

TM 158 High Thermal Conductive Adhesive Product Datasheet

Outstanding Thermal Conductivity Performance

Excellent Mechanical Shock Performance

High Process Yield

Description

TM 158 is a diamond filled high thermal conductive adhesive with thermal conductivity of about 60W/m.k, same as SnAu(80) alloy, and the application temperature is up to 400°C. TM 158 is good for high powder application such as military, aerospace, automobile and high-end equipment where there is a serious thermal issue. It can be used for high production and friendly environments where process speed and mechanical shock are the key concern. This material is easily dispensed and easy to achieve small BLT, minimizes induced stresses and provides outstanding reliability performance (e.g. temperature cycling performance) and excellent mechanical resistance.

Typical Physical Properties

Product Name	TM 158 Adhesive
PROPERTIES OF UNCURED MATERIAL	
Appearance	Gray
Specific Gravity (ASTM D 1475-60)	1.8-2.0 g/cc
Viscosity (Brookfield, 0.5 rpm)	8.0-1.6 kcp
PROPERTIES OF CURED MATERIAL	
Glass Transition Temperature (Tg) (ASTM D3418-82)	132 °C
C.T. E (ASTM E 831), PPM /°C	$\alpha_1 = 18$; $\alpha_2 = 98$

Thermal Conductivity (W/m.k)	60
Young Modulus (GPa)	9-10
Lap Shear Strength (FR4/FR4)	2500 psi
Extractable ions (MIL-STD-883E)	
Na+	<5ppm
K+	<5ppm
F-	<5ppm
Cl-	<10ppm
Surface insulation resistance (J-STD-004)	Pass

Recommended Curing Conditions

In – line curing or 15-30 minutes at 150 °C

Note: 15 min curing time includes the time to allow the bond location to reach the desired cure temperature. Alternate cure profiles may be evaluated.

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.



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Safety

TM158 is a friendly, non-toxic material. However, general hygiene practice is recommended when handling this material. For detailed information please consult our SDS.

Package

TM 158 thermal conductive adhesive series are available in 10 cc and 30cc. Other packages are available depending upon customer's request. Contact YINCAE for order information.