



TECHNICAL INFORMATION

EPOCAP® 19174 Epoxy Encapsulation System

PRODUCT DESCRIPTION

EPOCAP 19174 is a two-component, room temperature cure electrical potting and encapsulating system with a long work life. This semi-rigid, low viscosity system has excellent thermal shock resistance and excellent impregnation properties. It is recommended for potting tightly wound coils, transformers, time delay relays and other low or medium voltage electrical or electronic devices. The system is UL recognized for UL-94-VO flame rating at 0.250".

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.

MIXING AND CURING SCHEDULE

Ratio	Part A	Part B
By weight	100	30
By volume	100	50

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 65 °C (150 °F)

TYPICAL UNCURED PROPERTIES

	Part A	Part B	Mixed
Color	Black	Amber	Black
Viscosity @ 25 °C, cps	55,000	500	4,000
Weight per Gallon, lbs.	14.1	8	12
Specific Gravity @ 25 °C	1.69	0.96	1.43
Gel time, minutes			
100 gm mass @ 25 °C	---	---	120
Filler Type	Non-Abrasive	None	Non-Abrasive
Shelf Life (separate sealed containers), months	12	12	---

TYPICAL CURED PROPERTIES

(Tested at 25 °C unless otherwise indicated)

Test	Result
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Hardness, Shore D	80
Tensile Strength, psi	2,030
Compressive Strength, psi	9,700
Flexural Strength, psi	3,950
Flexural Modulus, psi	162,500
Linear Shrinkage, in./in.	0.0012
Water Absorption, % Weight Gain	
After: 7 days immersion	0.56

TYPICAL THERMAL PROPERTIES

Test	Result
Heat Distortion Temperature, °C	< 25
Coefficient of Linear Thermal Expansion, in./in./ °C (+30 to 90 °C)	131 x 10 ⁻⁶
Thermal Conductivity, cal. x cm./sec. x cm ² x °C	10 x 10 ⁻⁴
Dry Heat Aging @ 130 °C, % Weight Loss After:	
24 hrs.	2.31
7 days	4.26
UL Flame Retardancy Test	
UL-94-VO @ 0.250"	Passes
Recommended Service Temperature, °C	105

TYPICAL ELECTRICAL PROPERTIES

Dielectric Constant	
Test Temperature, °C	100 kHz
25	4.6
100	8.7
Dissipation Factor	
Test Temperature, °C	100 kHz
25	0.063
100	0.99

Volume Resistivity, ohm-cm	
Test Temperature, °C	
25	1 x 10 ¹³
105	3.4 x 10 ⁸

Dielectric Strength, Volts/mil	544
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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.

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.

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, nevertheless, care should be taken in handling. Adequate ventilation of work place and ovens is essential.

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 Material Safety Data Sheet for additional information.

ADDITIONAL INFORMATION

Visit our web site at:

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NOTE

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