STAR Technology
FORMULATING • INNOVATIVE • SOLUTIONS

ER7159

Secondary Insulation Impregnating Resin
Water Based Hermetic Varnish

DESCRIPTION

ER7159 is a one-part heat cure epoxy emulsion in water. ER7159 contains no solvents and forms a non-dripping film coating once the water has evaporated. ER7159 was designed for use as a dipping varnish on hermetic, general purpose and compressor motors. ER7159 was formulated to use with a variety of refrigerants and compressor oils while maintaining a low extractable value. ER7159 has superior physical strength while offering excellent electrical properties. Shake or stir well before using. ER7159 can only be used with a double insulated magnet wire.

Data contained herein are believed to be reliable. Fit-for-use testing should be conducted by each user.

BENEFITS

Zero VOC's | Low Extractables | Excellent Electrical Properties

PHYSICAL PROPERTIES	TEST METHOD	VALUE
Cure Time 302°F [150°C] (hours):		4
Viscosity @ 60% Solids (cps):	ASTM D2393	300-600
Viscosity @ 50% Solids (cps):	ASTM D2393	100-200
Viscosity @ 25% Solids (cps):	ASTM D2393	20-40
Specific Gravity (g/cc):	ASTM D1475	1.07
Liquid Color:		White
Dry Color:		Clear
Shore Hardness (D):	ASTM D2240	80
Tg (°C):		125
Dielectric Breakdown Strength (V/mil):		>2500
Percent Solids (%):		25-60
Service Temperature (°C):		200
Shelf Life (months):		12

PROCESSING

- Mix thoroughly before processing. Agitation once weekly recommended while stored.
- Pre-heat part for 1 hour at 135-150° C (275-300°F) to relax magnet wire and drive out residual moisture.
- Part temperature should be 50 - 55°C (120-130°F) before resin is introduced. Temperature is directly correlated to varnish penetration – too low varnish will not penetrate well and too high can damage varnish (advance cure).
- Submerge part slowly and hold until bubbles cease, about 10-20 minutes, to give complete penetration.
- Once the bubbles cease, raise part slowly.
- Drain for 10-15 minutes, longer if possible, allowing for less waste.
- Bake for 4-6 hours at 150°C. Full cure is necessary for development of performance properties.
- Store out of direct sunlight in a dry, cool place away from heat.

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Dilution Chart of Water to obtain different percentages of ER7159 - 60%

Please use Distilled or R/O Water

		Gallons of Water to Add		
		50%	**37.5%**	**25%**
1 Drum	50 Gallons	11	33	76
2 Drums	100 Gallons	22	65	152
5 Drums	250 Gallons	54	163	380
10 Drums	500 Gallons	119	326	760

Percentages of ER7159 - 50%		**37.5%**	**25%**
1 Drum	50 Gallons	20	57
2 Drums	100 Gallons	40	113
5 Drums	250 Gallons	99	283
10 Drums	500 Gallons	198	565

Percentages of ER7159 – 37.5%		**25%**
1 Drum	50 Gallons	25
2 Drums	100 Gallons	50
5 Drums	250 Gallons	124
10 Drums	500 Gallons	249

PRECAUTIONS

For industrial use only. Keep away from children. Refer to the Safety Data Sheets (SDS forms) pertaining to this product before using. Avoid contact with skin or eyes. In the event of an eye splash or contact, immediately flush with cold water for 15 minutes and contact a physician. If skin contact occurs, wash with mild soap and water. The wearing of safety glasses with side shields and impervious gloves is recommended.

RESIN AND HARDENER WARNING STATEMENT

May cause allergic skin reaction. Avoid all contact with skin, eyes, and clothing. Wash thoroughly after handling.

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