

SABIC Innovative Plastics ULTEM 2300F PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

30% Glass fiber filled, standard flow Polyetherimide (Tg 217C). ECO Conforming. US FDA Food Contact compliant in recognized colors.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-2300F-PEI.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.51 g/cc	1.51 g/cc	ASTM D792
Density	1.51 g/cc	0.0546 lb/in ³	ISO 1183
Water Absorption	0.16 % @Time 86400 sec	0.16 % @Time 24.0 hour	ASTM D570
Moisture Absorption	0.500 %	0.500 %	23 ^o C / 50% RH; ISO 62
Moisture Absorption at Equilibrium	0.90 %	0.90 %	ASTM D570
Water Absorption at Saturation	0.90 %	0.90 %	ISO 62
Linear Mold Shrinkage, Flow	0.0020 - 0.0040 cm/cm @Thickness 3.20 mm	0.0020 - 0.0040 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0020 - 0.0040 cm/cm @Thickness 3.20 mm	0.0020 - 0.0040 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	5.0 g/10 min @Load 6.60 kg, Temperature 337 ^o C	5.0 g/10 min @Load 14.6 lb, Temperature 639 ^o F	ASTM D1238
Melt Index of Compound	6.0 g/10 min @Load 5.00 kg, Temperature 360 ^o C	6.0 g/10 min @Load 11.0 lb, Temperature 680 ^o F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	114	114	ASTM D785
Tensile Strength at Break	158 MPa	22900 psi	Type I, 5 mm/min; ASTM D638
	165 MPa	23900 psi	5 mm/min; ISO 527
Tensile Strength, Yield	165 MPa	23900 psi	5 mm/min; ISO 527
	168 MPa	24400 psi	Type I, 5 mm/min; ASTM D638

Elongation at Break Mechanical Properties	2.0 % Metric	2.0 % English	5 mm/min; ISO 527 Comments
	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	2.0 %	2.0 %	5 mm/min; ISO 527
	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	9.30 GPa	1350 ksi	5 mm/min; ASTM D638
	9.50 GPa	1380 ksi	1 mm/min; ISO 527
Flexural Yield Strength	225 MPa	32600 psi	1.3 mm/min, 50 mm span; ASTM D790
	225 MPa	32600 psi	2 mm/min; ISO 178
Flexural Modulus	8.50 GPa	1230 ksi	2 mm/min; ISO 178
	8.95 GPa	1300 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.850 J/cm	1.59 ft-lb/in	ASTM D256
	0.900 J/cm	1.69 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	ASTM D256
	4.91 J/cm	9.20 ft-lb/in	ASTM D256
	@Thickness 3.20 mm	@Thickness 0.126 in	ASTM D256
Izod Impact, Unnotched	4.27 J/cm	8.00 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	40.0 kJ/m ²	19.0 ft-lb/in ²	80*10*4; ISO 180/1A
	40.0 kJ/m ²	19.0 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	80*10*4; ISO 180/1A
Charpy Impact, Notched	1.00 J/cm ²	4.76 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	10.0 J	7.38 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	20.0 Åµm/m-Å°C	11.1 Åµin/in-Å°F	ASTM E 831
	@Temperature -20.0 - 150 Å°C	@Temperature -4.00 - 302 Å°F	ASTM E 831
	20.0 Åµm/m-Å°C	11.1 Åµin/in-Å°F	ISO 11359-2

Thermal Properties	Metric @Temperature 23.0 - 150 Å°C	English @Temperature 73.4 - 302 Å°F	Comments
CTE, linear, Transverse to Flow	60.0 Åµm/m-Å°C	33.3 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 150 Å°C	@Temperature -40.0 - 302 Å°F	
	60.0 Åµm/m-Å°C	33.3 Åµin/in-Å°F	ISO 11359-2
	@Temperature 23.0 - 150 Å°C	@Temperature 73.4 - 302 Å°F	
Deflection Temperature at 0.46 MPa (66 psi)	212 Å°C	414 Å°F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	210 Å°C	410 Å°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	208 Å°C	406 Å°F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
	210 Å°C	410 Å°F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	213 Å°C	415 Å°F	Rate B/50; ISO 306
	220 Å°C	428 Å°F	Rate B/120; ISO 306
	227 Å°C	441 Å°F	Rate B/50; ASTM D1525
Glass Transition Temp, Tg	217 Å°C	423 Å°F	
Oxygen Index	50 %	50 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	3.00e+16 ohm-cm	3.00e+16 ohm-cm	ASTM D257
Dielectric Constant	3.7	3.7	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	24.8 kV/mm	630 kV/in	in air; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	30.3 kV/mm	770 kV/in	in oil; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.0015	0.0015	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0053	0.0053	

Electrical Properties	Metric	English	ASTM D150 Comments
	@ Frequency 2.45e+9 Hz	@ Frequency 2.45e+9 Hz	

Descriptive Properties	Value	Comments
Ball Pressure Test, 125Â°C +/- 2Â°C	Passes	IEC 60695-10-2

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