SABIC Innovative Plastics Ultem 1100EF PEI (Asia Pacific)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Enhanced flow Polyetherimide (Tg 217C) with internal mold release. ECO Conforming, U.S. FDA and EU Food Contact compliant.This data was supplied by SABIC-IP for the Asia Pacific region.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Ultem-1100EF-PEI-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.36 g/cc	1.36 g/cc	ASTM D 792
Density	1.36 g/cc	0.0491 lb/inÂ³	ISO 1183
Water Absorption	0.25 % @Time 86400 sec	0.25 % @Time 24.0 hour	ASTM D 570
Moisture Absorption at Equilibrium	0.70 %	0.70 %	23Â°C / 50% RH; ISO 62
	1.25 % @Temperature 23.0 Â°C	1.25 % @Temperature 73.4 Â°F	ASTM D 570
Water Absorption at Saturation	1.25 % @Temperature 23.0 Â°C	1.25 % @Temperature 73.4 Â°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	11.8 g/10 min @Load 6.60 kg, Temperature 337 Â°C	11.8 g/10 min @Load 14.6 lb, Temperature 639 Â°F	ASTM D 1238
	16 g/10 min @Load 5.00 kg, Temperature 360 Â°C	16 g/10 min @Load 11.0 lb, Temperature 680 Â°F	[cm^3/10 min] Melt Volume Rate; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	85.0 MPa	12300 psi	Type I, 5 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
	85.0 MPa	12300 psi	5 mm/min; ISO 527
Tensile Strength, Yield	105 MPa	15200 psi	5 mm/min; ISO 527
	110 MPa	16000 psi	Type I, 5 mm/min; ASTM D 638
Elongation at Break	60 %	60 %	5 mm/min; ISO 527
	70 %	70 %	Type I, 5 mm/min; ASTM D 638
Elongation at Yield	6.0 %	6.0 %	5 mm/min; ISO 527
	7.0 %	7.0 %	Type I, 5 mm/min; ASTM D 638
Tensile Modulus	3.20 GPa	464 ksi	1 mm/min; ISO 527
	3.72 GPa	540 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	160 MPa	23200 psi	2 mm/min; ISO 178
	165 MPa	23900 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	3.30 GPa	479 ksi	2 mm/min; ISO 178
	3.72 GPa	540 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.370 J/cm @Temperature 23.0 Â°C	0.693 ft-lb/in @Temperature 73.4 Â°F	ASTM D 256
	15.48 J/cm @Thickness 3.20 mm	29.00 ft-lb/in @Thickness 0.126 in	reverse notched; ASTM D 256
Izod Impact, Unnotched	15.48 J/cm @Temperature 23.0 Â°C	29.00 ft-lb/in @Temperature 73.4 Â°F	ASTM D 4812
Izod Impact, Notched (ISO)	6.00 kJ/mÂ² @Temperature 23.0 Â°C	2.86 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1A
	6.00 kJ/mÂ² @Temperature -30.0 Â°C	2.86 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	NB @Temperature -22.0	80*10*4; ISO 180/1U

Mechanical Properties	Metric Â°C	English Â°F	Comments
Charpy Impact Unnotched	NB @Temperature 23.0 Â°C	NB @Temperature 73.4 Â°F	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
Charpy Impact, Notched	0.400 J/cmÂ²	1.90 ft-lb/inÂ² @Temperature 73.4 Â°F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.400 J/cmÂ² @Temperature -30.0 Â°C	1.90 ft-lb/inÂ² @Temperature -22.0 Â°F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	38.0 J @Temperature 23.0 Â°C	28.0 ft-lb @Temperature 73.4 Â°F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	55.0 Âµm/m-Â°C @Temperature -40.0 - 150 Â°C	30.6 Âµin/in-Â°F @Temperature -40.0 - 302 Â°F	ASTM E 831
	55.0 Âµm/m-Â°C @Temperature 23.0 - 150 Â°C	30.6 Âµin/in-Â°F @Temperature 73.4 - 302 Â°F	ISO 11359-2
CTE, linear, Transverse to Flow	55.0 Âµm/m-Â°C @Temperature -40.0 - 150 Â°C	30.6 Âµin/in-Â°F @Temperature -40.0 - 302 Â°F	ASTM E 831
	55.0 Âµm/m-Â°C @Temperature 23.0 - 150 Â°C	30.6 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 C 177
	0.240 W/m-K	1.67 BTU-in/hr-ftÂ²-Â°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	198 Â°C	388 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	200 Â°C	392 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be

Thermal Properties	Metric	English	Comments
	204 Â°C @Thickness 3.20 mm	399 Â°F @Thickness 0.126 in	unannealed; ASTM D 648
	207 Â°C @Thickness 6.40 mm	405 Â°F @Thickness 0.252 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	188 Â°C	370 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	190 Â°C	374 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	196 Â°C @Thickness 3.20 mm	385 Â°F @Thickness 0.126 in	unannealed; ASTM D 648
	198 Â°C @Thickness 6.40 mm	388 Â°F @Thickness 0.252 in	unannealed; ASTM D 648
Vicat Softening Point	211 Â°C	412 Â°F	Rate B/50; ISO 306
	212 Â°C	414 Â°F	Rate B/120; ISO 306
	219 Â°C	426 Â°F	Rate B/50; ASTM D 1525
Glass Transition Temp, Tg	217 Â°C	423 Â°F	

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