

50-3150 FR FLAME RETARDANT THERMALLY CONDUCTIVE EPOXY RESIN; UL94 V-0 LISTED

DESCRIPTION:

50-3150 FR has been formulated to meet the stringent non-burning requirements of UL94 V-0. 50-3150 FR Black Epoxy with Catalyst 190 and Catalyst 30 are listed with Underwriter's Laboratory for passing UL94 V-0. This system offers excellent heat transfer, low shrinkage, and outstanding insulation properties.

50-3150FR with Catalyst 30 has a UL (746B) **Relative Temperature Index (RTI) rating of 130°C.**

50-3150FR Black with Catalyst 190 **passes NASA's outgassing requirements** per ASTM E595-07.

Typical applications for 50-3150 FR include potting and encapsulating power supplies, transformers, electric motors, capacitors, batteries, coils, insulators, sensors, devices for intrinsic safety, etc... This system is an excellent choice for applications requiring high thermal conductivity and flame retardancy.

TYPICAL SPECIFICATIONS:

Viscosity @ 25°C cps, Resin	60,000
Mixed with Cat. 190	28,000
Mixed with Cat. 30	17,000
Mixed with Cat. 12	2,000
Mixed with Cat. 150	1,500
Specific Gravity, 25°C	1.6
Hardness, Shore D	90
Color	Black
Tensile Strength, psi	9,850
Linear Shrinkage, in/in	.002
Operating Temp. Range, °C	-60 to +200
Dielectric Strength, V/mil	485
Dielectric Constant at 60 Hz	5.6
Volume Resistivity, ohm-cm, 25°C	1.5×10^{15}
Dissipation Factor, 60 Hz	.015
Thermal Conductivity, W/m- °K	2.16
Compressive Strength, psi	15,000
Coefficient of Expansion, in/in °F	1.4×10^{-5}

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Heat Distortion, °C	155
Outgassing (with Cat. 190)	
%TML	.50
%CVCM	.01

INSTRUCTIONS FOR USE:

A. With Catalyst 190 listed with UL 94 V-0 and passes NASA outgassing (room temperature curing):

1. By weight, thoroughly mix 5 parts Catalyst 190 to 100 parts 50-3150 FR resin.
2. Degas and pour. Cure at room temperature for 12-24 hours at 25°C ambient.

B. With Catalyst 30 listed with UL 94 V-0 and RTI Rating of 130°C (Heat curing - Recommended for higher operating temperature and physical property applications):

1. By weight, thoroughly mix 10 parts Catalyst 30 to 100 parts 50-3150 FR resin.
2. Pour and 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 12 (room temperature curing – recommended for very large castings and very low exotherm):

1. By weight, thoroughly mix 12 parts Catalyst 12 to 100 parts 50-3150 FR resin.
2. Pot life will be at least 4 hours.
3. Cure 24 to 48 hours at room temperature or 4-6 hours at 65°C.

D. With Catalyst 150 (room temperature/heat curing-recommended for low mixed viscosity):

1. By weight, thoroughly mix 17 parts Catalyst 150 to 100 parts 50-3150 FR resin.
2. Degas and pour. Cure at room temperature for 24 hours or for 2-3 hours at 35-40°C.

IMPORTANT:

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