

DESCRIPTION:

Tacusil™ EPA0183 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 potted parts can pass 4 times reflow oven and HTHM test (0.6mm thickness 85C + RH85% environment for 1000 hours). It also has excellent dielectric strength and adhesion to versatile substrates, such as metals, 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	60 mins @150°C + 30 mins @180°C	
Work Time	> 4 hours @ 25°C	
Viscosity	26,500 cps @1/s	Haake Mars 40, 25mm plate,
Specific Gravity	1.55	Calculated
Glass Transition Temperature/Tg	140°C	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:		
Strength	6,000 psi	R050-36/ASTM D638
Elongation	0-1%	
Modulus	500,000 psi	
Lap Shear Strength 0.010" bond line Al to Al	3,000 psi (0.1' thickness)	R050-37/ASTM D1002
Compressive Properties:		
Strength	12,000 psi	R050-38/ASTM D695
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	500 V/mil* 20 kV/mm*	
Coefficient of Thermal Expansion by TMA	36 ppm/ °C < Tg 85 ppm/ °C > Tg	455300005340 /ASTM E831 TMA, 5 °C/min
Temperature Rating	-40 to 230 °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 95% cure at various temperatures by DSC

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

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

Note: *Tacusil*TM EPA0183 is sensitive to excursions above room temperature. Exposure to higher temperature, or cycling of product temperature, will shorten product shelf life.