

# ALPHA<sup>®</sup> HITECH<sup>™</sup> CU31-3100

High Tg, Low CTE Underfill

## DESCRIPTION

**ALPHA HiTech CU31-3100** is a one-component capillary underfill designed for the protection of assembled chip packages onto printed circuit boards.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

## FEATURES AND BENEFITS

- Low Viscosity, enabling fast and efficient flow properties
- Low Moisture Absorption
- Releases stress over a large area, primary stress is CTE mismatch between component and board
- High Glass Transition Temperature
- Low Coefficient of Thermal Expansion
- Halogen Free
- Complies with RoHS Directive 2011/65/EU

## APPLICATION GUIDELINES

Storage	Thawing	Application	Curing
1. Store at <-20 °C to guarantee product stability.  2. Upright Position, tip facing the bottom  	1. Remove the syringe from the freezer. 2. Set aside at room temperature for 2 hours. 3. Do not open the cap before the product is sufficiently thawed. 4. Product should not be refrozen after thawed. 5. To prevent contamination of unused product, do not return any material to its original container.	<b>ALPHA HiTech CU31-3100</b> can be effectively dispensed at room temperature condition.	For full property development, cure at 150 °C and hold for a minimum of 7 minutes (convection oven).

**TECHNICAL DATA**

Category	Specification
<b>Typical Uncured Material Properties</b>	
Appearance	Black
Viscosity (RVDV-II Brookfield #5, 20rpm @ 25 °C, cP)	3,000 to 8,000
Specific Gravity	1.35 to 1.45
Flashpoint, °C	>200
Pot Life @ 25 °C, days	3
Shelf Life at <-20 °C, months	6
Available Packaging	10cc, 30cc, 50cc syringes
<b>Typical Cured Materials Properties</b>	
Glass Transition (Tg), °C via TMA	120 ± 5
CTE ( $\alpha_1$ ), <Tg, ppm	49 ± 10
CTE ( $\alpha_2$ ), >Tg, ppm	144 ± 20
Hardness (Shore D)	80 to 90

**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 at AlphaAssembly.com**

**CONTACT INFORMATION**

To confirm this document is the most recent version, please contact  
**Assembly@MacDermidAlpha.com**  
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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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