

SABIC Innovative Plastics Ultem 1010KM PEI (Asia Pacific)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Enhanced flow Polyetherimide (Tg 217C) with internal mold release. ECO Conforming. 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-1010KM-PEI-Asia-Pacific.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/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.70 %	0.70 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	1.25 % @Temperature 23.0 ^o C	1.25 % @Temperature 73.4 ^o 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	17.8 g/10 min @Load 6.60 kg, Temperature 337 ^o C	17.8 g/10 min @Load 14.6 lb, Temperature 639 ^o F	ASTM D 1238
	25 g/10 min @Load 5.00 kg, Temperature 360 ^o C	25 g/10 min @Load 11.0 lb, Temperature 680 ^o 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

Mechanical Properties	60 % Metric	60 % English	5 mm/min: ISO 527 Comments
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	3.30 GPa	479 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	0.599 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.350 J/cm	0.656 ft-lb/in	ASTM D 256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	14.95 J/cm	28.01 ft-lb/in	reverse notched; ASTM D 256
	@Thickness 3.20 mm	@Thickness 0.126 in	
Izod Impact, Unnotched	13.35 J/cm	25.01 ft-lb/in	ASTM D 4812
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	5.00 kJ/m ²	2.38 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	5.00 kJ/m ²	2.38 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*4; ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	80*10*4; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.300 J/cm ²	1.43 ft-lb/in ²	V-notch Edgew 80*10*4 sp=62mm;

Charpy Impact, Notched Mechanical Properties	@Temperature 23.0 Metric °C	English @ Temperature 73.4 °F	ISO 179/1eA Comments
Impact Test	33.0 J @Temperature 23.0 °C	24.3 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 Åµm/m-Å°C	27.8 Åµin/in-Å°F	ISO 11359-2
	@Temperature 23.0 - 150 Å°C	@Temperature 73.4 - 302 Å°F	
	55.0 Åµm/m-Å°C	30.6 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 150 Å°C	@Temperature -40.0 - 302 Å°F	
CTE, linear, Transverse to Flow	50.0 Åµm/m-Å°C	27.8 Åµin/in-Å°F	ISO 11359-2
	@Temperature 23.0 - 150 Å°C	@Temperature 73.4 - 302 Å°F	
	55.0 Åµm/m-Å°C	30.6 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 150 Å°C	@Temperature -40.0 - 302 Å°F	
Thermal Conductivity	0.220 W/m-K	1.53 BTU-in/hr-ftÅ²- Å°F	ASTM C 177
	0.240 W/m-K	1.67 BTU-in/hr-ftÅ²- Å°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	195 Å°C	383 Å°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	197 Å°C	387 Å°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	205 Å°C	401 Å°F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	207 Å°C	405 Å°F	unannealed; ASTM D 648
@Thickness 6.40 mm	@Thickness 0.252 in		
Deflection Temperature at 1.8 MPa (264 psi)	190 Å°C	374 Å°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	192 Å°C	378 Å°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	197 Å°C	387 Å°F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	199 Å°C	390 Å°F	unannealed; ASTM D 648

Thermal Properties	@Thickness 6.40 mm Metric	@Thickness 0.252 in English	Comments
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
	215 Â°C	419 Â°F	Rate A/50; ISO 306
	219 Â°C	426 Â°F	Rate B/50; ASTM D 1525
Glass Transition Temp, Tg	217 Â°C	423 Â°F	

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

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