ALPHA® HI-FILL 3100

DESCRIPTION

ALPHA HI-FILL 3100 is one component underfill epoxy designed to improve attachment strength of BGA and protect solder joints during mechanical stress such as drop and bending.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- One component
- Halogen-free
- Excellent flow-speed
- High Tg
- Low CTE

PRODUCT INFORMATION

Chemical Type:	Epoxy
Appearance:	Black liquid
Curing Method:	Heat cure
Typical Applications:	Underfill
Packing:	ALPHA HI-FILL 3100 product can be filled in various specified syringes or container per customer request.

TECHNICAL DATA

Category	Results
Typical Properties of Uncured Material	
Viscosity (RVDV-II Brookfield #5, 20rpm, @25 °C, cps)	3,000 to 8,000
Specific Gravity	1.35 to 1.45
Pot Life @ 25 °C, days	3
Shelf Life @ -20 °C, months	6

Recommended Cure Condition

≥20minutes @130 °C

≥7minutes @150 °C (Convection oven)

Optimal cure conditions will depend on curing equipment.

Cure conditions may be dissimilar based on customers working process and application requirements.

Use recommended cure condition as general guideline. Other cure conditions may yield satisfactory results.

Preheat Temperature Condition

50 to 100 °C

Category	Results
Physical Properties of Cured Material	
Hardness (Shore D)	80 to 90
Glass Transition Temperature (Tg), TMA	120
Coefficient of Thermal Expansion, TMA $^{a}_{1}$,<Tg,ppm $^{a}_{2}$,<Tg,ppm	 49 144
Corrosion 95 hours @ 40 °C, 95% RH	None
Moisture Absorption, wt% 24 hours @ water / 25 °C	≤1.0
Insulation Resistance 95 hours @ 40 °C, 95% RH	≤1.0×10^{12}

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available.**

STORAGE

Optimal Storage: -20 °C

Store in unopened container, freeze at below -20 °C.

Storage greater than -20 °C can adversely affect product properties.

Pot life of material is valid when stored at suggested storage condition. Inappropriate storage may degrade the performance of the product during dispensing and final cured properties.

Transfer product from dry ice to freezer with NO delays.

DO NOT open the cap before the product is sufficiently thawed.

Material must be thawed at room temperature for 2 hours.

DO NOT re-freeze. Product should not be re-frozen, once thawed from room temperature.

DO NOT return product to original container.

CONTACT INFORMATION

www.macdermidalpha.com

North America	**Europe**	**Asia**
140 Centennial Avenue Piscataway, NJ 08854 1.800.367.5460	Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 44.01483.758400	8/F., Two Sky Parc 51 Hung To Road Kwun Tong, Kowloon, Hong Kong, SAR China 852.2500.5365

Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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