

50-3100

HIGH THERMAL K HEAT TRANSFER EPOXY RESIN

DESCRIPTION:

50-3100 is designed for the fastest and most continuous high heat transfer. 50-3100 measures several times faster heat dissipation than other commercially available types. The most important breakthrough is the handling of 50-3100. This system can be easily mixed and poured to form a dimensionally stable heat transfer package.

Typical applications include encapsulation of power supplies, transformers, coils, insulators, protective covering for chips, temperature probes, etc...

CHOICE OF CURING AGENTS:

CATALYST 190: Room temperature curing with a 45 minute pot life. Tough and rigid at all temperatures up to 150°C.

CATALYST 150: Room temperature curing with a 30 minute pot life. Low viscosity and easy handling properties. Excellent adhesion. Has a service temperature up to 150C (300°F). Will soften slightly above 121°C (250°F).

CATALYST 30: Heat curing with a pot life of 4 hours. Low viscosity with excellent handling properties. Excellent thermal and mechanical shock. Recommended for higher operating temperature applications.

TYPICAL SPECIFICATIONS:

Viscosity @ 25°C, cps, Resin	180,000
Viscosity @ 25°C (Cat.190) cps	32,000
Viscosity @ 25°C (Cat.150) cps	6,000
Viscosity @ 25°C (Cat.30) cps	29,000
Specific Gravity, 25°C/25°C, Resin	2.0
Hardness, Shore D	90
Linear Shrinkage, in./in.	.003
Tensile Strength, psi	8,800
Compressive Strength, psi	15,000
Operating Temp. Range, °C	-60 to +205
Coefficient of Expansion, °C	30×10^{-6}
Dielectric Strength, V/mil	485
Dielectric Constant at 60 Hz	6.4
Volume Resistivity, ohm-cm	1.5×10^{15}
Dissipation Factor, 60 Hz	.015
Heat Distortion, °C	120
Thermal Conductivity, W/m- °K	2.16

INSTRUCTIONS FOR USE:

A. WITH CATALYST 190

1. By weight, thoroughly mix 5 parts Catalyst 190 to 100 parts 50-3100 resin.
2. Degas and pour, cure at room temperature for 24 hours @ 25°C ambient or for 2 hours at 66°C (155°F).

B. WITH CATALYST 30 (Recommended for higher operating temperature and physical property applications):

1. By weight, thoroughly mix 9 parts Catalyst 30 to 100 parts 50-3100 resin.
2. Degas and pour, cure according to one of the following recommended cure schedules:
 - a) 85°C (185°F) 3-4 hours
 - b) 100°C (212°F) 2-3 hours

For optimum performance, an additional 2 hours @ 365°F (185°C) is recommended.

C. WITH CATALYST 150

1. By weight, thoroughly mix 12 parts Catalyst 150 to 100 parts 50-3100 resin.
2. Degas and pour, cure for 24 hours at room temperature or for 2 hours at 66°C (155°F).

IMPORTANT:

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05/14