TECHNICAL DATA SHEET EPA0016

25/02/20

DESCRIPTION:

Tacusil™ EPA0016 is one-part heat cure high build 100% solids epoxy adhesive with high thermal conductivity. This adhesive is designed for application where has requirement for high thermal conductivity, high strength, low shrinkage and CTE. It has good adhesion to versatile substrates, such as metal, ceramic and some engineering plastics.

TYPICAL PROPERTIES:

All properties given are at 25 °C unless otherwise noted.

Property:	*Value:*	*Test Method or Source:*
Color	Gray	Visual
Cure Schedule	1 hour @ 135 °C	
Work Time	> 4 hours @ 25°C	
Viscosity	95,000 cps @1/s	Brookfield DVII,1#spindle
Specific Gravity	2.4	Calculated
Glass Transition Temperature/Tg	102°C	R050-61 by DSC
Hardness	90 Shore D	R050-17/ASTM D2240
Water Absorption	0.13% after 24 hours	R050-35/ASTM D570
Tensile Properties: **Strength** **Elongation** **Modulus**	 6,500 psi 0-1% 500,000 psi	R050-36/ASTM D638
Lap Shear Strength **0.010" bond line Al to Al**	1,800 psi	R050-37/ASTM D1002
Compressive Properties: **Strength** **Modulus**	 18,000 psi 800,000 psi	R050-38/ASTM D695
Thermal Conductivity by LFA	1.8 W / (m.K)	ASTM D 5470
Volume Resistivity	6 x 10^{13} ohm–cm*	
Dielectric Constant	3.5*	
Dielectric Strength	525 V/mil* 21 kV/mm*	
Coefficient of Thermal Expansion by TMA	30 ppm/ °C < Tg 80 ppm/ °C > Tg	455300005340 /ASTM E831 TMA, 5 °C/min
Temperature Rating	-40 to 204 °C**	

* Asterisk denotes values considered typical to associated resin systems or extrapolated from other test results.
** Temperature Rating is based on average design requirements and is not intended as a guarantee of suitability for all applications operating at that temperature.

Approximate time to 90% cure at various temperatures by DSC

Temperature	90% cure
80°C	24 hours
120°C	60 minutes
135°C	25 minutes

NOTE: This chart reflects the thermal response of a very small sample run in a DSC, actual assemblies will require longer times to cure due to heat transfer, mass and method of heating. The cure schedule provided on page 1 provides times and temperatures more in line with use in a typical application.

INSTRUCTIONS:

1. Bring to room temperature for unfreezing prior to dispensing.
2. Apply heat to cure.
3. Allow to cure undisturbed until product is fully gelled or tack-free to the touch.
4. Clean up uncured resin with suitable organic solvent such as MEK, acetone or other organic solvent.

SHELF LIFE AND STORAGE: 6 months at 0~5 °C
Usable shelf life is dependent upon method of application, storage conditions and user requirements.

Note: *Tacusil™* EPA0016 is sensitive to excursions above room temperature. Exposure to higher temperature, or cycling of product temperature, will shorten product shelf life.