

ULTIFIL RANGE

Polyurethane and Epoxy Encapsulating Resins



Guide To Selection

Potting & Casting Resins
Thermal Class B,F & H
Variety Of Applications
UL recognised product E174454

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 Isovolta 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 Isovolta 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!



Polyurethane 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	Tensil Strength ASTM D638 (N)	Elongation at Break ASTM D-638 (N)	Dielectric Strength IEC60243 (kVmm-1)	Dielectric Constant IEC60250 (50Hz)	Flammability Classification (UL94)	Water Absorbion ISO62 (%)	Thermal conductivity W/mK	Special Property	Typical Application
UF010	1.3	1.26	100 : 26	100 : 25	1800	75	Black	85A	11	55	176	4.5	N/A	0.21	0.22	Resilient, medium to low viscosity general purpose potting	PCB, transformers, electronics
UF010X Family	1.45	1.4	100 : 25	100 : 22	3500	5	Various	90A	13	44	160	4.5	N/A	0.21	0.28	Cost effective volume fill	Transformers, yellow box
UF025	1.50	1.45	100 : 25	100 : 20.5	1800	60	Black	90A / 50D	15	95	200	5.3	V-0	0.18	0.45	Flame retardant resilient low viscosity material, where high thermal conductivity and high elasticity is needed	PCB, transformers, electronics
UF041 	1.56	1.5	100 : 29	100 : 23	2200	10	Black	85D	32	8	189	4.5	V-0	0.16	0.45	Flame retardant, rigid, general purpose potting UL RTI 150°C	Toroidal transformers, Capacitors
UF050N 	1.53	1.46	100 : 25	100 : 21	2500	Various	Various Colours	75D	27	22	206	4.6	V-0	0.18	0.32	Flame retardant, semi-rigid general purpose potting	Linear motors, transformers, Toroids, small magnets
UF050AD	1.56	1.49	100 : 19	100 : 15	800	20	Grey	75D	9	64	195	4.5	N/A	0.2	0.43	Minimal pressure on inserts, lower shrinkage, and excellent adhesion for sealing to metal cases	Encapsulation, sealing and potting of electronic components
UF060	1.5	1.45	100 : 12.5	100 : 10	2000	15	Off-white	75A / 12D	8	62	160	4.4	N/A	0.21	0.31	Flexible for stress sensitive components and re-enter ability	Ferrite cores, PCB, electronics, small transformers
UF060FR	1.71	1.62	100 : 16.6	100 : 11.8	5500	5	Black	90A / 42D	13	48	160	4.9	V-0	0.21	0.42	Flame retardant resilient, good heat dissipation	Large transformers, LV lighting
UF060XT	2.0	1.87	100 : 20	100 : 12.3	8000	10	Black	55D	13	35	155	5.4	N/A	0.24	1.02	High Thermal Conductivity / Dissipation	Transformers
PU570	1.05	1.13	100 : 100	100 : 115	1400	10	Water White	55D	N/A	70	15	N/A	N/A	0.12	0.25	Clear, room temperature cure, flexible, UV Stable	LED encapsulation, sealing and potting of electronics
U461/38 	1.52	1.50	100 : 21	100 : 16	15	20	Various Colours	85A / 43D	7	25	18	N/A	N/A	0.15	0.70	Flexible / Flame Retardant	Transformers / General Purpose

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	Tensil Strength ASTM D638 (N)	Elongation at Break ASTM D-638 (N)	Dielectric Strength IEC60243 (kVmm-1)	Dielectric Constant IEC60250 (50Hz)	Flammability Classification (UL94)	Water Absorbtion 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 	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 	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 	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# 	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 	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	

Polyurea Potting Resins

	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	Tensil Strength ASTM D638 (N)	Elongation at Break ASTM D-638 (N)	Dielectric Strength IEC60243 (kVmm-1)	Dielectric Constant IEC60250 (50Hz)	Flammability Classification (UL94)	Water Absorption ISO62 (%)	Thermal Conductivity W/mK	Special Property	Typical Application
UFUR-1	1.10	2.30	N/A	100 : 50	1200	20	Red / Black	83A / 30D	9	200	N/A	N/A	N/A	N/A	0.54	Excellent dielectric properties from -40°C up to + 120 °C.	Electromagnets, transformers, capacitors and for elastic castings
UFUR-S31	1.50	1.80	N/A	100 : 85	1000	5	Various	80D	N/A	2	18	N/A	V-0	0.15	0.70	Very Fast Curing	General Purpose
UHF-1	1.10	2.30	100 : 24	100 : 50	1200	20	Red / Black	83A / 30D	9	200	N/A	N/A	N/A	N/A	0.54	Excellent dielectric properties from -40°C upto + 120 °C.	Electromagnets, transformers, capacitors and for elastic castings
EG-S31	1.50	1.80	100 : 73	100 : 85	1000	5	Various	80D	N/A	2	18	N/A	V-0	0.15	0.70	Very Fast Curing	General Purpose

Notes