TECHNICAL DATA SHEET EPA 0183

12/08/2019

Room 9,11 Floor, Chuangxin Building Block 1, No.1, Technology Road,
Technology Chuangxin Park, West of Dayabay, Huizhou City, Guangdong, P.R. China

DESCRIPTION:

Tacusil EPA 0183 is one–part heat cure 100% solids epoxy adhesive. It's flowable and long work time under room temperature and designed for small area potting application with high temperature resistance and impact resistance requirement. The pot parts can pass 4 times reflow oven and HTHM test (0.6mm thickness 85C + RH85% environment for 1000 hours).It also has excellent dielectronic strength and adhesion to versatile substrate, such as metal, ceramic and some engineering plastic.

TYPICAL PROPERTIES:

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

Property:	*Value:*	*Test Method or Source:*
Color	Gray	Visual
Recommended Cure Schedule	60mins@150C+30mins@180C	
Work time	>4hours@25C	
Viscosity	26500 cps	Haake Mars 40, 25mm plate, 1/S
Specific Gravity	1.55	
Glass Transition Temperature/Tg	140 °C (see below for additional information)	R050-61 by DSC
Hardness	88 Shore D	R050-17/ASTM D2240
Water Absorption	0.02% after 24 hours	R050-35/ASTM D570
Tensile Properties:		R050-36/ASTM D638
Strength	6000 psi	
Elongation	0-1%	
Modulus	500,000 psi	
Lap Shear Strength		R050-37/ASTM D1002
0.010" bond line Al to Al	3000 psi (0.1' thickness)	
Compressive Properties:		R050-38/ASTM D695
Strength	12,000 psis	
Modulus	650,000 psi	
Thermal Conductivity by LFA	0.7 W / (m.K)	ASTM D 5470
Volume Resistivity	6 x 10^{13} ohm–cm*	
Dielectric Constant	4*	
Dielectric Strength	500V/mil* 20 kV/mm*	
Coefficient of Thermal Expansion by TMA	36ppm/ °C below Tg 85ppm/ °C above Tg	455300005340 /ASTM E831 TMA, 5 °C/min
Temperature Rating	-40 to 230 °C	

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* 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 95% cure at various temperatures by DSC

Temperature	95% cure
150°C	40mins
180°C	20minutes

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 -40 °C
Usable shelf life is dependent upon method of application, storage conditions and user requirements.

Note: Tacusil EPA 0183 is sensitive to excursions above room temperature. Exposure to higher temperature, or cycling of product temperature, will shorten product shelf life.