

ULTIMEG RANGE

Electrical Insulating Varnishes & Resins



Guide To Selection

OBOR2 UL Recognised Products
OBS2 UL Systems
Various Chemistry & Applications

Qualities that Bond

State-of-the-art production processes
Innovative products
International production facilities

Producer of electrical
insulating varnishes,
resins and compounds
to satisfy all global
customer requirements

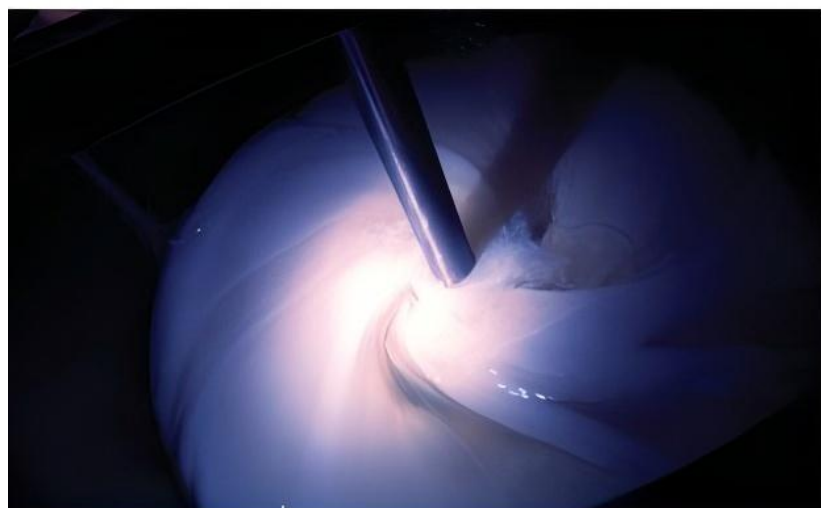


The AEV group, now a member of Isovolt AG, is a leading international manufacturer of electrical insulating resins, varnishes and compounds used in the production of electrical and electronic components around the world.

Our products are used in the manufacture of a wide range of electrical machines and electronics, from domestic appliances to industrial products for the defence, energy and transport industries. The current product range is the result of years of research and development by a highly skilled and dedicated team. Each product has been chemically engineered to deliver advanced performance in its unique application, balanced with responsible sourcing and environmental considerations.

The AEV brand will continue to grow and thrive under the Isovolt umbrella. 16 production and sales locations in 11 countries, holding laboratories and testing facilities rely on many years of experience in the synthesis and conversion of raw materials into highly reliable, intelligent materials. Material and technology know-how, flexibility and innovative spirit determine product development and characterise the partnership with customers.

16 locations, 1270 employees, dedicated to your success!



Solvent Based Varnishes



	Thermal Class	Viscosity	Density	Shelf Life	Typical Cure	Bond Strength IEC61033 (Newtons)		Dielectric Strength IEC60243 (kVmm ⁻¹)		Special Properties	Application
	Class according to UL1446 (temp°C)	mPas @ 25°C	gcm ⁻³	Months @ 21°C	Time @ Temperature	21°C	150°C	DRY	24hr Water Immersion		
Oven Cure Varnishes											
U250# - Epoxy Phenolic Epoxy phenolic varnish with excellent Freon and refrigerant gas resistance.	Class H (180°C)	75 - 120 secs B4 Cup	0.97 - 1.01	18	4 hours @ 150°C	227	58	150	140	High Chemical Resistance when exposed to refrigerants	Hermetic motors
U200FR - Modified Polyester High quality enveloping protection varnish used where exceptional moisture and chemical resistance is required. Remains flexible.	Class H (180°C)	5000 - 10000mPas	0.98 - 1.04	18	4 hours @ 130°C	N/A	N/A	160	140	High Build Enveloping. Excellent coverage on exposed corners.	Transformers / Coils
U370 - Modified Polyester Resilient, high quality quick curing. General purpose varnish for various applications.	Class H (180°C)	90 - 125 secs B4 Cup	0.97 - 0.99	18	3 hours @ 130°C	180	12	159	124	Low Temperature fast curing Varnish.	Transformers / Motors
*U380#  - Phenolic Modified Polyester UL recognised high build general purpose varnish. Used by many OEM'S and repair shops. *UL Electrical Insulation Sytems are available.	Class H (180°C)	90 - 140 secs B4 Cup	0.89 - 0.93	24	4 hours @ 130°C	201	18	166	120	High bond strength & chemical resistance, Tank stable.	General Purpose Motors
Air Drying Varnishes											
U376 - Alkyd Low viscosity, fast drying sealing and tropicalising varnish for small motors and transformers.	Class F (155°C)	20 - 40mPas	0.88 - 0.92	12	24 hours @ 25°C	N/A	N/A	65	28	Cost Effective General Purpose Varnish used as an overcoat	Transformers / LV Motors
*U372#  - Alkyd High build alkyd air drying varnish. Available in pigmented versions as anti-tracking enamels. *UL Electrical Insulation Sytems are available.	Class H (180°C)	200 - 300mPas	0.96 - 0.99	18	<24 hours @ 25°C	N/A	N/A	72	30	Fast Drying Resin. CTI 180°C	Transformers / MV Motors

