

Technical Data Sheet

Secondary Insulation

Sterling[®] U-475 EH

Solvent-Borne Epoxy Impregnating Resin

Sterling® U-475 EH

Product Description

Sterling® U-475 EH is a solvent-borne epoxy impregnating resin featuring outstanding resistance to chemicals, including refrigerants.

Areas of Application

Impregnation of motor windings used in hermetic compressors and other refrigeration systems.

Impregnation and overcoating of motors, transformers and other electrical devices in severe duty applications

Features and Benefits

- Low viscosity for excellent penetration
- Moisture and chemical resistant
- Excellent tank stability
- High bond strength
- UL recognized insulation systems up to Class 180

Application Methods

- Dip-and-Bake
- Roll-through

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 twelve (12) months from the date of shipment.

Failure to store this product as recommended above may lead to deterioration in product performance.

Keep containers tightly sealed to minimize evaporation

Mix product thoroughly before use

Health / Safety

Refer to the Material Safety Data Sheet.

See ELANTAS PDG Technical Bulletin *TI-100 Handling Precautions for Epoxy Resins* for additional information.

Typical Properties of Material as Supplied

| Property | Conditions | Value | Units |
|----------------------|---------------------|-----------------------------|----------|
| Viscosity | 25°C / 77°F | 180 - 250 | cP |
| Non-Volatile Content | 0.5 g – 3 h – 110°C | 59 - 63 | % |
| Weight per Gallon | 25°C / 77°F | 8.65 - 8.95 | pounds |
| Viscosity Reducer | | ELAN-Plus™ BS-10421 Reducer | |
| Flash Point | ASTM D93 | 29 84 | °C °F |

Sterling® U-475 EH

Application / Curing Schedule

See ELANTAS PDG Processing Guide *PG-113 – Dip Processing Solvent-Borne Impregnating Resins*.

Cure for 2 hours at 175°C / 347°F –or– 4 hours at 150°C / 302°F. Higher temperature cure is recommended for hermetic applications.

The cure schedules above are based on time after the unit reaches the specified temperature and are recommendations only. The user is responsible for determining the optimum cure conditions for his application

Typical Mechanical Properties

| Property | Conditions | Value | Units |
|---|---------------|-------|--------|
| Build | | 2 | mils |
| Helical Coil Bond Strength ASTM D2519 over MW 35 | 25°C / 77°F | 40 | pounds |
| | 150°C / 302°F | 14 | pounds |

Typical Electrical Properties

| Property | Conditions | Value | Units |
|----------------------------------|---|--------|-----------|
| Dielectric Strength ASTM D149 | 25°C / 77°F - 2 mils | > 3600 | volts/mil |
| Dielectric Strength ASTM D149 | 25°C / 77°F - 2 mils After 24 hours in water | > 2800 | volts/mil |

UL Recognized Insulation Systems (ELANTAS File E87039)

| Thermal Class | System |
|---------------|------------------------------|
| Class 130 | 86-130-1, 86-130-2, 86-130-3 |
| Class 155 | 86-155-1, 86-155-2 |
| Class 180 | PDG 14 |

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

ELANTAS PDG, Inc. warrants the chemical composition of its products within stated tolerances, but does not guarantee that a product will be appropriate for any particular application. Any recommendation, performance of tests or suggestion is offered merely as a guide and is not a substitute for a thorough evaluation by the user. No representative of ELANTAS PDG, Inc. has the authority to offer a warranty that a product will perform satisfactorily in manufacturing a product and no such representation should be relied upon.