



TECHNICAL INFORMATION Provisional

EPOCAP[®] 46505/ EPOCURE[®] 50114 (formerly EPOCAP[®] 16505A/ EPOCURE[®] 114B) Epoxy Filter and Separator Bonding Adhesive System

PRODUCT DESCRIPTION

EPOCAP 46505/ EPOCURE 50114 is a filled, two-component, room temperature cure epoxy system. This system is designed for bonding and sealing filter media to metal end caps. It is also recommended for the potting and encapsulation of transformers, coils, switches, connectors and other electrical/electronic components. It displays excellent resistance to synthetic lubricants and motor oil.

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

<u>Ratio</u>	<u>46505</u>	<u>50114</u>
By weight	100	18
By volume	100	28

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
 18 to 24 hours @ 25°C plus 2 hours @ 100 °C (212 °F)

TYPICAL UNCURED PROPERTIES

	<u>46505</u>	<u>50114</u>	<u>Mixed</u>
Color	Neutral	Amber	Neutral
Viscosity @ 25 °C, cps	16,500	700	8,000
Weight per Gallon, lbs.	12.9	8.2	11.9
Specific Gravity @ 25 °C	1.55	0.98	1.42
Gel time, minutes			
100 gm mass @ 25 °C	-----	-----	125

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)

<u>Test</u>	<u>Result</u>
Hardness, Shore D	85

TYPICAL THERMAL PROPERTIES

<u>Test</u>	<u>Result</u>
Heat Distortion Temperature, °C	50
Thermal Conductivity, cal x cm/sec x cm ² x °C	3.55 x 10 ⁻⁴

TYPICAL ELECTRICAL PROPERTIES

Dielectric Constant

<u>Test Temperature, °C</u>	<u>100 Hz</u>	<u>1000 Hz</u>	<u>100 kHz</u>
25	4.11	4.07	3.97
90	4.46	4.35	4.15
125	5.78	5.21	4.56

Dissipation Factor

<u>Test Temperature, °C</u>	<u>100 Hz</u>	<u>1000 Hz</u>	<u>100 kHz</u>
25	0.0099	0.0083	0.0086
90	0.0280	0.0197	0.0144
125	0.0986	0.0662	0.0351

Volume Resistivity, ohms–cm

<u>Temperature, °C</u>	
25	2.65 x 10 ¹⁴
90	8.44 x 10 ¹⁰
125	1.89 x 10 ⁹



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TYPICAL CHEMICAL RESISTANCE PROPERTIES

(Tested at 25°C unless otherwise indicated)

<u>Total Immersion In</u>	<u>Original Hardness, Shore D</u>	<u>Immersion Time</u>	<u>Hardness, Shore D</u>	<u>% Weight Gain (Loss)</u>
SSR Ultra Coolant	90	6 Months @ 250 °F	85	0.75
SSR Ultra Coolant with 2% water	90	6 Months @ 250 °F	83	1.609
Motor Oil (30W)	90	1 Week @ 250 °F	---	0.283
		4 Weeks @ 250 °F	---	0.446
		7 Weeks @ 250 °F	85	0.53
		6 Months @ 250 °F	85	0.622

information.

ADDITIONAL INFORMATION

Visit our web site at:

www.royaladhesives.com

Contact us at:

Royal Adhesives and Sealants, LLC
 2001 W. Washington Street
 South Bend, IN 46628
 Phone: 800-999-GLUE
 Fax: 574-246-5425
 Web: www.royaladhesives.com

NOTE

The information herein is currently believed to be accurate. We do not guarantee its accuracy. Purchasers shall not rely on statements herein when purchasing any products. Purchasers should make their own investigations to determine if such products are suitable for a particular use. The products discussed are sold without warranty, express or implied, including a warranty of merchantability and fitness for use. Purchases will be subject to a separate agreement, which will not incorporate this document.

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