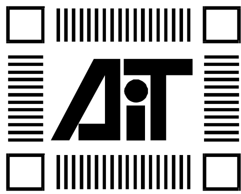

AI TECHNOLOGY INC
70 Washington Road
Princeton Jct., NJ 08550
(609) 799-9388 fax (609) 799-9308
E-Mail: ait@aitechnology.com
Internet: http://www.aitechnology.com

DRY EPOXY FILM
ESP7455-FG

Flexible Epoxy Film
Low CTE
Outstanding Thermal Stability
Contains Fiberglass Mesh
High Thermal Conductivity

IDEAL FOR:

- **Large Area Substrate Attach**
- **Thermal Dissipation**
- **Component, and Substrate Attach**
- **Large Area & Mismatched CTE Bonding**

DESCRIPTION:

ESP7455-FG is a thermally conductive fiber-glass mesh reinforced dielectric epoxy film adhesive designed for bonding component and substrate to a mismatched substrate or carrier. The film adhesive contains reinforced fiberglass and has very low ionic impurities of less than 10 ppm plus good thermal stability.The dry, tack-free epoxy film with fiberglass will have good wetting without flow.

TYPICAL PROPERTIES*

Property	Value
Electrical Resistivity (150º ºC/ 60 min)	>1x10^{14} ohm-cm
Dielectric Strength (Volts/mil)	750
Glass Transition Temp.(ºC)	-55
Current Carrying Capabilities	N/A
Lap-Shear Strength	
Device Push-off Strength	>1600 psi >11.0 N/mm²
Hardness (Type)	90 (A)
Cured Density (gm/cc)	1.9
Thermal Conductivity	>8.0 Btu-in/hr-ft²-ºF >1.6 W/m-ºC
Linear Thermal Expansion Coeff. (ppm/ºC)	25
Maximum Continuous Operation Temp. (ºC)	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.

AVAILABILITY:

ESP7455-FG is available in sheet sizes or as custom preforms. Standard thicknesses are 0.004" and 0.006". Special thicknesses are available.

CURE SCHEDULES:

Temperature	Time	Pressure
130ºC	3 hr	10-15 psi
150ºC	60 min	5-15 psi

The die or component can also be tacked on the substrate at 130ºC or higher with >10 psi. When a fillet around the edge of the die or component is observed, the pressure can be released for the rest of the bonding cycle.

APPLICATION PROCEDURES:

(1) Keep product at room temperature for 15 minutes before using.

(2) Before using, remove protective liner from film.

(3) Cut to desired size.

(4) Place on substrate and cure according to one of the recommended schedules.

SHELF LIFE:

Storage temperature	Shelf Life
25ºC	1 yr in sealed package

CAUTION: This product may cause skin irritation. Avoid skin contact. If contact does occur, wash immediately with soap and water. Please refer SDS 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 AI 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.