ULTEM™ Resin 2320G

DESCRIPTION

ULTEM 2320G resin is a high flow 30% glass fiber reinforced polyetherimide resin. This grade contains renewable feedstock through ISCC plus mass-balance certification. The material is RoHS compliant and is intrinsically flame retardant without the use of FR modifiers. The material offers 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.

GENERAL INFORMATION	
Features	Flame Retardant, Chemical Resistance, Good Processability, High Flow, Hydrolytic Stability, Low Smoke and Toxicity, Thin Wall, Amorphous, IR Transparent, Bio-Renewable, Non halogenated flame retardant, Dimensional stability, High stiffness/Strength, High temperature resistance, No PFAS intentionally added
Fillers	Glass Fiber
Polymer Types	Polyetherimide (PEI)
Processing Techniques	Injection Molding, Extrusion, Compression molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Under the Hood, Automotive Lighting
Consumer	Consumer Goods, Personal Accessory
Electrical and Electronics	Energy Management, Electronic Components, Mobile Phone - Computer - Tablets
Mass Transportation	Rail

TYPICAL PROPERTY VALUES

Revision 20260805

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, break, 5 mm/min	185	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.5	%	ISO 527
Tensile Modulus, 1 mm/min	10500	MPa	ISO 527
Flexural Modulus, 2 mm/min	10500	MPa	ISO 178
Flexural Stress, break, 2 mm/min	260	MPa	ISO 178
Tensile Modulus, 5 mm/min	10500	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	175	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	10500	MPa	ASTM D790
Flexural Stress, yld, 1.3 mm/min, 50 mm span	270	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	270	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	9	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	9	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	46	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	48	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	8	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	8	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	50	kJ/m²	ISO 179/1eU

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	52	kJ/m²	ISO 179/1eU
Izod Impact, notched, 23°C	80	J/m	ASTM D256
Izod Impact, notched, -30°C	60	J/m	ASTM D256
Izod Impact, unnotched, 23°C	615	J/m	ASTM D4812
THERMAL [1]			
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	212	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	217	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/120	230	°C	ISO 306
Vicat Softening Temp, Rate B/50	220	°C	ASTM D1525
CTE, -40°C to 40°C, flow	1.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	5.8E-05	1/°C	ASTM E831
Relative Temp Index, Elec	180	°C	UL 746B
Relative Temp Index, Mech w/impact	170	°C	UL 746B
Relative Temp Index, Mech w/o impact	180	°C	UL 746B
PHYSICAL [1]			
Density	1.52	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	1.5	-	ASTM D792
Melt Flow Rate			
337°C/6.7 kgf	10	g/10 min	ASTM D1238
ELECTRICAL [1]			
Volume Resistivity	1E+13	Ω.cm	IEC 60093
Hot-Wire Ignition (HWI), PLC 3	≥0.5	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 0	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥0.5	mm	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
Dielectric Strength, in oil, 1.6 mm	28	kV/mm	ASTM D149
Dielectric Strength, in air, 1.6 mm	27	kV/mm	ASTM D149
Comparative Tracking Index (UL) {PLC}	4	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	850	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	850	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 0.5 mm	850	°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	E207780-10249790	-	-
INJECTION MOLDING [4]			
Drying Temperature	150	°C	
Drying Time	4 – 6	Hrs	
Drying Time (Cumulative)	24	Hrs	
Maximum Moisture Content	0.02	%	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Melt Temperature	350 – 410	°C	
Nozzle Temperature	345 – 410	°C	
Front - Zone 3 Temperature	345 – 420	°C	
Middle - Zone 2 Temperature	340 – 410	°C	
Rear - Zone 1 Temperature	330 – 400	°C	
Mold Temperature	135 – 180	°C	
Back Pressure	0.3 – 0.5	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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