SABIC Innovative Plastics Ultem 1010A PEI (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Transparent, high flow Polyetherimide (Tg 217C). ECO Conforming.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-1010A-PEI-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.27 g/cc	1.27 g/cc	ASTM D 792
Density	1.27 g/cc	0.0459 lb/inÂ³	ISO 1183
Moisture Absorption at Equilibrium	0.70 %	0.70 %	23Â°C / 50% RH; ISO 62
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 @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	17.8 g/10 min @Load 6.60 kg, Temperature 337 Â°C	17.8 g/10 min @Load 14.6 lb, Temperature 639 Â°F	ASTM D 1238
	25 g/10 min @Load 5.00 kg, Temperature 360 Â°C	25 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	5 mm/min; ISO 527
	105 MPa	15200 psi	Type I, 5 mm/min; ASTM D 638
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 %	Type I, 5 mm/min; ASTM D 638
	60 %	60 %	5 mm/min; ISO 527
Elongation at Yield	6.0 %	6.0 %	5 mm/min; ISO 527
	7.0 %	7.0 %	Type I, 5 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
Tensile Modulus	3.20 GPa	464 ksi	1 mm/min; ISO 527
	3.59 GPa	521 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
	3.52 GPa	511 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.320 J/cm @Temperature 23.0 Â°C	0.599 ft-lb/in @Temperature 73.4 Â°F	ASTM D 256
	0.350 J/cm @Temperature -30.0 Â°C	0.656 ft-lb/in @Temperature -22.0 Â°F	ASTM D 256
Izod Impact, Unnotched	13.35 J/cm @Temperature 23.0 Â°C	25.01 ft-lb/in @Temperature 73.4 Â°F	ASTM D 4812
Izod Impact, Notched (ISO)	5.00 kJ/mÂ² @Temperature 23.0 Â°C	2.38 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
Charpy Impact, Notched	0.300 J/cmÂ² @Temperature 23.0 Â°C	1.43 ft-lb/inÂ² @Temperature 73.4 Â°F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	33.0 J @Temperature 23.0 Â°C	24.3 ft-lb @Temperature 73.4 Â°F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	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
	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
CTE, linear, Transverse to Flow	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
	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
Deflection Temperature at 0.46 MPa (66 psi)	205 Â°C @Thickness 3.20 mm	401 Â°F @Thickness 0.126 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	190 Â°C	374 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	193 Â°C	379 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	197 Â°C @Thickness 3.20 mm	387 Â°F @Thickness 0.126 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	

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	transparent; thickness not quantified

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