

ALPHA[®] HiTech EN21-4210 Series

Solder Joint Strengthening Encapsulants

DESCRIPTION

ALPHA HiTech EN21-4210 Series is a one-component epoxy system designed to improve the attachment strength of solder joints by encapsulating the material over the chip component. It prevents chip, IC devices from dropping out. For Glob Top, it protects the chip/die from cracking. Users of this material can secure the following balanced set of the features and benefits from this material:

- Excellent Impact Bending
- Excellent Drop Shock
- Excellent Impact Resistance
- Halogen Free
- Impart Water Proofing Property
- Complies with RoHS Directive 2011/65/EU
- Available in Pale Yellow and Fluorescent colors

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

APPLICATION GUIDELINES

Storage	Thawing	Application	Curing
1. Store at 1-10 °C to guarantee product stability 2. Upright Position, tip facing the bottom 	1. Remove the syringe from the refrigerator 2. Set aside at room temperature for 2 hours. 3. Do not open the cap before the product is sufficiently thawed. 4. To prevent contamination of unused product, do not return any material to its original container.	ALPHA HiTech EN21-4210 Series can be effectively screen printed at room temperature condition.	For full property development, cure at 150 °C and hold for a minimum of 10 minutes or at 130 °C and hold for a minimum of 20 minutes (convection oven).

TECHNICAL DATA

Category	Results
Typical Uncured Material Properties	
Chemistry	Epoxy
Appearance	Pale Yellow (EN21-4210) Fluorescent (EN21-4210F)
Viscosity (Malcom PC-10A, 30rpm @25 °C, cP)	8,000 to 15,000
Thixotropic Index	≥ 3.0
Specific Gravity	1.1 to 1.2
Pot Life @ 25 °C, days	3
Shelf Life at 1 to 10 °C, months	6
Available Packaging	10cc, 30cc, 50cc syringe
Typical Cured Material Properties	
Glass Transition (T _g), °C via TMA	50 ± 5
CTE (α ₁), <T _g , ppm	65 ± 15
CTE (α ₂), >T _g , ppm	210 ± 25
Hardness (Shore D)	75 - 85
Corrosion, 96-hr @40 °C, 95%RH	None
Moisture Absorption, 24-hr @H ₂ O/25 °C, wt%	≤ 1.0

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 MacdermidAlpha.com/assembly-solutions/knowledge-base..**

CONTACT INFORMATION

To confirm this document is the most recent version, please contact
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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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