



## ULTIMEG RANGE

TECHNICAL GUIDE TO SELECTION

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Electrical Insulating Varnishes and Resins

		Resin type	Thermal Class	Flash Point	S.G	Shelf life	V.O.C	Viscosity	Typical cure	Bond strength	Bond strength	Dielectric strength		Special property	Application	Description	
			Class according to UL1446 (temp°C)	Abel closed cup °C	G/cm³	Months @ 21°C	%age	B4 cup seconds or Poise @ 25°C	hrs @	ASTM D2519 @ 21°C kg	ASTM D2519 @ 150°C kg	ASTM D115 DRY Kv / mm	After 24hrs water immersion				
SOLVENT BASED VARNISHES	Oven cure varnish	U250#	Epoxy phenolic	H(180)	26	1	18	58	45	4 hrs @ 150°C	22.7	5.8	150	140	Chemical resistance	Hermetic motors	Epoxy phenolic varnish with excellent freon and refrigerant gas resistance.
		U200FR	Modified polyester	H(180)	43	1	12	45	75	4 hrs @ 130°C	N/A	N/A	160	140	High Build protection	Transformers / Coils	High quality enveloping protection varnish used where exceptional moisture and chemical resistance is required. Remains flexible.
		U370	Modified polyester	H(180)	43	0.99	18	50	120	3 hrs @ 130°C	18	1.2	159	124	Fast or low temp. cure	Transformers / Motors	Resilient, high quality quick curing. Capability to cure down to 105°C. General purpose varnish for various applications.
		U380 	Phenolic mod Polyester	H(180)	40	0.93	24	50	130	4 hrs @ 130°C	20.5	1.8	166	120	High bond, tank stable UL approved	Motors / general purpose	Excellent UL recognised high build general purpose varnish. Used by many OEMs and repair shops. UL systems are available.
	Air drying varnish	U376	Alkyd	F(155)	27	0.94	12	68	25	Air drying	N/A	N/A	65	28	Cost effective	Transformers / LV motors / coils	Low viscosity, fast drying sealing and tropicalising varnish for small motors and transformers.
	U372 	Alkyd	H(180)	27	0.97	18	58	180	Air drying	N/A	N/A	72	30	Fast drying, CTi 180	Motors / transformers	High build UL recognised air drying varnish. Available in pigmented versions as anti-tracking enamels. UL systems are available.	
SOLVENTLESS RESINS	Dipping / VPI / Roll Dip Resins	U505	Unsaturated Polyester	H(180)	31	1.69	6	100% Reactive	105	2hrs @ 130°C	19	5	100	46	Heat Transfer	Lighting ballasts	White pigmented ballast resin where heat transfer is a necessity.
		U510	Polyester	H(180)	65	1.03	12	5	40	4 hrs @ 130°C	N/A	N/A	140	70	Flexible	Transformers, ferrite cores	Flexible, high build up polyester resin for application by VPI in transformers. Very good noise reduction properties.
		U520 	Unsaturated Polyester	H(180)	166	1.18	12	5	6	4 hrs @ 130°C	22	7	130	81	Not classified as flammable	Motors / Transformers	Low odour, high flash point single component resin for VPI, roll and immersion applications. UL systems are available.
		U540 Pig	Unsaturated Polyester	H(180)	31	1.08	12	5	60	2hrs @ 130°C	19	5	155	112	Pigmented impregnation	Transformers	Pigmented impregnation coating for transformers, available in most RAL colours
		U550	Unsaturated Polyester	H(180)	>200	1.1	6	0	20	3hrs @ 130°C	16	4	100	60	Low V.O.C fast process	Transformers / Motors	Low V.O.C impregnation by Dip / Roll / VPI of Motors / Transformers where fast, Low temperature process is required.
	Trickle Resins	U530A&B	Unsaturated Polyester	H(180)	31	1.08	3	100% Reactive	2-2.5	Induction	25	10	155	112	High bond	Stators / Rotors	General purpose high bond two part trickle resin.
	U530GC	Unsaturated Polyester	H(180)	31	1.2	3	100% Reactive	40	Induction	19	5	130	108	High build	Domestic appliances	Blue reinforced Gel Coat for high speed armatures.	
WATER BASED	Aquameg	A300	Polyester	H(180)	N/A	1.04	18	<3	50	4 hrs @ 130°C	22	3.5	135	112	Cost effective	Motors / Transformers	General purpose VOC compliant water based varnish.
		A850	Phenolic Mod Polyester	H(180)	N/A	1.03	18	<3	50	4 hrs @ 150°C	22	4.8	139	119	High bond, tank stable	Motors / General Purpose	VOC compliant water based varnish with high bond strength even when used at low solids levels.
