ELANTAS

Secondary Insulation

Product Information
VERNICE HI-THERM BC-359

E317427

A versatile baking varnish
Thermal class 180 (H)
Dip & Bake

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Product description

VERNICE HI-THERM BC-359 is a versatile baking varnish, specifically developed to provide the choice of a fast cure at lower temperature (saving energy), or an ultra –fast cure at higher temperature (saving time).

It exhibits an outstanding compatibility with the following magnet wires coatings:

- Amide-Imide
- Polyamide
- Polyurethane-Polyamide
- Polyvinyl Formal
- Polyurethane
- Epoxy
- Polyvinyl Formal-Polyamide
- Polyimide
- Textile
- Polyester Amide-Imide
- Polyester

Product advantage

- UL approved (File OBOR2.E317427 and OBJS2.E317429)
- Good bonding strength
- Good abrasion and chemical resistance
- Good moisture resistance
- Good stability

Application area

Impregnation of Stators, Low and medium speed Rotors, Transformers, windings, coils, Generators.

Processing

VERNICE HI-THERM BC-359 may be used either at atmospheric pressure impregnation or in VPI cycles, the viscosity can be adjusted by adding up to 25% of Dolph's T-200 thinner in order to have the desired varnish retention.

The following cycle is suggested as a starting point in the treatment of most units at atmospheric pressure:

- Thin the varnish according to the magnet wire diameter and the required film thickness,
- Preheat the units at 110°C;
- Cool to 40-50°C;
- Dip the units 10-20 minutes (until bubbling stop);
- Drain for 10-20';
- Place in oven and bake with one of the following cycles:
  3 - 4 hours at 120°C
  1 - 3 hours at 135°C
  ¾ - 2 hours at 150°C
  ½ - 1½ hours at 160°C

(Time must be taken after units reach the baking temperature)

The following cycle is suggested as a starting point for conveyor operation only:

- Thin the varnish at 20%;
- Preheat units to 50-60°C;
- Dip 15-30 seconds;
- Drain 2-4 minutes;
- Place in the oven and bake according to one of cycles mentioned above.

Package

This product is currently sold in 17 kg and 185 kg package.

Healthy & safety

Please refer to safety data sheet (SDS) 。

Storage & shelf life

The shelf life is 12 months, when stored in original closed containers at maximum 25 °C, protected from direct sunlight, moisture and humidity.

Properties of component as supplied

Properties	Condition	Test Method	Typical Value
Density	25°C	ISO 2811 EEIZ-WI/RD 05.002	0.845-0.945 g/ml
Appearance	-	Visual Inspection	Clear amber liquid
Viscosity	25°C	ISO 2431 EEIZ-WI/RD 05.004	180-340 cps
Solid Content	1.5g, 45min, 150°C	ISO 3251 EEIZ-WI/RD 05.003	39.0-45.0%
Curing time on a copper strip	110°C	ASTM D-115	30 min
Build-up, D.F.T		ASTM D-115 EEIZ-WI/RD 05.032	35-50 µm
Corrosive effects on copper	-	-	None

Dielectrical properties in cured condition

Properties	Condition	Test Method	Typical Value
Dielectric strength (25um dry film)	25°C	ASTM D-115 EEIZ-WI/RD 05.037	> 120 kV/mm
	25°C, after 24h water immersion		> 120 kV/mm

Thermal class according to UL 1446

Magnet wire	Twisted pairs	Helical coils
MW 24-C	155°C	155°C
MW 28-C	130°C	130°C
MW 35-C	180°C	200°C

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