

Technical Data Sheet

Resin

DOLPHON XL-2162 @

- One component polyester impregnating resin
- Very good mechanical properties
- Very low weight loss on cure
- VOC free
- Excellent wetting properties
- Fast cure cycles
- Medium viscosity
- Free of formaldehyde, styrene, vinyltoluene, triethylbenzene.
- The product fulfils the directives 2002/96/EC, 2011/65/EC, 2003/11EC. The raw materials of the product are pre-registered according to the REACH regulation No.1907/2006/EC

Description

DOLPHON XL-2162@ is a one-package, high reactivity, VOC free polyester resin specifically formulated for trickle or roll-through impregnation of rotors of alternators and starters armatures.

Applications

Impregnation of stators, rotors, armatures, alternators.

Processing guidelines

Roll-through:

1. Preheat the units to 60-70°C (optional);
2. Roll the unit in the resin;
3. Bake for 30 minutes at 140-150°C.
4. In case of induction heating, heat rapidly the units to 140°C to gel the resin and bake for 30 minutes at 140-150°C.

Trickle:

1. Preheat the units to 110-120°C (the temperature must be measured on the windings)
2. Trickle the resin on the unit, keeping it in slow rotation;
3. Bake for 20-30 minutes at 150-170°C.



Storage conditions – Shelf life

The shelf life is 6 months, when stored in original closed containers at maximum 30°C, protected from direct sunlight and heat sources. Sensitive to UV rays.

Health and safety

Our products are intended for professional/industrial use only. For any further information, please refer to safety data sheet.

Physical Properties	Test norm	Unit	Value
Specific gravity @ 25°C		g/l	1120 – 1180
Viscosity Brookfield @ 25°C		mPa.s	500-700
Viscosity ISO cup 6 @ 25°C		seconds	75-85
Gel time @ 100°C	Gel norm	minutes	8-11
Weight loss (10g liquid, cured 1h @ 150°C)		%	<1.0
Flash point			Not flammable

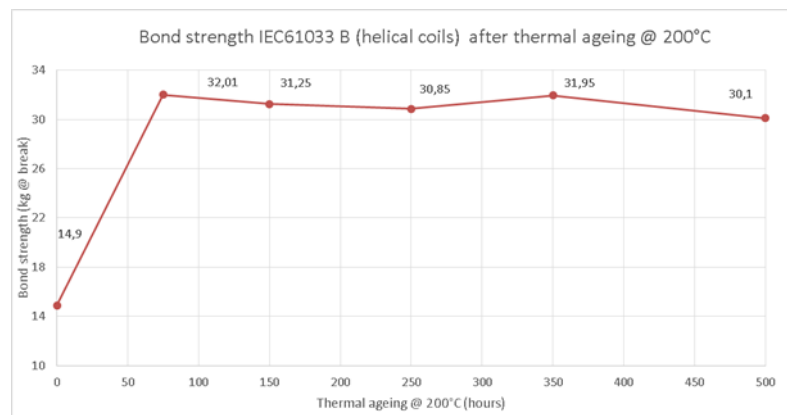
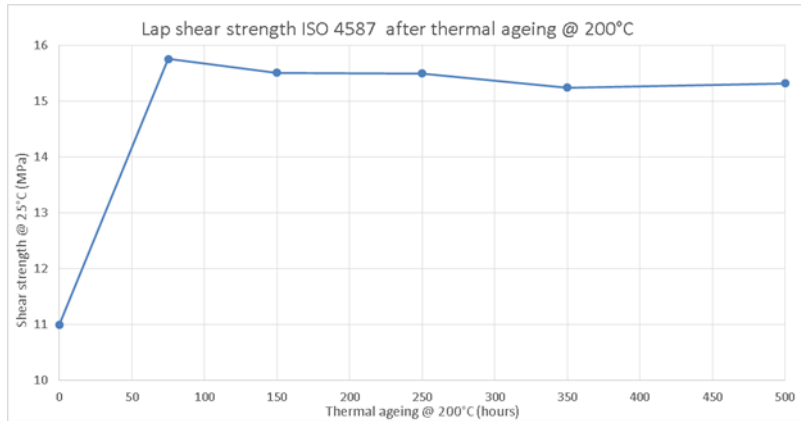
Electrical Properties	Test norm	Unit	Value
Dielectric strength @ 25°C, 25µm	ASTM D-115	KV/mm	>80
Dielectric strength @ 25°C, 25µm, after 24h immersion in water	ASTM D-115	KV/mm	>68
Volume resistivity @ 25°C	IEC 60464-2	Ω.cm	>10 ¹⁶
Volume resistivity @ 25°C after 7 days immersion in water	IEC 60464-2	Ω.cm	>10 ¹²
Surface resistivity	IEC 60464-2	Ω	>10 ¹⁶
Dielectric Constant @ 25°C 50HZ	ASTM D-150		3,2

Thermal Properties	Test norm	Unit	Value
Thermal Index (Twisted pairs)	ASTM D-3251	°C	185
Thermal Index (Helical coil)	IEC 60290	°C	210
Thermal Conductivity		W/m.K	0.30
Coefficient Thermal Expansion (-80 to -20°C)	TMA	ppm/°C	58
Coefficient Thermal Expansion (+40 to +130°C)	TMA	ppm/°C	129



Chemical Properties	Test norm	Unit	Value
Water absorption 90' @ 100°C	ASTM D-570	%	<1.5
Water absorption 24h @ 25°C	ASTM D-570	%	<1
Resistance to vapor of solvents	IEC 60464-2		
Xylene			Resistant
Hexane			Resistant
Resistance to chemicals (7 days immersion)	ISO 175		
Hydrochloric acid 10%		%	<2.5
Sulfuric acid 30%		%	<1.5
Green gasoline		%	<1.5
Oil transformers		%	<0.5
Detergent solution		%	<1.5

Mechanical Properties	Test norm	Unit	Value
Shear strength @ 25°C	ISO 4587	MPa	>10
Bond strength (MW35, single impregnation, curing 1h@160°C)	IEC 61033B Helical Coil		
25°C		N	>130
120°C		N	>30
155°C		N	>20
Bond strength (MW35, single impregnation, curing 1h@160°C)	IEC 61033A Twisted Coil		
25°C		N	>230
120°C		N	>130
155°C		N	>60



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