

UF 120HA Underfill Product Datasheet

Outstanding Thermal Cycling Performance

100% Compatible with Flux Residue

5x260°C Reflow

Description

UF 120HA is a highly filled and high purity liquid epoxy underfill which can flow into narrow gaps. UF 120HA is fully compatible with all no-clean solder paste flux residue and passes 5x260°C reflow without any solder joint deformation, and it has performed better than all competitors' underfill with cleaning process. This material can be used for BGA, flip chip, wafer-level chip scale package application and bare chip protection in a variety of advanced packages such as memory cards, chip carriers, hybrid circuits and multi-chip modules.

The benefits of using UF 120HA are:

- ❖ Fully compatible with all no-clean solder paste flux residue
- ❖ Eliminating cleaning process and its pollution
- ❖ Large cost saving
- ❖ Pass 5x260 °C without any deformation of solder joint
- ❖ Better than all competitors' underfill with cleaning process
- ❖ Be able to flow into 20μ gap
- ❖ Snap cure at lower temperature (<120 °C)

Typical Physical Properties

Product Name	UF 120HA liquid encapsulant
PROPERTIES OF UNCURED MATERIAL	
Appearance	Black
Specific Gravity (ASTM D 1475-60)	1.6 g/cc

Viscosity (Spindle#4/20rpm)	15-25kcp
PROPERTIES OF CURED MATERIAL	
Glass Transition Temperature (T _g) (ASTM D3418-82)	160°C
C.T. E (ASTM E 831), PPM /°C	$\alpha_1 = 20$; $\alpha_2 = 78$
Lap Shear Strength (FR4/FR4)	3500 psi
Extractable ions (MIL-STD-883E)	
Na ⁺	<5ppm
K ⁺	<5ppm
F ⁻	<5ppm
Cl ⁻	<10ppm
Surface insulation resistance (J-STD-004)	Pass

Recommended Cure Process

15min at 120°C excluding temperature ramp up time.

Other alternative cure profile is available depending on customer request.

Storage & Shelf Life

6 months provided materials are kept in a sealed original container at –40 °C. Storage beyond this period can produce higher viscosity. Protect from moisture, evaporation and foreign materials. Process ability of these products can be adversely affected by evaporation and contamination.

Safety

UF 120HA is a friendly, non-toxic material. However, general hygiene practice is recommended when handling this material. For detail information please consult our SDS.



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Package

UF 120HA capillary underfill series are available in 10cc and 30cc. Other packages are available depending upon customer's request. Contact YINCAE for order information.