TECHNICAL DATA SHEET
Tacusil EPA0133

25/03/2012

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

DESCRIPTION:

Tacusil EPA0133 is a highly filled, medium viscosity black casting resin designed for applications requiring a high degree of thermal conductivity and a low CTE combined with a moderate free flowing viscosity. This resin contains high volume of special sphere type aluminum oxidant filler, which is less abrasive to meter-mixing and dispensing equipment comparative with traditional aluminum oxidant filler. The high filler content also enhances resistance to thermal cycle stresses and help to improve its self-extinguish ability when the thickness get to 6mm.

Warming the assembly prior to filling will aid in flow and air release. Additional vacuum degassing may be desired for some applications.

TYPICAL PROPERTIES:

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

Property:	*Value:*	*Test Method or Source:*
Color	Part A Black Part B Off-white Mixed Black	Visual
Mix Ratio **By weight** **By volume**	Part A to Part B 1 to 1 1 to 1	Calculated
Cure Schedule	80C 30mins+140 1hours	
Viscosity – Part A **Viscosity – Part B** **Viscosity - Mixed**	30000 cps @1/s 25000 cps @1/s 26000 cps @1/s	Rheometer parallel plate 25mm@1/s 455300006291
Special Gravity		Brookfield Viscosity 455300005420
Specific Gravity – Part A **Specific Gravity – Part B** **Specific Gravity - Mixed**	1.75 1.75 1.75	Calculated
Pot Life	24hours under RT	453560822627
Gel Time	45 minutes/10cc sample @125C	455300005390/Sunshine Gel Timer
Glass Transition Temperature/Tg	118°C	453560822409 by DSC
Hardness	92D	455300006287/ASTM D2240
Water Absorption	0.1% after 24 hours	457561824543/ASTM D570
Lap Shear Strength(Al/Al,2042T3)	22Mpa	ASTM D1002
Tensile Properties: **Strength** **Elongation** **Modulus**	 18.3 Mpa 1% 790Mpa	455300006285/ASTM D638/MTS 4535601224470/ASTM D638/Instron
Thermal Conductivity by LFA	0.7 W / (m.K)	453560822409/ASTM E1461

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Dielectric Constant @ 100 kHz	4.2	Estimated
Dielectric Strength	16.4Kv/mm	ASTM D149 Method A, immersed in ASTM D3487 Type II Oil
Bulk Resistivity	6.3 x 10^{14} ohm-cm	455300004460/Jandel 4 point probe
Non volatile content	100 %	455300005646
Temperature Range	-55~204C	
Linear shrinkage	0.1%	ASTM D792
Coefficient of Thermal Expansion by TMA	40ppm/ °C below Tg 63 ppm/ °C above Tg	455300005340/ASTM E831 TMA, 5 °C/min

This TDS contains values that have been updated. The values reported in this technical data sheet are typical values of the product, and are highly dependent on test conditions and methodology. We actively seek the most precise and accurate ways to measure and interpret performance of our products, and to update estimated values with measured values. The formula has not been revised or changed in any way. Although the values on paper have changed, you can expect the same performance of the product.

INSTRUCTIONS:

1. Cartridge package should be stored at cool temperature (5 °C +/- 3 °C) for maximum shelf life duo to high filler content and hard to re-agitate in case filler settled. Bulk container package should be inverted every two to three weeks to reduce the accumulation of fillers on the bottom of the containers. Inventory should be rotated on a FIFO (first in, first out) basis.

2. Bulk format: weigh and mix parts A and B accurately and thoroughly, scraping sides of container often. Do not pour from mixing container, transfer to a new container as residual unmixed material may cause a tacky spot on the surface of the casting. Maintain adequate velocity during dispensing to ensure complete mixing.

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: 12 months at 25 °C in bulk
Specialty packaging may be less.

Many epoxy resin systems are prone to crystallization as epoxy resin is a super-cooled fluid. This condition may give the product a gritty or grainy appearance (or hazy in clear products). Products in this state will not usually cure to normal and expected properties. In extreme cases it may appear solid and cured. Fluctuating temperatures (within 5 to 50 °C) aggravate this phenomenon. Heating the individual component to 50 to 60 °C while stirring can usually restore products to original state.