		A770	Hybrid	H(180)	N/A	1.02	12	<2	80	Air force drying	N/A	N/A	152	118	Excellent salt spray resistance	Motors / Transformers	Low VOC Air dry varnish available in Clear and Pigmented versions. Excellent corrosion resistance and good all round properties. Replacement for High VOC Air dry Varnishes.
		A1000	Epoxy Emulsion	H(180)	N/A	1.05	12	0	30-60 cps	4 hrs @ 150°C	26	5.5	105	100	Chemical resistance & Bond strength	LV Motors / Hermetic Motors	0 VOC Epoxy Emulsion with excellent bond strengths at elevated temperatures and good resistance to chemicals including those used in Hermetic applications.
EPOXY TECHNOLOGY		U2002L	Epoxy	H(180)	N/A	1.12	12	0	4	4 hrs @ 150°C	26	5.4	104	75	Low viscosity / no V.O.C	Motors / Transformers	0 V.O.C Epoxy impregnation applied by dip / roll / VPI to all general purpose motors and transformers. UL systems are available for all the 2002 range.
		U2002	Epoxy	H(180)	N/A	1.14	12	0	6	4 hrs @ 150°C	28	6	90	70	General purpose VPI	MV / Traction Motors	Single component, General purpose VPI resin giving all the benefits of Epoxy resin.
		U2002T	Epoxy	H(180)	N/A	1.15	12	0	35	4 hrs @ 150°C	37	8.3	120	65	Higher film build	LV / MV / Traction / Trafo	Higher build Epoxy VPI resin, where traditional film builds of Epoxy are not acceptable.
		U2002XT	Epoxy	H(180)	N/A	1.16	12	0	65	4 hrs @ 150°C	45	8	115	60	Chemical resistance	MV Generators / Motors	Silica filled epoxy resin for VPI impregnation of random wound stators and rotors. High build.
		U2002HVR	Epoxy	F(155)	N/A	1.14	12	0	6	8hrs @ 165°C	31	6.8	120	85	High Voltage resin	HV Machine Impregnation	Global impregnation of HV systems where uncatalysed Mica tapes are used up to 15KV.
		U2020	Epoxy	H(180)	N/A	1.10	24	0	3	Room Temperature	25	6	110	82	High bond, room temperature cure	Stators / Rotors	High bond strength, ambient cure epoxy trickle resin.
		U2004LN	Epoxy	H(180)	N/A	1.12	12	0	4	12hrs @ 160°C	25	3	175	130	Flexible	Wound Cores	Flexible void free impregnation of cut cores and transformers.
		U2001WW	Epoxy	H(180)	N/A	1.48	6	0	Thixo	4 hrs @ 150°C	N/A	N/A	100	85	Heat transfer	Wet winding of field coils / end windings	Wet winding resin that cures to give exceptional bond and heat transfer
		U2003FL	Epoxy	H(180)	N/A	1.02	6	0	4	12hrs @ 160°C 7hrs @ 80°C**	26	5.4	104	75	Low temperature cure	Transformers, coils and ferrites	Impregnation resin applied by dip/VI or VPI. Extremely low viscosity & low temperature cure. Can be accelerated to cure at lower temperatures and shorter cure times.
		U2050	Epoxy	H(180)	N/A	1.2	9	0	100 - 150	Induction 15 mins @ 120°C	40	7	200	100	Single component trickle	Power Tools / Automotive Armatures	Single component trickle resin capable of replacing an Impregnation/Gel coat trickle process. Excellent thermal capability.
		U2006	Epoxy	H(180)	N/A	1.15	12	0	30	8 hrs @ 140°C	32	5.4	210	115	Film build / Bond strength stability	VPI of LV Machines	A resilient single component VPI epoxy resin with excellent stability and high bond strength and electrical properties.
		U2220	Epoxy	C(220)	N/A	1.15	12	0	50	8 hrs @ 165°C	38	8.6	190	115	High Temperature properties	VPI of Traction motors and field coils	A high performance VPI Epoxy resin system that exhibits superior properties at elevated temperatures.
	ANCILLARY PRODUCTS		U2220GP	Epoxy	H(180)	N/A	2	12	0	Putty	3 hrs @ 150°C	N/A	N/A	210	115	1 component putty	Filling putty rotating machines
		XP1	Epoxy	F(155)	N/A	2.2	12	0	Putty	5 hrs @ 20°C	N/A	N/A	N/A	N/A	2 component putty	Rotors and armatures	Two component balancing putty.
		PMC	Acrylic	N/A	N/A	1	36	0	280	Air drying	N/A	N/A	N/A	N/A	Removable	Masking compound	Solvent free, water based masking lacquer.
		U705	Cellulose Acetate	N/A	<22	0.95	24	65	Thixo	Air drying	N/A	N/A	N/A	N/A	Removable	Masking compound	Very quick drying blue masking lacquer.
		U720	HT Grease	N/A	N/A	0.9	36	0	Grease	No cure	N/A	N/A	N/A	N/A	High temperature	Masking Grease	Solution for masking all types of surfaces prior to Dip or VPI impregnation methods. Protects surfaces from Polyester and Epoxy resins without causing contamination to tanks. Easily removable after cure.