Qualities that Bond

TECHNICAL BULLETIN

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PRODUCT INFORMATION

ULTIMEG 2000/520
SOLVENTLESS
CLASS H
UNSATURATED ISOPHTHALIC POLYESTER
LOW VISCOSITY
IMPREGNATING
LOW ODOUR
UL FILE NUMBER E220579, E321249

ULTIMEG 2000/520 SOLVENTLESS IMPREGNATING VARNISH

GENERAL DESCRIPTION

ULTIMEG 2000/520 is a solventless, unsaturated isophthalic polyester resin that gives high bond strength in completely filled windings working up to Class H (UL OBOR2 File E220579 180°C). The system affords low odour processing, has a sufficiently high flash point that it is exempt from flammability regulations, and has a low VOC (volatile organic content), which results in lower levels of emission during stoving. With the additional processing benefits of suitability for dip and vacuum techniques, and that the system is easily washed off the skin with soap and water, this makes the resin extremely versatile and practical in use. The system conforms to DEF31A and to BSEN60464 (ISO60464) type UP.

The cured resin has excellent electrical, mechanical and chemical resistance characteristics. The material also shows improved heat transfer, lower power factor, increased power availability, and improved noise reduction all of which are expected from the complete fill of windings that is achieved with this high quality product.

APPLICATION

Impregnation of a wide range of electric windings requiring high fill including armatures, stators, transformers and chokes.

SPECIFICATION:

VISCOSITY	4 - 6 poise.
NON VOLATILE CONTENT	95% min.
SPECIFIC GRAVITY	1.13 - 1.18
GEL TIME	20 – 30 min
FLASHPOINT	166°C
SHELF LIFE	12 months at 20°C (out of direct sunlight).

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PROCESSING

METHOD	-	Cold, warm dip (50°C) or vacuum impregnation
VISCOSITY	-	As supplied
THINNERS	-	Not applicable

WORKSHOP PRACTICE

Preheated components must be allowed to cool to about 50°C before impregnation.

Impregnated components should not come into contact with phenolic varnishes or vapours before or during the curing process.

Add new varnish to the tank regularly to maintain stability of the varnish in storage.

Samples of varnish should be submitted regularly to our laboratories for a condition check free of charge.

Higher and lower viscosity versions are available under the UL designation Ultimeg 2000 520MV and Ultimeg 2000 520LV. These materials would give slightly different application properties and the individual data for each should be consulted.

CURE SCHEDULE

TIME (hours)	4	2.5	1.5	0.75	0.5
TEMPERATURE (°C)	130	140	150	160	170

The actual cure time for the varnish is dependent on the size and type of component and oven efficiency. Typical cure schedules for small open static windings are shown below. (Temperatures are those of components).

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PROPERTIES OF CURED VARNISH

BOND STRENGTH	ASTM D2519	20°C	22kg
		150°C	7kg
		180°C	5kg
THERMAL ENDURANCE	UL1446	File No.E220579 20,000 hours	180°C
UL SYSTEMS	UL1446	File No.E321249	AEV180-1
DIELECTRIC STRENGTH	IEC243	At 50Hz & 20°C	130 v/µM
	50µM film	At 50Hz & 90°C	115 v/µM
		24hr water immersion	81 v/µM
THERMAL CONDUCTIVITY	VDE0304		0.19W/MK
FLEXIBILITY		3mm mandrel	Pass

HEALTH & SAFETY
Refer to Material Safety Data Sheet available.

PACKAGING
230 kg, 25 kg, 5 kg.

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