Solventless & Water Based Resins



	Thermal Class	Viscosity	Density	Shelf Life	Typical Cure	Bond Strength IEC61033 (Newtons)		Dielectric Strength IEC60243 (kVmm ⁻¹)		Special Properties	Application
	Class according to UL1446 (temp°C)	mPas @ 25°C	gcm ⁻³	Months @ 21°C	Time @ Temperature	21°C	150°C	DRY	24hr Water Immersion		
VPI & Dipping Resins											
*U520  - Unsaturated Polyester Low odour, high flash point single component resin for VPI, roll and immersion applications. *UL Electrical Insulation Systems are available.	Class H (180°C)	50 - 80 secs B4 Cup	0.97 - 1.01	18	4 hours @ 150°C	227	58	150	140	High Chemical Resistance when exposed to refrigerants.	Hermetic Motors.
U540 Pig - Unsaturated Polyester Pigmented impregnation coating for transformers, available in most RAL colours.	Class H (180°C)	5000 - 10000mPas	0.98 - 1.04	18	4 hours @ 130°C	N/A	N/A	160	140	High Build Enveloping. Excellent coverage on exposed corners.	Transformers / Coils
Water Based - Aquameg											
A300 - Polyester General purpose VOC compliant water based varnish.	Class H (180°C)	100 - 140secs B4 Cup	1.04 - 1.08	12	4 hours @ 130°C	147	49	135	112	Cost Effective Low Maintenance Varnish.	Motors / Transformers
A850 - Phenolic Modified Polyester VOC compliant water based varnish with high bond strength even when used at low solids levels.	Class H (180°C)	100 - 150secs B4 Cup	1.04 - 1.08	12	4 hours @ 130°C	245	80	139	119	High Bond Strength, Tank Stable Resin	General Purpose Motors

Ancillary Products



	Thermal Class	Viscosity	Density	Shelf Life	Typical Cure	Bond Strength IEC61033 (Newtons)		Dielectric Strength IEC60243 (kVmm ⁻¹)		Special Properties	Application
	Class according to UL1446 (temp°C)	mPas @ 25°C	gcm ⁻³	Months @ 21°C	Time @ Temperature	21°C	150°C	DRY	24hr Water Immersion		
U705 - Cellulose Acetate Rapid drying, traditional blue masking lacquer.	N/A	Thixotropic	0.98 - 1.02	24	Air drying	N/A	N/A	N/A	N/A	Removable	Masking compound
U720 - HT Masking Grease Masking solution for all types of surfaces prior to Dip or VPI impregnation methods. Protects surfaces from Polyester and Epoxy resins without causing contamination to tanks.	N/A	Grease	0.85 - 0.95	36	N/A	N/A	N/A	N/A	N/A	High temperature	Masking Grease
U2833 - Epoxy Amine A red two component epoxy resin with low filler content. Designed to feature a long pot life to ease processing and may be diluted with Utimeg T4 thinners for easy spray application. This results in a semirigid yet flexible film which resists cracking under strain or bending.	Class B (130°C)	70 - 160mPas	1.20 - 1.40	12	2 hours @ 130°C	N/A	N/A	150	112	Long pot life	Spray application
XP3 - Epoxy Two part, 1:1 mix ratio, coloured black and beige, which when mixed properly gives a uniform grey to ensure uniform mixing. Fast curing and excellent chemical and physical properties particularly dimensional stability. (Metal, glass, plastics, timber, dry concrete rubber etc). Primarily used as a balancing putty.	Class H (180°C)	Putty	>2	12	20 - 30 minutes @ 25°C	N/A	N/A	N/A	N/A	Class H, Quick Cure	Balancing, gap filling, light ballasts in transformers and sealing
U2220GP - Epoxy Single component filling putty compatible with U2002 & U2220 series Epoxy resins. Fills gaps in windings on rotating or static machines. Available in UL systems.	Class H (180°C)	Putty	1.60 - 1.70	12	20 - 30 minutes @ 25°C	N/A	N/A	210	115	1 component putty	Filling putty rotating machines
UF820 - Epoxy Part A, Part B, brick red, two part 50 / 50 mix. Epoxy protection of stator end windings against moisture, oil, dust and carbon ingress.	Class B (130°C)	Thixotropic	1.15 - 1.25	12	4 hours @ 60°C	N/A	N/A	N/A	N/A	Thixotropic trowelling compound	Encapsulation of stator end windings
U8000 - Epoxy Multi purpose Epoxy Adhesive. Rapid cure at ambient temperature with extremely high shear and peel strength. Suitable for use in class H systems and U-L recognised in OBJS2 systems, AEV 155-1 and AEV 180-1.	Class H (180°C)	32000 - 37000	1.12 - 1.20	12	1.5 - 2 hours @ 25°C	Roller Peel Test (Nmm ⁻¹) ISO4578 280N 5 mins-12 hrs		N/A	N/A	High shear and peel strength	Multi purpose Epoxy Adhesive
Contalack 4314 OCP varnish: Black , conductive single part polyester with high electrical conductivity and low viscosity. Suitable for use in high voltage stress gradient environments.	Class F (155°C)	1000 - 1500	0.95 - 1.05	6	<12 hours @ 25°C	N/A	N/A	Surface Resistivity 150-800Ω @ 25°C	Surface Resistivity 250-1000Ω @ 155°C	Used as a single coat resulting in very high electrical conductivity with fast drying and little settlement	Used as outer corona protection for high voltage coils

