

Product Information

Viking V1380FC series

E73071

Solvented Varnish
Electrical Insulation system
Dip & Bake / VPI / Trickle

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Product Description

VIKING V1380FC is a faster curing version of V1380 low viscosity electrical insulating varnish.

It is a solvented, alkyd resin based, heat curing, Class '180°C' varnish (MW35 wire) with excellent electrical properties, good tank stability and anti-tracking qualities.

V1380FC cures to give a tough, bright surface finish, excellent protection against leakage currents and is particularly useful for protecting metal surfaces against oxidation.

It is compatible with most wire enamels and tapes used in transformers and motors.

Having the same resin and solvent base, V1380 can also be supplied in a black version, Viking V1380FC Black for applications where resin visibility / aesthetic finishes are required.

Areas of Application

The preferred applications for V1380FC series are via conventional dip and bake / VPI and / or trickle application for:

- Stators
- Transformers
- Coils

Please note that this product is not recommended for the impregnation of deep section windings.

Electrical Insulation Systems

V1380FC is UL recognised in file number E73071 and has the many associated insulation systems. Please contact Elantas Zhuhai Technical Service for more information.

Processing

Application methods are by conventional dip and bake / VPI and / or trickle.

When using V1380FC based resins care should be taken to ensure that the resin is not exposed to components with surface temperatures in excess of 40°C to minimise solvent loss and that the resin stock does not exceed 25°C. Note must be made that the component temperature will lag significantly behind indicated oven air temperature, to a degree that will depend on the machine size and oven efficiency.

Processing cont.

The following cure schedule is recommended for conventional VPI:

- Heat component to drive off moisture and cure electrical tapes and other thermosetting materials: 250°F (120°C) to 275° (135°C) is typical.
- Permit to cool to about 105°F (40°C).
- Immerse partly cooled transformers in vacuum tank containing varnish. Where necessary "dry vacuum" may be used first (see note 1 below).
- Apply vacuum for 10 to 15 minutes, then release vacuum.
- Permit units to soak in V1380 for 15 minutes after release of the vacuum.
- If needed for better impregnation, apply pressure of 15 psi for 10 to 15 minutes after soaking. Release pressure, then open tank.
- Drain excess varnish over the tank or over a drain board.
- Place in preheated oven for the following times at temperature (cure times listed below are after units reach listed temperature.

135°C/ 275°F	25 minutes
120°C/ 248°F	50 minutes
110°C/ 230°F	2 hours
100°C/ 212°F	3-4 hours
90°C/194°F	6-8 hours

Notes

1. For "dry vacuum" – place units in vacuum tank with no varnish. Vacuum at 29" to 30" vacuum for 5 minutes. Break vacuum to 15" or 20" by admitting air. Admit varnish through a control valve to vacuum tank. Increase vacuum to desired level and hold for 15 to 20 minutes, then release vacuum and continue steps 5 to 8 above.

Packaging

V1380FC is currently sold in 16kg & 177kg containers for ease of use.

Health & Safety

Refer to Elantas Zhuhai Material Safety Data Sheet (MSDS) for V1380FC.

Shelf life

12 months (in unopened containers stored below 25°C).

Properties of component as supplied

	V1380FC	V1380FC Black
SPECIFIC GRAVITY @ 25° C, typical	0.852 typical	0.890 typical
WEIGHT per GALLON @ 25°C, typical	7.10 typical	7.40 typical
COLOUR typical	Dark Amber	Black
SOLIDS	47-49%	48-52%
FLASH POINT	15°C (59°F)	15°C (59°F)
VISCOSITY @ 25° C Brookfield	150-300 cps	300-450cps
VISCOSITY @ 25° C Zahn No. 4 flow cup	15 - 30 seconds	N/A
REDUCER (THINNER)	S002, VM&P Naphtha	S002, VM&P Naphtha
	(meets Rule 66)	(meets Rule 66)

Electrical Properties

DRY DIELECTRIC STRENGTH (ASTM D115)	3,400 V/MIL	2,210 V/MIL
WET DIELECTRIC STRENGTH (ASTM D115)	3,250V/MIL	N/A
VOLUME RESISTIVITY (ASTM D257) @ 23°C	6.58×10^{14} OHM CM ⁻¹	N/A
SURFACE RESISTIVITY (ASTM D257)	3.64×10^{13} OHM CM ⁻²	N/A

Thermal Properties

THERMAL CONDUCTIVITY	0.70 W/M ° K
	OR 4.85 BTU/HR/FT ² /°K
TEMPERATURE CLASS (ASTM D3251)	CLASS A (105°C)
	CLASS B (130°C)
	CLASS F (155°C)
	CLASS H (180°C)

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