ULTEM™ RESIN SF2250EPR

DESCRIPTION

20% Glass fiber filled, super high flow polyetherimide(PEI) (TG 217degC) with internal mold release and balance properties with flow and ductility, 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	202	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	197	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	7796	MPa	ASTM D790
Tensile Stress, brk, Type I, 5 mm/min	145	MPa	ASTM D638
Tensile Modulus, 5 mm/min	9057	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.5	%	ASTM D638
Flexural Stress, yield, 2 mm/min	201	MPa	ISO 178
Flexural Stress, break, 2 mm/min	199	MPa	ISO 178
Flexural Modulus, 2 mm/min	7619	MPa	ISO 178
Tensile Stress, break, 5 mm/min	136	MPa	ISO 527
Tensile Modulus, 1 mm/min	8747	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.3	%	ISO 527
IMPACT [1]			
Izod Impact, notched, 23°C	79.7	J/m	ASTM D256
Izod Impact, unnotched, 23°C	368	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	8.8	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	30	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	8.5	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	35	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	201	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	198	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	207	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	205	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	203	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	209	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/50	212	°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	211	°C	ISO 306
CTE, -40°C to 150°C, flow	2.3E-05	1/°C	ASTM E831
CTE, -40°C to 150°C, xflow	5.4E-05	1/°C	ASTM E831
CTE, 23°C to 150°C, flow	2.0E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	7.0E-05	1/°C	ISO 11359-2
Relative Temp Index, Elec [2]	105	°C	UL 746B

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Relative Temp Index, Mech w/impact [2]	105	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	105	°C	UL 746B
PHYSICAL [1]			
Density	1.4314	g/cm³	ISO 1183
Mold Shrinkage, flow [3]	0.3833	%	SABIC method
Mold Shrinkage, xflow [3]	0.4466	%	SABIC method
Moisture Absorption, (23°C/50% RH/24hrs)	0.05	%	ISO 62-4
Water Absorption, (23°C/24hrs)	0.136	%	ASTM D570
Specific Gravity	1.4314	-	ASTM D792
Melt Volume Rate			
360°C/2.16 kg	12	cm³/10 min	ISO 1133
337°C/6.7 kg	21	cm³/10 min	ISO 1133
345°C/10.0 kg	57	cm³/10 min	ISO 1133
Melt Flow Rate			
360°C/2.16 kgf	12.9	cm³/10 min	ASTM D1238
337°C/6.7 kgf	21.9	cm³/10 min	ASTM D1238
345°C/10 kgf	56	cm³/10 min	ASTM D1238
ELECTRICAL [1]			
Dielectric Constant			
1.1 GHz	3.382	-	SABIC method
5 GHz	3.353	-	SABIC method
10 GHz	3.344	-	SABIC method
15 GHz	3.397	-	SABIC method
Dissipation Factor			
1.1 GHz	0.0020	-	SABIC method
5 GHz	0.0024	-	SABIC method
10 GHz	0.0031	-	SABIC method
15 GHz	0.0035	-	SABIC method
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	345 – 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	%	

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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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