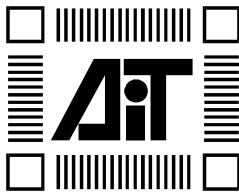

AI TECHNOLOGY INC
70 Washington Road
Princeton Jct., NJ 08550
(609) 799-9388 fax (609) 799-9308
E-Mail: ait@aitechnology.com
Internet: http://www.aitechnology.com

FLIP-CHIP UNDERFILL

UF-MC7885-FP

Flip Chip Underfill
Low Moisture Absorption
Low Ionic Impurities
High Temperature Stability
Low CTE

IDEAL FOR:

- **Flip-chip underfill**
- **Ultra-high temperature encapsulation**
- **Applicable for Flip Chip Underfill with < 20Micron Bumps**

DESCRIPTION:

UF-MC7885-FP is a one part, filled modified cyanate ester flip-chip underfill and has less than 10 micron particle size compared tp UF-MC7883-FP. It is designed for use in both chip-on-board underfill and standard flip-chip underfill component application to reduce stress. It can withstand temperatures up to 350ºC without thermal degradation. Its unique chemistry results in very low moisture absorption, high strength protection.

UF-MC7885-FP is designed to be dispensed on the edge of flip-chip die for capillary pull-in to fill in the gap before curing. The cured underfill has less than 20 ppm/C in coefficient of thermal expansion and higher than 6 Gpa in modulus.

AVAILABILITY:

UF-MC7885-FP is available in syringes for automatic dispense applications.

APPLICATION PROCEDURES:

(1) Thaw to room temperature before opening container.

(2) Dispense underfill onto the adjacent edges of die a suitable pattern to assure full die coverage.

(3) Cure according to the recommended schedule, i.e. B-Stage followed by a cure schedule.

NOTE: The monomer contained in this product is subject to crystallization even at room temperature. If product is thawed and remains crystallized, simply place in 40 C environment for as long as needed to return product to the liquid state i.e. usually not more that 15 - 20 minutes.

TYPICAL PROPERTIES*

Property	Value
Electrical Resistivity (NA ºC/)	>1X10 ^{14} ohm-cm
Dielectric Strength (Volts/mil)	>750
Glass Transition Temp.(ºC)	240 ±10%
Lap-Shear Strength	>1000 psi >6.9 N/mm²
Device Push-off Strength	>2000 psi >13.8 N/mm²
Hardness (Type)	80 (D) ±10%
Cured Density (gm/cc)	2.2 ±10%
Thermal Conductivity	>9.3 Btu-in/hr-ft²-ºf ±10% >1.5 W/m-ºC ±10%
Linear Thermal Expansion Coeff. (ppm/ºC)	18 ±15%
Maximum Continuous Operation Temp. (ºC)	<300
Avg. Viscosity(5.0 rpm, 25ºC) (Brookfield DV-1,spindle CP51)	10,000 cp

* 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
60-80ºC	5 min	Underfilling & follow by
100ºC	120 min	
125ºC	60 min	

Post cure can be done using 10 degrees C higher than operation temperature for 10 minutes

SHELF LIFE:

Storage temperature	Shelf Life
-40ºC	1 yr

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.