SABIC Innovative Plastics ULTEM XH6050F PEI Copolymer (Asia Pacific)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Transparent, enhanced flow Polyetherimidesulfone copolymer (Tg 247C). ECO Conforming. US FDA Compliant. Resin is subject to U.S. Commerce Control Laws (15CFR Chapter VII, Part 774).

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-XH6050F-PEI-Copolymer-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 g/cc	1.30 g/cc	ASTM D792
Density	1.30 g/cc	0.0470 lb/inÂ³	ISO 1183
Moisture Absorption	0.600 %	0.600 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	1.75 %	1.75 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	on Tensile Bar; SABIC Method
	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	12.5 g/10 min @Load 6.60 kg, Temperature 367 Â°C	12.5 g/10 min @Load 14.6 lb, Temperature 693 Â°F	ASTM D1238
Melt Index of Compound	8.0 g/10 min @Load 5.00 kg, Temperature 360 Â°C	8.0 g/10 min @Load 11.0 lb, Temperature 680 Â°F	MVR [cm^3/10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	140 MPa	20300 psi	ISO 2039-1
Tensile Strength at Break	78.0 MPa	11300 psi	5 mm/min; ISO 527
	96.0 MPa	13900 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	95.0 MPa	13800 psi	5 mm/min; ISO 527
	96.0 MPa	13900 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	16.8 %	16.8 %	5 mm/min; ISO 527
	25 %	25 %	Type I, 5 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
Elongation at Yield	6.0 %	6.0 %	Type I, 5 mm/min; ASTM D638
	8.5 %	8.5 %	5 mm/min; ISO 527
Tensile Modulus	3.11 GPa	451 ksi	1 mm/min; ISO 527
	3.51 GPa	509 ksi	5 mm/min; ASTM D638
Flexural Strength	159 MPa	23100 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Yield Strength	123 MPa	17800 psi	2 mm/min; ISO 178
	155 MPa	22500 psi	2.6 mm/min, 100 mm span; ASTM D790
Flexural Modulus	3.08 GPa	447 ksi	2 mm/min; ISO 178
	3.10 GPa	450 ksi	2.6 mm/min, 100 mm span; ASTM D790
	3.17 GPa	460 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	ASTM D256
	0.740 J/cm @Temperature -30.0 Â°C	1.39 ft-lb/in @Temperature -22.0 Â°F	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D4812
Izod Impact, Notched (ISO)	4.00 kJ/mÂ²	1.90 ft-lb/inÂ²	80*10*4; ISO 180/1A
	5.00 kJ/mÂ² @Temperature -30.0 Â°C	2.38 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*4; ISO 180/1U
	NB @Temperature -30.0 Â°C	NB @Temperature -22.0 Â°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	NB	NB	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	NB @Temperature -30.0 Â°C	NB @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Dart Drop, Total Energy	33.0 J @Temperature 23.0 Â°C	24.3 ft-lb @Temperature 73.4 Â°F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 Âµm/m-Â°C @Temperature -40.0 - 150 Â°C	27.8 Âµin/in-Â°F @Temperature -40.0 - 302 Â°F	ASTM E 831
	50.0 Âµm/m-Â°C @Temperature 23.0 - 150 Â°C	27.8 Âµin/in-Â°F @Temperature 73.4 - 302 Â°F	ISO 11359-2
CTE, linear, Transverse to Flow	50.0 Âµm/m-Â°C @Temperature -40.0 - 150 Â°C	27.8 Âµin/in-Â°F @Temperature -40.0 - 302 Â°F	ASTM E 831
	50.0 Âµm/m-Â°C @Temperature 23.0 - 150 Â°C	27.8 Âµin/in-Â°F @Temperature 73.4 - 302 Â°F	ISO 11359-2
Thermal Conductivity	0.220 W/m-K	1.53 BTU-in/hr-ftÂ²-Â°F	ASTM E 1530
Deflection Temperature at 0.46 MPa (66 psi)	222 Â°C @Thickness 3.20 mm	432 Â°F @Thickness 0.126 in	unannealed; ASTM D648
	237 Â°C @Thickness 6.40 mm	459 Â°F @Thickness 0.252 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	228 Â°C	442 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	217 Â°C @Thickness 3.20 mm	423 Â°F @Thickness 0.126 in	unannealed; ASTM D648
	230 Â°C @Thickness 6.40 mm	446 Â°F @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	238 Â°C	460 Â°F	Rate B/120; ISO 306
	242 Â°C	468 Â°F	Rate B/50; ASTM D1525
	242 Â°C	468 Â°F	Rate B/50; ISO 306
Glass Transition Temp, Tg	247 Â°C	477 Â°F	
Oxygen Index	45 %	45 %	ISO 4589
Glow Wire Test	850 Â°C	1560 Â°F	IEC 60695-2-13
	960 Â°C @Thickness 3.20 mm	1760 Â°F @Thickness 0.126 in	IEC 60695-2-12

Optical Properties	Metric	English	Comments
Haze	2.0 % @Thickness 2.54 mm	2.0 % @Thickness 0.100 in	ASTM D1003
Transmission, Visible	58 %	58 %	2.54 mm; ASTM D1003

Electrical Properties	Metric	English	Comments
Dielectric Strength	17.0 kV/mm @Thickness 3.20 mm	432 kV/in @Thickness 0.126 in	in oil; ASTM D149
Dissipation Factor	0.0010 @Frequency 1000 Hz	0.0010 @Frequency 1000 Hz	IEC 60250
	0.0070 @Frequency 1.00e+6 Hz	0.0070 @Frequency 1.00e+6 Hz	IEC 60250
	0.0080 @Frequency 100 Hz	0.0080 @Frequency 100 Hz	IEC 60250
	0.025 @Frequency 50.0 - 60.0 Hz	0.025 @Frequency 50.0 - 60.0 Hz	IEC 60250
Comparative Tracking Index	175 V	175 V	IEC 60112

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

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