



## TECHNICAL INFORMATION

# EPOCAP® 19284 Epoxy Encapsulation System

### PRODUCT DESCRIPTION

EPOCAP 19284 is a filled, low viscosity, two-component epoxy potting and encapsulating system. This general purpose, room temperature cure system exhibits excellent impregnation of tightly wound coils and transformers. It has good thermal conductivity, heat distortion temperature and is recommended for potting and encapsulating small coils, transformers and other electrical or electronic components.

### 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	7
By volume	100	11.25

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	Lt. Amber	Black
Viscosity @ 25 °C, cps	9,200	60	4,800
Weight per Gallon, lbs.	13.4	8.32	12.88
Specific Gravity @ 25 °C	1.61	1	1.54
Gel time, minutes			
200 gm mass @ 25 °C	---	---	60
Filler Type	Non-Abrasive	None	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	90
Tensile Strength, psi	6,600
Compressive Strength, psi	15,960
Flexural Strength, psi	8,623
Flexural Modulus, psi	933,425
Linear Shrinkage, in./in.	0.004
Impact Strength, ft-lbs.	2.84
Water Absorption, % Weight Gain After:	
24 hours immersion	0.018
7 days immersion	0.14

### TYPICAL THERMAL PROPERTIES

Test	Result
Heat Distortion Temperature, °C	82
Coefficient of Linear Thermal Expansion, in./in./ °C (+30 to 90 °C)	$78 \times 10^{-6}$
Thermal Conductivity, cal. x cm./sec. x cm <sup>2</sup> x °C	$8.5 \times 10^{-4}$
Dry Heat Aging @ 130 °C, % Weight Loss After:	
24 hrs.	0.134
7 days	0.173
UL Flame Retardancy Test	
UL-94-HB @ 0.125"	Passes
Recommended Service Temperature, °C	130

### TYPICAL ELECTRICAL PROPERTIES

Dielectric Constant			
Test Temperature, °C	100 Hz	1000 Hz	100 kHz
25	4.85	4.8	4.85
100	6.42	5.93	5.41
125	8	6.82	5.84

Dissipation Factor			
Test Temperature, °C	100 Hz	1000 Hz	100 kHz
25	0.0063	0.009	0.017
100	0.126	0.052	0.025
125	0.84	0.16	0.042

### Volume Resistivity, ohm-cm

Test Temperature, °C	
25	$1.7 \times 10^{15}$
105	$5.48 \times 10^{10}$

Dielectric Strength, Volts/mil	373
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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, 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 Material Safety Data Sheets for additional information.

## **ADDITIONAL INFORMATION**

Visit our web site at:

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