

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.

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

| | <u>TEST METHOD</u> | <u>VALUE</u> |
|--|--------------------|--------------|
| 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 |
| Viscosity @ 37% Solids (cps): | ASTM D2393 | 40-60 |
| Specific Gravity (g/cc): | ASTM D1475 | 1.07 |
| Liquid Color: | | White |
| Dry Color: | | Clear |
| Shore Hardness (D): | ASTM D2240 | 80 |
| Tg (°C): | | 125 |
| Helical Coil Bond Strength [50% solids (lbs)]: | ASTM D2519 | |
| 25C: | | 50 |
| 150C: | | 31 |
| Dielectric Breakdown Strength (V/mil): | ASTM D150 | |
| 0.3mil (V / mil) | | 2680 |
| Percent Solids (%): | | 25-60 |
| Service Temperature (°C): | | 200 |
| Shelf Life (months): | | 12 |

PROCESSING

- Mix thoroughly before processing. **Agitate 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.

To the best of our knowledge, the information contained herein is accurate. However, STAR TECHNOLOGY, Inc., does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material is the sole responsibility of the user. The information contained herein is considered typical properties and is not intended to be used as specifications for our products. This information is offered solely to assist purchaser in selecting the appropriate products for purchaser's own testing. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein and in the material safety data sheet, we cannot guarantee that these are the only hazards that exist. Repeated and prolonged exposure to epoxy resins can cause sensitization or other allergic responses.

STAR Technology

FORMULATING • INNOVATIVE • SOLUTIONS

ER7159

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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 | | |
|----------|-------------|--------------------------------|---------------------|-------------------|
| | | <u>50%</u> | <u>37.5%</u> | <u>25%</u> |
| 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%

| | | <u>37.5%</u> | <u>25%</u> |
|----------|-------------|---------------------|-------------------|
| 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%

| | | <u>25%</u> |
|----------|-------------|-------------------|
| 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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