Epoxy Potting Compounds



	PROCESSING INFORMATION							CURED PROPERTIES									
ULTIFIL # / UL QMFZ2 Rating (File E174454)	Density Base	Density Mixed	Mix Ratio by Volume	Mix Ratio by Weight	Viscosity of Mixture @ 25°C (mPas)	Useable Life 500g mass @ 21°C (minutes)	Colour	Shore Hardness	Tensile Strength ASTM D638 (N)	Elongation at Break ASTM D-638 (N)	Dielectric Strength IEC60243 (kVcm-1)	Dielectric Constant IEC60250 (50Hz)	Flammability Classification (UL94)	Water Absorption ISO62 (%)	Thermal Conductivity W/mK	Special Property	Typical Application
U2004	1.10	1.10	3 : 1	100 : 30	200	45	Clear	82D	47	5	182	4.3	N/A	0.12	0.22	Low viscosity, thermal shock resistance, class F	Transformers, electronics, small brake coils
U2004B	1.10	1.10	3.6 : 1	100 : 25	200	45	Black	80D	45	6	168	4.5	N/A	0.14	0.22	Low viscosity, thermal shock resistance, class F	Transformers, electronics, small brake coils
UF810	1.80	1.70	100 : 11	15 : 1	12000	90	Blue	87D		4	160	4.9	N/A	0.18	0.46	General purpose potting	Coils, general in-fill
UF810NL cULUS	1.78	1.60	3.5 : 1	100 : 16	4000	40	Various Colours	87D	50	2	180	4.7	V-0	0.16	0.44	Flame retardant potting of electronic transformers	Small to medium transformers
UF810STB cULUS	1.87	1.79	100 : 10	100 : 19.8	4500	45	Black	88D	55	1	200	5.4	V-0	0.18	1.00	High thermal conductivity, flame retardant, Class H	Ballasts, heat sinks
UF814	1.18	1.11	100 : 58	3 : 2	2000	45	Black	70D	35	3	250	3.4	N/A	0.15	N/A	Flexible, semi-rigid with good adhesion to XLPE, PVC nylon and all metals.	Cable jointing compound
UF815	1.05	1.05	100 : 50	100 : 50	1000	25	Clear	60A		45	270	6.2	N/A	0.18	0.23	Low viscosity, flexible Epoxy resin system. Can be re-enterable for repair	Connectors, sensors
UF2004TCB cULUS	1.77	1.65	100 : 20	100 : 11	4500	45	Black	89D	52	4	190	4.8	HB	0.16	0.70	Good thermal conductivity, thermal shock resistance, Class H	Linear motors, transformers, Toroids, small magnets
UF2114TC# cULUS	1.82	1.68	100 : 18	100 : 10	2500	180	Various Colours	85D	65	1	190	5.2	HB	0.15	1.00	High thermal conductivity. Resilient & class H with good surface finish. Available in all RAL colours.	Linear motors, transformers, Toroids, small magnets
UF2040R	1.73	1.65	100 : 20	100 : 11	4500	120	White	50D	52	11	190	5.5	N/A	0.11	0.60	Flexible for large castings and thermal shock resistance	Large Magnets, Hybrid motors
EG55/8M cULUS	1.72	0.97	N/A	100 : 14	1400	50	Various Colours	75D	N/A	N/A	N/A	N/A	V-0	0.15	0.72	Fire Retardant	Transformers/General Purpose
EG-17	1.83	1.00	N/A	100 : 20	2000	N/A	All Colours	90D	N/A	N/A	N/A	N/A	N/A	0.15	0.60	Excellent mechanical and dielectric properties	