

UF 158EN Underfill Product Datasheet

Outstanding Thermal Cycling Performance

Excellent Mechanical Shock Performance

High Thermal Conductivity

Description

UF 158EN is a fast flow, low temperature, slow cure and high purity liquid epoxy underfill. This material can be used for flip chip, wafer-level chip scale package applications. It is also suitable for bare chip protection in a variety of advanced packages such as memory cards, chip carriers, hybrid circuits and multi-chip modules. It is designed for high production and friendly environments where process speed and mechanical shock are the key concern. This material is easily dispensed, minimizes induced stresses and provides outstanding reliability performance (e.g. temperature cycling performance) and excellent mechanical resistance.

Typical Physical Properties

Product Name	UF 158EN liquid encapsulant
PROPERTIES OF UNCURED MATERIAL	
Appearance	Black
Specific Gravity (ASTM D 1475-60)	1.8 g/cc
Viscosity (Brookfield, 0.5 rpm)	150.0k cp
PROPERTIES OF CURED MATERIAL	
Glass Transition Temperature (T _g) (ASTM D3418-82)	200, 245 °C
C.T. E (ASTM E 831), PPM /°C	$\alpha_1 = 20$; $\alpha_2 = 71$

Lap Shear Strength (FR4/FR4)	3600 psi
Extractable ions (MIL-STD-883E)	
Na+	<5ppm
K+	<5ppm
F-	<5ppm
Cl-	<10ppm
Surface insulation resistance (J-STD-004)	Pass

Recommended Cure Process

2-3h at 175°C

Other alternative cure profiles are 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 158EN is a friendly, non-toxic material. However, general hygiene practice is recommended when handling this material. For detailed information please consult our SDS.

Package

UF 158EN capillary underfill series are available in 10cc and 30cc. Other packages are available depending upon customer's request. Contact YINCAE for order information.