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ABOCAST/ABOCURE 8502-1

TDS 850209

LOW-VISCOSITY, FLEXIBILIZED EPOXY COMPOUND FOR ELECTRICAL COMPONENTS 2-Component Potting, Encapsulation & Impregnation System with extended Pot life.

ABOCAST/ABOCURE 8502-1 is a solventless clear Epoxy System, used as a casting, adhesive and impregnating resin for transformers, capacitors, coils and other electronic components requiring a low-viscosity, flexibilized resin with long pot life. It is also available in colors and in filled form (see back page). It is easy to use and its shelf life is virtually indefinite.

CHARACTERISTICS:

ABOCAST 8502-1: Clear low-viscosity resin.

ABOCURE 8502-1: Clear low-viscosity converter.

Mixing ratios: 100 pbw (parts by weight) ABOCAST with 88 pbw ABOCURE.
Viscosity at 65°C 46 cps.
Lbs/Gallon: 9.7.
Pot life: 2 days @ 20°C, about 7 hours @ 65°C.
Cure Cycle: 2-3 Hours, a 150-160°C (300-320°F), or 16 hrs a 95°C (203°F).

PHYSICAL PROPERTIES:

Compressive Yield Strength:	15,000 psi
Yield Deformation:	4.7%
Compressive Modulus:	4.85×10^5 psi
Ultimate Tensile Strength:	9,800 psi
Elongation:	1.7%
Tensile Modulus:	8.5×10^5 psi
Flexural Strength:	9,400 psi
Deflexion at Break:	0.53 inch
Flexural Modulus:	3.1×10^5 psi
Deflection Temperature:	49°C (120°F)
Rockwell M Hardness:	85
Izod Impact Strength:	0.6 ft lb/in notch
Coefficient of Expansion:	$60-65 \times 10^{-6}$ linear/°C
Thermal Conductivity:	$4-4.8 \times 10^{-4}$ cal/cm s deg C
Water Absorption, 10 days/20°C:	0.3-0.4% weight

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ELECTRICAL PROPERTIES:

Volume Resistivity:

Cond. A (as received):	5.1 x 10 ¹⁵ ohms/cm
Cond. C (96 hrs/23°C/96% rel. humidity):	2.5 x 10 ¹⁵ ohms/cm

Surface Resistivity:

Cond. A:	2.8 x 10 ¹⁴ ohms
Cond. C:	2.7 x 10 ¹⁴ ohms

Dielectric Constant

Dissipation Factor

Hertz Condition A (as received)		Cond. D (48 hrs in dist. H ₂ O at 50°C)	Cond. A (as received)	Cond. D (48 h. in. dist. H ₂ O at 50°C)
60	3.47	4.16	0.0079	0.055
10³	3.44	3.93	0.0070	0.032
10⁶	3.23	3.32	0.026	0.045

Volume Resistivity:

Cond. A (as received):	5.1 x 10 ¹⁵ ohms/cm
Cond. C (96 hrs /23°C /96% rel. humidity):	2.5 x 10 ¹⁵ ohms/cm

Surface Resistivity:

Cond. A:	2.8 x 10 ¹⁴ ohms
Cond. C:	2.7 x 10 ¹⁴ ohms

ABOCAST 8502-2/ABOCURE 8502-2 is also available as a filled version of the 8502-1 System, for a reduced coefficient of thermal expansion (30-35 x 10⁻⁶, against 60-65 x 10⁻⁶ for the 8502-1 System) and increased thermal conductivity (14-16 x 10⁻⁴, against 4-4.8 x 10⁻⁴ for 8502-1). Its color is red, but it is also offered in custom colors.

INSTRUCTIONS FOR USE:

Units and molds are to be clean, dry and warm (60-100°C) previous to impregnation or casting. Molds should be coated with a release agent like ABHESIVE 15B.

Mix ABOCAST/ABOCURE thoroughly and keep the blend warm for best flow and penetration. Evacuate for 10 minutes. Units to be impregnated should dwell in the liquid for at least one hour after vacuuming.

Dip-coating may require more than one cycle.

Cure for at least 10 hours. Faster cures at higher temperatures are possible after simple tests. Impregnated units are sometimes only partially cured (or not at all) when they are subsequently embedded and cured in the same resin or in its filled 8502-2 version (see above).

The above information is from reliable laboratory and field tests. However, no guarantee is given, as uses and applications are beyond our control. The test results are offered for consideration, investigation and verification.