



- TECHNICAL DATA SHEET -

HI-THERM BC-359
CLEAR BAKING VARNISH 180°C

DESCRIPTION

Very versatile curing cycles make this Class H, baking varnish unique. HI-THERM BC-359 was specifically developed to provide the choice of a fast cure at low temperature (saves energy), or ultra – fast cure at high temperature (saves time), with just one product. Some of the outstanding advantages in using HI-THERM BC-359 are:

- Fast cure at low temperature.
- High bond strength.
- Superior moisture resistance.
- Good tank stability.
- Suitable for class H (180°C) applications.
- UL recognized varnish, included in 180 °C insulating systems.
- Excellent abrasion and chemical resistance.

Recommended use

HI-THERM BC-359 is particularly recommended for:

Coils	Transformers	Stators
Generators	Low and medium speed rotors	Windings

CHARACTERISTICS

Physical Properties

Color	Clear Amber
Specific gravity at 25°C	900± 20 gr./lt.
Viscosity in Demmler Cup n.1 at 30°C	46/65"
Viscosity in Ford Cup n.4 a 25°C	50/60"
Build Up, D.F.T. (ASTM D-115)	mm.0,075/0,1
Thinner	Dolph's T-200
Curing time at 110°C on a copper strip (ASTM D-115)	30 min.
Curing time at 110°C in 20 gram test cup	2 hours
Corrosive effects on copper	none

Electrical Properties

Dielectric Strength (dry)	3.000 volts/mm. 0,025
Dielectric Strength (after 24 h. dipping into water)	3.000 volts/mm. 0,025

Chemical Resistance

Water	Excellent
Acid (10% Sulfuric acid)	Excellent
Alkali (1% Sodium Hydroxide)	Excellent
Salt Water	Excellent
Mineral Oil, ASTM D-115	Passed



APPLICATION

HI-THERM BC-359 may be used either at atmospheric pressure or in V.P.I. cycles. In order to obtain the proper build and cure, it is suggested that the following cycle be used as a starting point in the treatment of most units at atmospheric pressure :

1. Thin the varnish according to the magnet wire diameter and the required varnish thickness, when necessary up to 25% ;
2. Preheat units to 110°C;
3. Cool to 40-50°C;
4. Dip units into the varnish 10-20 minutes (until bubbling stops);
5. Drain for 10-20';
6. Place in oven and bake choosing 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
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(Time must be taken after units reach the baking temperature)

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

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

For specific conditions , please consult us.

GENERAL PROPERTIES

Compatibility with magnet wire coatings

HI-THERM BC-359 is compatible with the following magnet wire coatings:

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

Heat life

HI-THERM BC-359 has a heat life of 20.000 hours at 180°C as determined by ASTM D-3251 (twisted pairs) specifications, using a polyester amide-imide overcoated magnet wire.

Solvent

Thin with DOLPH'S T-200.

Dip tank stability

Long use experiences has proven HI-THERM BC-359 to have an excellent dip tank stability, even in the worst using conditions.