

Technical Data Sheet

Secondary Insulation

RanVar™ B9-116

Single-Component Epoxy VPI Resin

RanVar™ B9-116

Product Description

RanVar™ B9-116 is a single-component, heat-cured, epoxy impregnating resin.

Areas of Application

Impregnation of transformers, motor windings and form-wound coils

Features and Benefits

- High flash point
- Excellent chemical resistance and elevated temperature bond strength
- Refrigerant-resistant
- Thixotropic for high build and improved resin retention
- No separate catalyst required
- UL recognized insulation systems up to Class 220

Application Methods

- Vacuum-Pressure Impregnation
- Vacuum Impregnation
- Dip-and-Bake

Transportation / Storage

Store below 25°C / 77°F in a dry controlled environment out of direct sunlight. This material should be suitable for use stored under these conditions in the original sealed containers for six (6) months from the date of shipment.

Usable life may be extended by refrigerated storage at 5°C / 41°F.

For best results, VPI storage tanks should have a replenishment rate of 10% or more per month and employ cooling systems to maintain the resin at 20°C / 68°F or below.

Mix product thoroughly before use

Health / Safety

Refer to the Material Safety Data Sheet.

Typical Properties of Material as Supplied

Property	Conditions	Value	Units
Viscosity – 2 rpm	25°C / 77°F	10,000 - 14,000	cP
Viscosity – 20 rpm	25°C / 77°F	3,000 - 5,000	cP
Sunshine Gel Time	165°C / 329°F	10 – 30	minutes
Weight per Gallon	25°C / 77°F	9.6 – 9.9	pounds
Flash Point	ASTM D93	> 94 > 201	°C °F

Curing Schedule

Two hours at 163°C / 325°F or four hours at 149°C / 300°F

Cure schedule is based on time after unit reaches specified temperature

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Typical Mechanical Properties

Property	Conditions	Value	Units
Helical Coil Bond Strength	ASTM D2519 – 25°C / 77°F	57	pounds
	ASTM D2519 – 150°C / 302°F	14	pounds
Hardness	Shore D – 25°C / 77°F	80	
Freon Extractable Material	NEMA RE-2	<1	%

Typical Electrical Properties

Property	Conditions	Value	Units
Dielectric Strength	ASTM D149 – 4 mils	2900	volts/mil
Dielectric Strength	ASTM D149 – 4 mils After 24 hours in water	2650	volts/mil

Underwriters Laboratories Recognition (ELANTAS File E75225)

Wire Construction	Helical Coil	Twisted Pair
NEMA MW16	Class 180	Class 180
NEMA MW35	Class 180	Class 180
NEMA MW76	Class 180	Class 180

UL Recognized Insulation Systems (File E52215)

Thermal Class	System
Class 155	MEGA VI
Class 180	MEGA III
Class 200	MEGA IV
Class 220	MEGA V

The above properties are typical values and are not intended for specification use.

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