

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 VO listing.

TYPICAL PROPERTY VALUES

Revision 20231109

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



Relative Temp Index, Mech Wy Impact. III 105 "C 17 46IN Relative Temp Index, Mech Wy Impact. III 165 "C 17 46IN Provision. III 14314 Impact. III Mol 1183 Mold Shrinkage, Index III 1,4314 Impact. III Mol 1183 Mold Shrinkage, Index III 3,4334 \$ 46II cented Mold Shrinkage, Index III 3,4314 \$ 50.24 Mater Absorption, (23*C)50x R1/24hrs) 1,312 4 50.133 Molt Work Rate, MW & 2350*C)2.18 kg 12 6 70.17 Initial 50.113 Molt You Make, AssoryClask get 12 1 10.10 10.10 3.10 23.28 Molt You Make, AssoryClask get 12 1 10.10 10.10 3.10 23.28 3.10	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Relative Temp Index, Mech wyo impact ⁽¹⁾ 105 C L/1462 Britscut ⁽¹⁾ Land 14 glorn ⁽²⁾ 101 183 Mood Shrinkage, rilow ⁽²⁾ 0.486 3 500 cm color of the color	Relative Temp Index, Mech w/impact (2)	105	°C	UL 746B
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Moisture Absorption, (23°C/26ns) 0.05 % Motor Absorption Water Absorption, (23°C/26ns) 0.136 % AMTORGO Specific Gravity 14314 cm/10 min 80 1133 Melt Volume Rate, MVR at 330°C/2.16 kg 2 cm/10 min 80 1133 Melt Volume Rate, MVR at 345°C/10.0 kg 7 cm/10 min ASM 10128 Melt Flow Rate, 36°C/2.16 kgf 12.9 (70 min ASM 10128 Melt Flow Rate, 36°C/2.16 kgf 12.9 (70 min ASM 10128 Melt Flow Rate, 34°C/10 kgf 12.9 (70 min ASM 10128 Melt Flow Rate, 34°C/10 kgf 12.9 (70 min ASM 10128 Melt Flow Rate, 34°C/10 kgf 13.9 (70 min ASM 10128 Melt Flow Rate, 34°C/10 kgf 3.33 2 50 min ASM 1028 15 CH2 3.34 2 80 Emethod 15 CH2 3.00 2 80 Emethod 15 CH2 4 0.0024 3 40 Emethod 16 CH2 5 1.0 2 40 Emethod				
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Melt Volume Rate, MVR at 345°C/10 kig 57 cm² l'0 min SO 133 Melt Row Rate, 360°C/10 kig/ 12.9 910 min ASTM D1238 Melt Flow Rate, 350°C/10 kig/ 56 910 min ASTM D1238 Melt Flow Rate, 345°C/10 kig/ 56 910 min ASTM D1238 BECETRICAL.** FLORIZONIA BECETRICAL.** FLORIZONIA BECETRICAL.** BECETRICAL.** BECETRICAL.**	· -			
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Drying Time 4-6 Hrs Drying Time (Cumulative) 24 Hrs Maximum Moisture Content 0.02 % Melt Temperature 0.50-400 °C Nozzle Temperature 345-400 °C Middle - Zone 2 Temperature 345-400 °C Middle - Zone 2 Temperature 345-400 °C Rear- Zone 1 Temperature 330-400 °C Mold Temperature 300-400 °C Rear- Zone 1 Temperature 300-400 °C Mold Temperature 300-400 °C Mold Temperature 300-400 °C Scew Speed 400-70 MPa Screw Speed 400-70 ym	INJECTION MOLDING (4)			
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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 %	Drying Time	4 – 6	Hrs	
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 %	Drying Time (Cumulative)	24	Hrs	
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 %	Maximum Moisture Content	0.02	%	
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 %	Melt Temperature	350 – 400		
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 %	Nozzle Temperature	345 – 400		
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 %	Front - Zone 3 Temperature	345 – 400		
Mold Temperature 135 – 165 °C Back Pressure 0.3 – 0.7 MPa Screw Speed 40 – 70 rpm Shot to Cylinder Size 40 – 60 %	Middle - Zone 2 Temperature	345 – 400		
Back Pressure 0.3 – 0.7 MPa Screw Speed 40 – 70 rpm Shot to Cylinder Size 40 – 60 %	Rear - Zone 1 Temperature	330 – 400		
Screw Speed 40 – 70 rpm Shot to Cylinder Size 40 – 60 %	Mold Temperature	135 – 165	°C	
Shot to Cylinder Size 40 - 60 %	Back Pressure	0.3 – 0.7	MPa	
	Screw Speed	40 – 70	rpm	
Vent Depth 0.025 - 0.076 mm	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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