



TECHNICAL INFORMATION

EPOCAP® 15144 Epoxy Encapsulation System

PRODUCT DESCRIPTION

EPOCAP 15144 is a room temperature cure, two-component, general purpose potting compound developed for low voltage applications such as ballasts, starters and mercury switches. It has a convenient mix ratio, extremely low exotherm and shrinkage. This system also has good thermal shock resistance and long work life.

HOW TO USE

The individual components containing fillers should be stirred 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. To obtain void free castings, the mixed system should be degassed under vacuum at approximately 29 inches of mercury (or better) for a few minutes, both immediately after mixing and then again after castings are poured, if the work life of the system allows.

A wide variety of cleaning solutions are available for cured and uncured epoxies and polyurethanes. For more information on proper recommendations and procedures, contact the Technical Department.

MIXING AND CURING SCHEDULE

Ratio	Part A	Part B
Parts by weight	100	90
Parts by volume	100	100

The cure schedule is dependent upon the temperature. The recommended cure schedule will vary with the desired properties. The recommended schedule to achieve the typical properties is shown below:

7 days at 25 °C (77 °F) or 2 hours at 49 °C (120 °F)

TYPICAL UNCURED PROPERTIES

	Part A	Part B	Mixed
Color	Blue	Yellow	Green
Viscosity @ 25 °C, cps	12,000	16,000	18,000
Viscosity @ 49 °C, cps	2,500	4,000	2,500
Weight per Gallon, lbs.	14.3	13	13.65
Specific Gravity @ 25 °C	1.72	1.56	1.64
Gel time, minutes			
100 gm mass @ 25 °C	---	---	150
25 gm mass @ 49 °C	---	---	35
Filler Type	Non-Abrasive	Non-Abrasive	Non-Abrasive
Shelf Life (in separate sealed containers), months	12	12	---

TYPICAL CURED PROPERTIES

(Tested at 25 °C unless otherwise indicated)

Test	Result
Hardness, Shore D	85
Tensile Strength, psi	2,670
Compressive Strength, psi	12,567
Linear Shrinkage, in./in.	0.0012
Water Absorption, % Weight Gain After:	
24 hours immersion	0.18
7 days immersion	0.48
Peak Exotherm @ 38 °C, 100 gm mass, °C	38

TYPICAL THERMAL PROPERTIES

Test	Result
Heat Distortion Temperature, °C	<25
Coefficient of Linear Thermal Expansion, in./in./ °C (+30 to 90 °C)	111 x 10 ⁻⁶
Thermal Conductivity, cal. x cm./sec. x cm ² x °C	11.8 x 10 ⁻⁴
Recommended Service Temperature	105 °C

TYPICAL ELECTRICAL PROPERTIES

Dielectric Constant				
Test Temperature, °C	100 Hz	1000 Hz	100 kHz	
25	4.93	4.78	4.55	
100	12.27	9.27	6.71	

Dissipation Factor				
Test Temperature, °C	100 Hz	1000 Hz	100 kHz	
25	0.025	0.018	0.011	
100	1.78	0.36	0.108	

Volume Resistivity, ohm-cm

Test Temperature, °C	Result
25	5.9 x 10 ¹⁴
105	7.6 x 10 ⁸

Dielectric Strength, Volts/mil 552

STORAGE AND HANDLING

These materials should be stored in a dry environment within a temperature range of 16°C to 27°C (60°F to 80°F). Extremes of temperature beyond this range may result in crystallization or polymerization of the materials. Introduction of a nitrogen blanket into the containers before closing will improve the storage life of the products.

SAFETY

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.

Although the system contains low volatility materials, care should be taken in handling. Use adequate ventilation in the work area.

These materials may cause dermatitis in susceptible individuals. Keep off skin and out of eyes. In case of accidental skin contact, wash thoroughly with soap and water. In case of eye contact, flush eyes thoroughly with water and consult a physician immediately.

Refer to Materials Safety Data Sheet for additional information.

ADDITIONAL INFORMATION

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NOTE

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