



- TECHNICAL DATA SHEET -

DOLPHON XL-2103 POLYESTER RESIN

DESCRIPTION

DOLPHON XL-2103 is a one-package, slightly thixotropic polyester resin suitable for the dipping impregnation either in open tanks or in vacuum chambers.

Hereafter the main features of this resin:



- UL approved (File OBOR2.E317427)
- Included in UL insulating systems 130-220°C (file OBJ2.E317429)
- Excellent wetting properties
- Good bond strength
- Very low weight loss on cure
- Very low odour
- Fast cure cycles

Recommended uses

Suitable for impregnation of stators, rotors, traction coils, transformers, inductance, other devices.

CARACTERISTIQUES

Physical properties	
Specific gravity, 25°C	1.150±30 g/l
Viscosity Ford cup n. 8, 25°C	30-40"
Viscosity Brookfield, 25°C	2500-3000 cps
Gel Time at 110°C	25-40'
Weight loss (10 g of liquid resin, cured 1 h. at 150°C)	< 3,5%
Thermal conductivity	0,25 / 0,30 W/mK

Mechanical properties		
Bond strength - Helical Coil method, ASTM D-2519 (Test performed with MW 35 magnet wire - coils baked 1 h. at 150°C)	Temperature	N to break
	25°C	>180
	80°C	>90
	155°C	>30

Electrical properties	
Dielectric Strength on a 25 microns thickness film, ASTM D-115	>3.2KV/0.25µm
Volume Resistivity, IEC 60464 part 2	>10 ¹⁵ Ωcm
Volume Resistivity after 7 days of water immersion, IEC 60464 part 2	>10 ¹² Ωcm
Surface Resistance, IEC 60464 part 2	>10 ¹⁵ Ω
Dielectric constant at 25°C, ASTM D-150	3,1

Thermal classification according to UL1446	
NEMA - MW-16	Twisted pair 220°C
NEMA - MW-35	Twisted pair 200°C



Chemical resistance		
Water absorption, ASTM D 570	90'at 100°C < 1.5% 24 h at 25°C < 1%	
Resistance to vapors of solvent, IEC 60464 part 2	Xylene Methanol Hexane	Resistant Resistant Resistant
Resistance to chemicals, 7 days of immersion, ASTM 543D	Hydrochloric acid 10 %	< 2.5 %
	Sulfuric acid 30%	< 1.5 %
	Green gasoline	< 1.5 %
	Oil Transformer	< 0.5 %
	Detergent solution	< 1.5 %

APPLICATION GUIDELINE

DOLPHON XL-2103 can be applied both under vacuum and in open dip tanks at atmospheric pressure. For application in open dip tanks or with conveyor systems the following cycle is suggested:

1. Preheat the units at 50-60°C (maximum);
2. Dip into the resin for 30-60';
3. Drain for 1 h. minimum;
4. Bake as follow:

2 ½ h. à 150°C	2 h. à 160°C	1 ¼ h. à 170°C
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(time must be taken after units reach the baking temperature).

For the VPI application the cycle must be set for each plant, please consult with us.

STORAGE AND STABILITY

DOLPHON XL-2103 is sensitive to UV rays. When not in use, the impregnation tanks must be protected from the light by means of a (non-transparent) lid. DOLPHON XL-2103 is supplied pre-catalyzed. The shelf-life is 12 months at room temperature (max 30°C). Store the resin in a cool place, protect from direct sunlight and keep away from heat sources. The stability of the resin in the tank can be indefinitely extended with the regular additions of fresh resin and periodically checking the gel-time. It is recommended to send a 300 g sample to our Laboratory every 6 months for a viscosity and gel-time control. DOLPHON XL-2103 reacts with natural rubbers; it is therefore not advisable using these materials in the impregnating plant construction.

NOTE: The resin can cause, in the course of the polymerization cycle, a greening effect on the bare copper. In such case the anti-greening additive 551/D can be added in order to prevent this phenomenon.

HANDLING PRECAUTION

Our products don't require particular precautions excepting for those normally taken when chemicals are used. For more details, see the MDSD.

Warning: All the information and application instructions concerning this product are based on technical specifications that we consider reliable, and are provided by way of example, according to our application experience. They do not establish any guarantee but only represent a starting point subject to alterations, according to the application and the kind of material to be treated. Before using the product, the user must determine the suitability for the intended use undertake all risks and responsibility for whatever may happen in connection with the application. The producer and/or seller will not be considered responsible for any accident, loss or damage (immediate or consequent) originating from the use and/or the inability to use the concerned product. Albesiano Sisa Vernici srl reserves the right to change or modify at any time and without any notice the technical specifications of the product described in this data sheet.			
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