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♦ TECHNICAL BULLETIN ♦ TECHNICAL BULLETIN ♦ TECHNICAL BULLETIN ♦

## EPOXY RESIN RBC-4500

RBC-4500 is a fire retardant version of RBC-4400 Resin. It is a medium viscosity, filled, thermally conductive resin which exhibits excellent adhesive properties making it useful for bonding thermally conductive, and heat generating components. It offers excellent chemical resistance and maintains superior bonding over a wide range of operating conditions. It can be cured at room temperature or at elevated temperatures depending upon the properties required.

### HANDLING PROPERTIES:

Mixed Viscosity @ 25°C,cps	13,000
Shelf Life, (closed Container @ 25°C)	12 Months

### PHYSICAL PROPERTIES (CURED):

Color	Black
Specific Gravity @ 25°C	1.50
Hardness, Shore D	90
Linear Shrinkage, in./in.	0.003
Moisture Absorption 24 hr. water boil, %	0.22
Izod Impact Strength, ft. lbs./in. of notch	0.31
Tensile Strength @ 25°C, psi	7,600
Compressive Strength @ 25°C, psi	25,300

### THERMAL PROPERTIES (CURED):

Thermal Conductivity, cal/sec/cm <sup>2</sup> /°C/cm X 10 <sup>-4</sup>	25.0
Thermal Stability, 1000 Hrs. @ 175°C, % Wt. Loss	0.35
Coefficient of Thermal Expansion, in./in./°C X 10 <sup>-6</sup>	28
Heat Distortion temperature, °C	155
Operating Temperature Range, °C	-65 to 155

### ELECTRICAL PROPERTIES (CURED):

Volume Resistivity @ 25°C, ohm-cm	5x10 <sup>16</sup>
Dielectric Strength, volts/mil	480
Dielectric Constant @ 25°C, 100 KC	5.7
Dissipation Factor @ 25°C, 100 KC	0.018

The above properties are typical of a system cured with Hardener AB-312

### RECOMMENDED HARDENERS:

AB-56	A fast, room temperature curing system with good chemical and thermal properties.
A-121	A resilient, low viscosity system with slightly longer pot life, that exhibits excellent resistance to thermal shock.
AB-312	Good resistance to heat, chemicals, thermal and mechanical shock, and good electrical properties at high humidity.

**Page 2**  
**RBC-4500 Continued**

**MIXING INSTRUCTIONS:** Weigh the desired amount of RBC-4500 into a clean container and combine with recommended hardener in the proper ratio as shown below.

<b>Hardener</b>	<b>Parts by wt. per 100 pts. resin</b>	<b>Pot Life 100 grms. @ 25°C.</b>
AB-56	20.0	15-30 Minutes
A-121	12.0	3 Hours
AB-312	13.0	2 Hours

**RECOMMENDED CURE SCHEDULE:**

<b>HARDENER</b>	<b>CURE@25°C</b>	<b>CURE@65°C</b>	<b>CURE@100°C</b>	<b>CURE@130°C</b>
AB-56	6 Hrs.	10 Min.	---	---
A-121	24 Hrs.	3 Hrs.	2 Hrs.	1 Hr.
AB-312	----	3 Hrs.	2 Hrs.	1 Hr.

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