ULTEM™ Resin 2120

DESCRIPTION

ULTEM 2120 resin is a high flow 10% glass fiber reinforced polyetherimide resin. The material is RoHS compliant and is intrinsically flame retardant without the use of FR modifiers and offers UL94 V0 at ≥ 0.5 mm. The material may offer excellent dimension stability, strength, stiffness and creep resistance up to high temperature due to its high glass transition temperature of 217 °C. The material is opaque and can be custom colored.

ISCC+ certified renewable bio-based solutions are available for this grade via differentiated color nomenclature.

GENERAL INFORMATION	
Features	Flame Retardant, Chemical Resistance, Good Processability, High Flow, Hydrolytic Stability, Low Smoke and Toxicity, Thin Wall, Amorphous, IR Transparent, Non halogenated flame retardant, Dimensional stability, High stiffness/Strength, High temperature resistance, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Brands	ULTEM™
Polymer Types	Polyetherimide (PEI)
Processing Techniques	Injection Molding, Extrusion, Compression molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Under the Hood, Automotive Lighting
Electrical and Electronics	Electrical Components and Infrastructure
Industrial	Semiconductors, Electronic Material Handling, Electronic Material
Mass Transportation	Rail

TYPICAL PROPERTY VALUES

Revision 20260722

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, break, 5 mm/min	124	MPa	ISO 527
Tensile Strain, break, 5 mm/min	4.2	%	ISO 527
Tensile Modulus, 1 mm/min	4960	MPa	ISO 527
Flexural Modulus, 2 mm/min	4920	MPa	ISO 178
Flexural Stress, break, 2 mm/min	205	MPa	ISO 178
Tensile Modulus, 5 mm/min	5100	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3	%	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	120	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	5100	MPa	ASTM D790
Flexural Stress, yld, 1.3 mm/min, 50 mm span	220	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	220	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	4	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	3.8	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	28	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	29	kJ/m²	ISO 180/1U

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	2.6	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	2.7	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	31.7	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	33.2	kJ/m²	ISO 179/1eU
Izod Impact, notched, 23°C	50	J/m	ASTM D256
Izod Impact, notched, -30°C	45	J/m	ASTM D256
Izod Impact, unnotched, 23°C	510	J/m	ASTM D4812
THERMAL [1]			
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	205	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	214	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/120	218	°C	ISO 306
Vicat Softening Temp, Rate B/50	215	°C	ASTM D1525
CTE, -40°C to 40°C, flow	3.15E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	5.92E-05	1/°C	ASTM E831
Relative Temp Index, Elec	170	°C	UL 746B
Relative Temp Index, Mech w/impact	170	°C	UL 746B
Relative Temp Index, Mech w/o impact	170	°C	UL 746B
PHYSICAL [1]			
Density	1.24	g/cm³	ISO 1183
Mold Shrinkage, flow [2]	0.3 – 0.5	%	SABIC method
Mold Shrinkage, xflow [2]	0.3 – 0.5	%	SABIC method
Specific Gravity	1.34	-	ASTM D792
Melt Flow Rate			
337°C/6.7 kgf	20	g/10 min	ASTM D1238
Melt Volume Rate			
337°C/6.7 kg	12	cm³/10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	1E+13	Ω.cm	ASTM D257
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
Dielectric Strength, in oil, 1.6 mm	27	kV/mm	ASTM D149
Hot-Wire Ignition (HWI), PLC 1	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥0.5	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥0.5	mm	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
FLAME CHARACTERISTICS [3]			
UL Recognized, 94V-0 Flame Class Rating	≥0.5	mm	UL 94
Glow Wire Ignitability Temperature, 3.0 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 0.5 mm	825	°C	IEC 60695-2-13
Glow Wire Flammability Index			
3.0 mm	960	°C	IEC 60695-2-12
1.5 mm	960	°C	IEC 60695-2-12
0.5 mm	960	°C	IEC 60695-2-12
UL Yellow Card Link	104556711-E121562	-	-
INJECTION MOLDING [4]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Temperature	150	°C	
Drying Time	4 – 6	Hrs	
Drying Time (Cumulative)	24	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	350 – 400	°C	
Nozzle Temperature	345 – 400	°C	
Front - Zone 3 Temperature	345 – 400	°C	
Middle - Zone 2 Temperature	340 – 400	°C	
Rear - Zone 1 Temperature	330 – 400	°C	
Mold Temperature	135 – 165	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article

(3) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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