EN

Technical Data Sheet

Aquanel®

H2001

UL listed

Alkyd modified varnish - Water based - One component

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Product description

Product is a single component modified alkyd / epoxy varnish.
Product is classified as non hazardous for transportation and storage.

Areas of application

This product is designed for the impregnation and coating of all conventional rotating and stationary windings.

- Transformers
- Motors
- Electrical Coils
- Non Electrical Metal components

Properties of cured product

The cured product is tough and resilient, with good mechanical and dielectrical properties.
Product shows good resistance to the effects of liquid chemicals and solvent vapours.
Fully cured material is suitable for use at thermal class 180 (H) temperatures following IEC 60085.
Product is registered by Underwriters Laboratories under file No E 171184.

Processing methods

Typical methods of application are:

- Dipping
- Dip Roll
- Spray or Brush

Please refer to ELANTAS Technical Sales for application process specific data for this product.

Storage and stability

When stored correctly in tightly sealed containers the product has a shelf life of 6 months from the date of manufacture.
Resin should be stored below 25°C and kept away from direct sunlight and or other sources of heat.
The product viscosity / flow time, pH value and solid content may be maintained by the addition of water and or ELANTAS pH adjuster 823611
Do not allow material to freeze.

Handling precautions

Refer to the safety data sheet and comply with regulations relating to industrial health and waste disposal.

Sales specifications

Properties	Conditions	Test Method	Value	M/U
Viscosity	25 °C	IOR_4.03_04_AP_QT	360 ÷ 600	mPa·s

Typical product properties

Properties	Conditions	Test Method	Value	M/U
Appearance		Visual method	Liquid	
Density	25 °C	IO-10-51 (ASTM D 1475)	1,010 ÷ 1,110	g/ml
Solid content	1,5 g - 1 hrs - 135 °C	IOR_4.03_09_AP_QT	44 ÷ 47	%

Curing conditions

Properties	Conditions	Test Method	Value	M/U
Drying time	25 °C	--	24 ÷ 48	hrs

Mechanical properties in cured condition

Properties	Conditions	Test Method	Value	M/U
Specimens curing cycle		--	24 hrs at r.t. + 2 hrs at 90°C	
Bond strength (twisted coils)	25 ± 2 °C	IOS 1.02_102_QT (IEC 61033)	44 ÷ 60	N
Mandrel Bend Test	0,050 mm - 3,8 mm	IOS 1.02_103_QT (ASTM D 1737)	180	°

Dielectric properties in cured condition

Properties	Conditions	Test Method	Value	M/U
Specimens curing cycle	Thin layer	--	24 hrs at r.t. + 2 hrs at 90°C	
Dielectric constant at 50 Hz	25 ± 2 °C	IOS 1.02_90_QT (IEC 60250)	4,5 ÷ 5,5	
Loss factor at 50 Hz	25 ± 2 °C	IOS 1.02_90_QT (IEC 60250)	30 ÷ 90	$x10^{-3}$
Dielectric constant at 1000 Hz	25 ± 2 °C	IOS 1.02_90_QT (IEC 60250)	4,0 ÷ 5,0	
Loss factor at 1000 Hz	25 ± 2 °C	IOS 1.02_90_QT (IEC 60250)	15 ÷ 50	$x10^{-3}$
Volume resistivity	25 ± 2 °C	IOS 1.02_94_QT (IEC 60464-2)	$1x10^{12}$ ÷ $1x10^{13}$	Ω·cm
Dielectric strength	25 ± 2 °C	IOS 1.02_88_QT (IEC 60464-2)	95 ÷ 131	kV/mm

Resistance to chemicals

Properties	Conditions	Test Method	Value	M/U
Specimens curing cycle	Thin layer	--	24 hrs at r.t. + 2 hrs at 90°C	
Water absorption at 25 ± 2 °C	24 hrs	IOS 1.02_97_QT (ISO 62)	2,05 ÷ 3,84	%
Resistance against vapor of solvents	Acetone - 7 days	IOS 1.02_93_QT (IEC 60464-2)	Partially resistant	
	Xylene - 7 days		Partially resistant	
	Methanol - 7 days		Not resistant	
	Hexane - 7 days		Partially resistant	
Effect of liquid chemicals	Toluene	IOS 1.02_92_QT (ISO 175)	Resistant	
	Iso-octane		Resistant	
	Transformer oil		Resistant	
	Detergent		Not resistant	
	Ammonia solution 10%		Not resistant	
	Sodium hydroxide 1%		Not resistant	
	Hydrochloric acid 10%		Resistant	
	Sulfuric acid 30%		Not resistant	
	Acetic acid 5%		Not resistant	