

ERP-521 **FLAME RETARDANT EPOXY POTTING COMPOUND**

ERP-521 is a flame retardant epoxy that meets UL-94 V-0 requirements. This highly filled heat cure epoxy system is designed for casting or potting and encapsulating applications where ease of handling and a long work life with a short cure time is required. It has a low coefficient of thermal expansion, high glass transition temperature, good dielectric properties and excellent chemical and solvent resistance. **ERP-521** is especially useful in electronic applications involving high voltage.

TYPICAL HANDLING PROPERTIES:

Resin	ERP-521A
Hardener	ERP-521B
Mix ratio by weight, phr	5
Mixed viscosity at 60°C, cp	8200
Pot life at 60°C (100 grams), mins	65
Recommended Cure Schedule	4 hrs at 80°C

TYPICAL CURED PROPERTIES AFTER RECOMMENDED CURE:

Color	Black
Specific Gravity	1.86
Hardness, Shore D	92
Linear Shrinkage (%)	0.06
Glass Transition Temperature, °C	120
Coefficient of Thermal Expansion, 10 ⁻⁶ /°C from -55°C to 25°C	28
from 25°C to 93°C	39
Flexural Strength at 25°C, psi	19,800
Flexural Modulus at 25°C, psi	1.9x10 ⁶
Dielectric Constant at 1 kHz and 25°C	4.45
1kHz and 100°C	4.77
Dissipation Factor at 1 kHz and 25°C	0.015
1 khz and 100°C	0.03
Volume Resistivity, ohm-cm at 25°C	1.0x10 ¹⁶
at 100°C	4.6x10 ¹⁴

Solvent Resistance (24 hour immersion at 25°C), (%)

2-Propanol	-0.01
Water	+0.03
Methyl ethyl ketone	+2.19
Methylene chloride	+14.62

INSTRUCTIONS FOR USE:

The individual components containing fillers should be mixed or agitated without introducing excessive air before use to ensure that all fillers are properly dispersed. To obtain the best cured properties, accurate proportioning and thorough mixing are essential.

Heat the resin (ERP-521A) to 60-70°C. Mix the contents thoroughly each time before removing material. To each 100 grams of ERP-521A, add 5 grams of ERP-521B and mix it well preferably using a mechanical mixer. Vacuum degas for five minutes to remove dissolved and entrapped air. Proceed with the casting or potting application and cure as recommended.

FOR INDUSTRIAL USE ONLY:

These materials are intended for industrial use only, and the practices of good housekeeping, safety and cleanliness should be followed before, during and after use.

WARNING!!

Although the system contains low volatility materials, care should be taken in handling. Adequate ventilation of the work place and ovens is essential. These materials may cause injury to the skin following prolonged or repeated contact and dermatitis in susceptible individuals. In case of skin contact, wash thoroughly with soap and water. For eyes, flush immediately with plenty of water for at least 10 minutes and seek medical attention. Refer to the Material Safety Data Sheet for additional health and safety information.

SHELF LIFE:

The shelf life of these materials is greater than two years when stored in unopened containers at an average temperature of 25°C.