

50-3100R HIGH THERMAL K HEAT TRANSFER EPOXY RESIN

DESCRIPTION:

50-3100R is designed for the fastest and most continuous high heat transfer. 50-3100R measures several times faster heat dissipation than other commercially available types. The most important breakthrough is the handling of 50-3100R. 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, or temperature probes.

TYPICAL PROPERTIES:

Viscosity, cps, 25 °C	
50-3100R Resin	180,000
Mixed with Cat.190CL	32,000
Mixed with Cat.150CL	6,000
Mixed with Cat.30TB	29,000
Available Colors	Black, Gray, Off-White
Hardness, Shore D	90
Operating Temperature Range with Cat.30, °C	-60 to +205
Specific Gravity, 25 °C	
50-3100R Resin	2.0
Cat.190CL Catalyst	0.99
Cat.150CL Catalyst	0.95
Cat.30TB Catalyst	1.0
Compressive Strength, psi	15,000
Linear Shrinkage, in/in	0.003
Tensile Strength, psi	8,800
Dielectric Strength, V/mil	485
Dielectric Constant at 60 Hz	6.4
Dissipation Factor, 60 Hz	0.015
Volume Resistivity, ohm-cm	1.5×10^{15}
Coefficient of Expansion, °C	30×10^{-6}
Heat Distortion, °C	120
Thermal Conductivity, W/m·°K	2.16



INSTRUCTIONS FOR USE:

Note: Mix 50-3100R resin thoroughly to re-disperse fillers. Some settling during transit or storage is common.

- A. Catalyst 190: 45-minute pot life. Tough and rigid at all temperatures up to 150 °C.
 - 1. By weight, thoroughly mix 100 parts 50-3100R resin to 5 parts Catalyst 190.
 - 2. Degas, pour, and cure according to one of the following recommended cure schedules:

- a) 25 °C 24 Hours
- b) 65 °C 2 Hours

- B. Catalyst 30: 4-hour pot life. Excellent for thermal and mechanical shock. Recommended for higher operating temperature applications.

- 1. By weight, thoroughly mix 100 parts 50-3100R resin to 9 parts Catalyst 30.
- 2. Degas, pour, and cure according to one of the following recommended cure schedules:

- a) 85 °C 3-4 Hours
- b) 100 °C 2-3 Hours

For optimum performance, an additional 2 hours at 185 °C is recommended.

- C. Catalyst 150: 30-minute pot life. Low viscosity with excellent adhesion. Service temperature of up to 150 °C. Will soften slightly above 121 °C.

- 1. By weight, thoroughly mix 100 parts 50-3100R resin to 12 parts Catalyst 150.
- 2. Degas, pour, and cure according to one of the following recommended cure schedules:

- a) 25 °C 24 Hours
- b) 65 °C 2 Hours

STORAGE, HANDLING, & SAFETY:

Store both components at 25 °C in original containers. The expected shelf life is 12 months in original containers.

Please read the Safety Data Sheet before using this or any other chemical.

AVAILABILITY:

This product is available in quarts and gallons and as black (50-3100RBK), gray (50-3100RGR), or off-white (50-3100NP).

IMPORTANT:

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