

SABIC Innovative Plastics Ultem 1000M PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Standard flow Polyetherimide (Tg 217C) with internal mold release. ECO Conforming. This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Ultem-1000M-PEI.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.27 g/cc	1.27 g/cc	ASTM D 792
Water Absorption	0.25 % @Time 86400 sec	0.25 % @Time 24.0 hour	ASTM D 570
Moisture Absorption at Equilibrium	1.25 % @Temperature 23.0 Â°C	1.25 % @Temperature 73.4 Â°F	ASTM D 570
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	9.7 g/10 min @Load 6.60 kg, Temperature 337 Â°C	9.7 g/10 min @Load 14.6 lb, Temperature 639 Â°F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	109	109	ASTM D 785
Tensile Strength, Yield	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
Elongation at Yield	7.0 %	7.0 %	Type I, 5 mm/min; ASTM D 638
Tensile Modulus	3.58 GPa	519 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	165 MPa	23900 psi	2.6 mm/min, 100 mm span; ASTM D 790
Flexural Modulus	3.51 GPa	509 ksi	2.6 mm/min, 100 mm span; ASTM D 790
Poissons Ratio	0.30	0.30	ASTM D 638
Shear Modulus	1.38 GPa	200 ksi	Calculated
	0.530 J/cm	0.993 ft-lb/in	

Izod Impact, Notched Mechanical Properties	Metric @ Temperature 23.0 Â°C	English @ Temperature 73.4 Â°F	ASTM D 256 Comments
	16.02 J/cm	30.01 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 Â°C	@Temperature 73.4 Â°F	
Gardner Impact	36.0 J	26.6 ft-lb	ASTM D 3029
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
Taber Abrasion, mg/1000 Cycles	10	10	CS-17; ASTM D 1044
	@Load 1.00 kg	@Load 2.20 lb	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	55.8 Âµm/m-Â°C	31.0 Âµin/in-Â°F	ASTM E 831
	@Temperature -20.0 - 150 Â°C	@Temperature -4.00 - 302 Â°F	
CTE, linear, Transverse to Flow	54.0 Âµm/m-Â°C	30.0 Âµin/in-Â°F	ASTM E 831
	@Temperature -20.0 - 150 Â°C	@Temperature -4.00 - 302 Â°F	
Thermal Conductivity	0.220 W/m-K	1.53 BTU-in/hr-ftÂ²- Â°F	ASTM C 177
Deflection Temperature at 0.46 MPa (66 psi)	210 Â°C	410 Â°F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	201 Â°C	394 Â°F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	218 Â°C	424 Â°F	Rate B/50; ASTM D 1525
Glass Transition Temp, Tg	217 Â°C	423 Â°F	
NBS Smoke Density	0.70	0.70	Flaming, Ds; ASTM E 662
	@Time 240 sec	@Time 0.0667 hour	
Oxygen Index	47 %	47 %	LOI; ASTM D 2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+17 ohm-cm	1.00e+17 ohm-cm	ASTM D 257

Electrical Properties	Metric	English	Comments
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	27.9 kV/mm	709 kV/in	in oil; ASTM D 149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	32.7 kV/mm	831 kV/in	in air; ASTM D 149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.0013	0.0013	ASTM D 150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0025	0.0025	ASTM D 150
	@Frequency 2.45e+9 Hz	@Frequency 2.45e+9 Hz	

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