

## SABIC Innovative Plastics Ultem XH6050 PEI Copolymer (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

### Material Notes:

Transparent, enhanced flow Polyetherimidesulfone copolymer (Tg 247C). ECO Conforming, UL94 V0 listing. Resin is subject to U.S. Commerce Control Laws (15CFR Chapter VII, Part 774). This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Ultem-XH6050-PEI-Copolymer-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Ultem-XH6050-PEI-Copolymer-Europe-Africa-Middle-East.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 g/cc	1.30 g/cc	ASTM D 792
Density	1.30 g/cc	0.0470 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption at Equilibrium	0.60 %	0.60 %	23 <sup>o</sup> C / 50% RH; ISO 62
Water Absorption at Saturation	1.75 % @Temperature 23.0 <sup>o</sup> C	1.75 % @Temperature 73.4 <sup>o</sup> F	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	8.0 g/10 min @Load 5.00 kg, Temperature 360 <sup>o</sup> C	8.0 g/10 min @Load 11.0 lb, Temperature 680 <sup>o</sup> F	[cm <sup>3</sup> /10 min] Melt Volume Rate; ISO 1133
	12.5 g/10 min @Load 6.60 kg, Temperature 367 <sup>o</sup> C	12.5 g/10 min @Load 14.6 lb, Temperature 693 <sup>o</sup> F	ASTM D 1238

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 D 638
Tensile Strength, Yield	95.0 MPa	13800 psi	5 mm/min; ISO 527
	96.0 MPa	13900 psi	Type I, 5 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
Elongation at Break	16.9 %	16.9 %	5 mm/min; ISO 527
	25 %	25 %	Type I, 5 mm/min; ASTM D 638
Elongation at Yield	6.0 %	6.0 %	Type I, 5 mm/min; ASTM D 638
	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 D 638
Flexural Strength	159 MPa	23100 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Yield Strength	123 MPa	17800 psi	2 mm/min; ISO 178
	155 MPa	22500 psi	2.6 mm/min, 100 mm span; ASTM D 790
Flexural Modulus	3.08 GPa	447 ksi	2 mm/min; ISO 178
	3.17 GPa	460 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.690 J/cm @Temperature 23.0 Â°C	1.29 ft-lb/in @Temperature 73.4 Â°F	ASTM D 256
	0.740 J/cm @Temperature -30.0 Â°C	1.39 ft-lb/in @Temperature -22.0 Â°F	ASTM D 256
Izod Impact, Unnotched	NB @Temperature 23.0 Â°C	NB @Temperature 73.4 Â°F	ASTM D 4812
Izod Impact, Notched (ISO)	4.00 kJ/mÂ² @Temperature 23.0 Â°C	1.90 ft-lb/inÂ² @Temperature 73.4 Â°F	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 @Temperature 23.0 Â°C	NB @Temperature 73.4 Â°F	80*10*4; ISO 180/1U
	NB @Temperature -30.0 Â°C	NB @Temperature -22.0 Â°F	80*10*4; ISO 180/1U

Mechanical Properties	<sup>NB</sup> Metric	<sup>MP</sup> English	Comments
Charpy Impact Unnotched	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	NB	NB	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Impact Test	33.0 J	24.3 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 Âµm/m-Â°C	27.8 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	50.0 Âµm/m-Â°C	27.8 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 150 Â°C	@Temperature 73.4 - 302 Â°F	
CTE, linear, Transverse to Flow	50.0 Âµm/m-Â°C	27.8 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	50.0 Âµm/m-Â°C	27.8 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 150 Â°C	@Temperature 73.4 - 302 Â°F	
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)	237 Â°C	459 Â°F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
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	423 Â°F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D 648
	230 Â°C	446 Â°F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	238 Â°C	460 Â°F	Rate B/120; ISO 306
	242 Â°C	468 Â°F	Rate B/50; ASTM D 1525
	242 Â°C	468 Â°F	Rate B/50; ISO 306

Thermal Properties	Metric	English	Comments
Oxygen Index	45 %	45 %	LOI; ISO 4589
Glow Wire Test	850 Â°C @Thickness 3.00 mm	1560 Â°F @Thickness 0.118 in	Glow Wire Ignitability Temperature; IEC 60695-2-13
	960 Â°C @Thickness 3.20 mm	1760 Â°F @Thickness 0.126 in	Glow Wire Flammability Index; IEC 60695-2-12

Optical Properties	Metric	English	Comments
Haze	2.0 % @Thickness 2.54 mm	2.0 % @Thickness 0.100 in	ASTM D 1003
Transmission, Visible	58 % @Thickness 2.54 mm	58 % @Thickness 0.100 in	ASTM D 1003

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 D 149
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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