ULTEM™ RESIN SF2270

DESCRIPTION

20% Glass fiber filled, super high flow (highest flow) polyetherimide(PEI) (TG 217degC) with internal mold release, ECO conforming, UL94 V0 listing.

TYPICAL PROPERTY VALUES

Revision 20260421

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Flexural Stress, yld, 1.3 mm/min, 50 mm span	189	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	189	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	8000	MPa	ASTM D790
Tensile Stress, brk, Type I, 5 mm/min	145	MPa	ASTM D638
Tensile Modulus, 5 mm/min	9247	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.5	%	ASTM D638
Flexural Stress, yield, 2 mm/min	174	MPa	ISO 178
Flexural Stress, break, 2 mm/min	173	MPa	ISO 178
Flexural Modulus, 2 mm/min	7102	MPa	ISO 178
Tensile Stress, break, 5 mm/min	131	MPa	ISO 527
Tensile Modulus, 1 mm/min	9102	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
IMPACT [1]			
Izod Impact, notched, 23°C	67	J/m	ASTM D256
Izod Impact, unnotched, 23°C	323	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	7.7	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	28.8	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	6.9	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	32.9	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	202	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	199	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	207	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	204	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	202	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	208	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/50	211	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	213	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	210	°C	ISO 306
Vicat Softening Temp, Rate B/120	212	°C	ISO 306
CTE, -40°C to 150°C, flow	2.4E-05	1/°C	ASTM E831
CTE, -40°C to 150°C, xflow	6.0E-05	1/°C	ASTM E831
CTE, 23°C to 150°C, flow	1.77E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	6.77E-05	1/°C	ISO 11359-2
Relative Temp Index, Elec [2]	105	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	105	°C	UL 746B

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Relative Temp Index, Mech w/o impact [2]	105	°C	UL 746B
PHYSICAL [1]			
Density	1.435	g/cm³	ISO 1183
Mold Shrinkage, flow [3]	0.33	%	SABIC method
Mold Shrinkage, xflow [3]	0.45	%	SABIC method
Moisture Absorption, (23°C/50% RH/24hrs)	0.04	%	ISO 62-4
Water Absorption, (23°C/24hrs)	0.12	%	ASTM D570
Specific Gravity	1.441	-	ASTM D792
Melt Volume Rate			
360°C/2.16 kg	17	cm³/10 min	ISO 1133
337°C/6.7 kg	30	cm³/10 min	ISO 1133
345°C/10.0 kg	87	cm³/10 min	ISO 1133
Melt Flow Rate			
337°C/6.7 kgf	43	g/10 min	ASTM D1238
345°C/10 kgf	110	g/10 min	ASTM D1238
360°C/2.16 kgf	22	g/10 min	ASTM D1238
ELECTRICAL [1]			
Volume Resistivity	2.52E+16	Ω.cm	IEC 60093
Surface Resistivity, ROA	5.1E+16	Ω	IEC 60093
Comparative Tracking Index	175	V	IEC 60112
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-104394172	-	-
UL Recognized, 94V-0 Flame Class Rating	1.5 – 1.6	mm	UL 94
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) 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.

(3) 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.

(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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