ULTEM™ Resin 2220

DESCRIPTION

ULTEM 2220 resin is a high flow 20% 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, yield, 5 mm/min	150	MPa	ISO 527
Tensile Stress, break, 5 mm/min	148	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.7	%	ISO 527
Tensile Strain, break, 5 mm/min	3.9	%	ISO 527
Tensile Modulus, 1 mm/min	6800	MPa	ISO 527
Flexural Modulus, 2 mm/min	7000	MPa	ISO 178
Flexural Stress, break, 2 mm/min	240	MPa	ISO 178
Tensile Modulus, 5 mm/min	7700	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3.3	%	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	160	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	7600	MPa	ASTM D790
Flexural Stress, yld, 1.3 mm/min, 50 mm span	250	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	250	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	6	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	6	kJ/m²	ISO 180/1A

© 2026 Copyright by SABIC. All rights reserved

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, unnotched 80*10*4 +23°C	34	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	34	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	4	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	39	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	39	kJ/m²	ISO 179/1eU
Izod Impact, notched, 23°C	60	J/m	ASTM D256
Izod Impact, notched, -30°C	55	J/m	ASTM D256
Izod Impact, unnotched, 23°C	580	J/m	ASTM D4812
THERMAL [1]			
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	210	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	215	°C	ISO 75/Bf
HDT, 1.82 MPa, 3.2mm, unannealed	210	°C	ASTM D648
Vicat Softening Temp, Rate B/120	225	°C	ISO 306
Vicat Softening Temp, Rate B/50	220	°C	ASTM D1525
CTE, -40°C to 40°C, flow	1.6E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	5.34E-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	1.4	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	1.4	-	ASTM D792
Melt Flow Rate			
337°C/6.7 kgf	14	g/10 min	ASTM D1238
Melt Volume Rate			
337°C/6.7 kg	8	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Hot-Wire Ignition (HWI), PLC 2	≥0.5	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 1	≥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
Volume Resistivity	1E+13	Ω.cm	ASTM D257
Dielectric Strength, in oil, 1.6 mm	27	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	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

© 2026 Copyright by SABIC. All rights reserved

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
1.5 mm	960	°C	IEC 60695-2-12
0.5 mm	960	°C	IEC 60695-2-12
UL Yellow Card Link	E121562-104574016	-	-
INJECTION MOLDING [4]			
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.

DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.

© 2026 Copyright by SABIC. All rights reserved