

# 50-3151NCFR FLAME RETARDANT THERMALLY CONDUCTIVE EPOXY RESIN

## DESCRIPTION:

50-3151NCFR has been formulated to meet the stringent non-burning requirements of UL 94 V-0. This system offers excellent heat transfer, low shrinkage, and outstanding insulation properties. 50-3151NCFR is low in viscosity and therefore offers outstanding flow around components.

Typical applications for 50-3151NCFR include encapsulating power supplies, transformers, coils, insulators, sensors, etc... This system is an excellent choice for applications requiring high thermal conductivity, flame retardancy, and low viscosity.

## TYPICAL PROPERTIES:

Viscosity @ 25°C cps	
Resin	18,000
Mixed with CAT.150	880
Mixed with CAT.190	6500
Mixed with CAT.30	6500
Color	Black
Hardness, Shore D	90
Operating Temp. Range, °C	-65 to +190
Specific Gravity, 25°C	1.7
Compressive Strength, psi	15,000
Linear Shrinkage, in/in	0.002
Tensile Strength, psi	9,850
Dielectric Strength, V/mil	485
Dielectric Constant at 60 Hz	5.6
Dissipation Factor, 60 Hz	0.015
Volume Resistivity, ohm-cm at 25°C	1.5 x 10 <sup>15</sup>
Thermal Conductivity, W/m·°K	1.3
Coefficient of Thermal Expansion, ppm/°C	25

## INSTRUCTIONS FOR USE:

### A. Catalyst 190:

1. By weight, thoroughly mix 5 parts Catalyst 190 to 100 parts 50-3151NCFR Resin.
2. Degas, pour, and cure for 24 hours at 25 °C.

### B. Catalyst 150, lowest mix viscosity:

1. By weight, thoroughly mix 17 parts Catalyst 150 to 100 parts 50-3151NCFR Resin.
2. Degas and pour, and cure according to one of the following recommended cure schedules:
  - a) 25 °C            12-24 hours
  - b) 60 °C            2-3 hours

### C. Catalyst 30, recommended for higher operating temperature and physical property applications:

1. By weight, thoroughly mix 11 parts Catalyst to 100 parts 50-3151NCFR Resin.
2. 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.

## NOTE:

Settling of filler is very common in this low viscosity resin. Mix resin thoroughly in original container prior to use.

## STORAGE, HANDLING, AND SAFETY:

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

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

## AVAILABILITY:

This product is available in quarts, gallons, and 5-gallon pails.

## IMPORTANT:

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