



50-3182 / Catalyst 4 THERMALLY CONDUCTIVE EPOXY RESIN

DESCRIPTION:

50-3182 is a highly filled epoxy system with excellent physical, electrical, and thermal properties. 50-3182 offers very high thermal conductivity, excellent electrical insulation, and low thermal expansion. This unique combination of properties makes this system ideal for applications where electrical insulation and mechanical protection must be maintained while transferring heat. When cured with Catalyst 4, this product has excellent retention of properties at elevated temperatures and outstanding chemical resistance.

APPLICATIONS:

50-3182 is ideal for high voltage applications such as power supplies, transformers, high voltage insulators, bushings, etc...

TYPICAL SPECIFICATIONS:

Viscosity, 25°C, cps	
Resin	180,000
Mixed	180,000
Mix Ratio, (Resin:Catalyst)	
By Weight	100:1
Color	Black, Blue, White
Hardness, Shore D	95
Operating Temperature Range, °C	-55 to +235
Pot Life, 50 grams, 25°C	4 hours min
Specific Gravity, 25°C	2.3
Shrinkage, cm/cm	.001
Elastic Modulus Compressive, psi	1.5 x 10 ⁶
Tensile Strength, psi	8,500
Compressive Strength, psi	17,000
Flexural Strength, psi	13,500
Flexural Modulus, psi	2.5 x 10 ⁸
Machinability	Poor
Dielectric Strength, V/mil	560
Dielectric Constant, 60 Hz	6.4
Volume Resistivity, ohm-cm	4.9 x 10 ¹⁶
Dissipation Factor, 60 Hz	.018
Thermal Conductivity, W/m-K	1.66
Coefficient of Thermal Expansion, °C	30 x 10 ⁻⁶
Heat Distortion, °C	175

**INSTRUCTIONS FOR USE:**

Since 50-3182NC resin may settle upon storage, remix prior to each use.

CATALYST 4

1. By weight, thoroughly mix 1 part Catalyst 4 to 100 parts 50-3182NC Resin.
2. Slight warming (40°C) of the resin prior to mixing will improve pourability and air release.
3. Cure at one of the following schedules:
 - a. 2 hours at 80°C + 1 hour at 150°C
 - b. 30 minutes at 125°C + 1 hour at 175°C

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 (50-3182RNCBK), blue (50-3182RNCBL), or white (50-3182RNCWH).

IMPORTANT:

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08/2025