

SABIC Innovative Plastics ULTEM 4000 PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Glass fiber, PTFE, and Graphite filled, standard flow Polyetherimide (Tg 217C). ECO Conforming, UL94 V0 listing.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-4000-PEI.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.67 g/cc	1.67 g/cc	ASTM D792
Water Absorption	0.11 %	0.11 %	ASTM D570
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Flow	0.0020 - 0.0030 cm/cm	0.0020 - 0.0030 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Melt Flow	3.1 g/10 min	3.1 g/10 min	ASTM D1238
	@Load 6.60 kg, Temperature 337 Â°C	@Load 14.6 lb, Temperature 639 Â°F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	85	85	ASTM D785
Tensile Strength at Break	82.0 MPa	11900 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	1.2 %	1.2 %	Type I, 5 mm/min; ASTM D638
Flexural Strength	137 MPa	19900 psi	2.6 mm/min, 100 mm span; ASTM D790
Flexural Yield Strength	113 MPa	16400 psi	2.6 mm/min, 100 mm span; ASTM D790
Flexural Modulus	8.82 GPa	1280 ksi	2.6 mm/min, 100 mm span; ASTM D790
Izod Impact, Notched	0.640 J/cm	1.20 ft-lb/in	ASTM D256
	1.70 J/cm	3.18 ft-lb/in	ASTM D256
	@Thickness 3.20 mm	@Thickness 0.126 in	
Izod Impact, Unnotched	1.60 J/cm	3.00 ft-lb/in	ASTM D4812
Coefficient of Friction, Dynamic	0.24	0.24	steel; ASTM D1894
Coefficient of Friction, Static	0.25	0.25	steel; ASTM D1894
		62.0 x 10 ⁻¹⁰ inÂ³-	PV=2000 psi-fpm vs Self; SABIC

K (wear) Factor Mechanical Properties	Metric 125 x 10 ⁻⁸ mm ³ /N-M	English min/ft-lb-hr	Method Comments
	3830 x 10 ⁻⁸ mm ³ /N-M	1900 x 10 ⁻¹⁰ in ³ - min/ft-lb-hr	PV=2000 psi-fpm vs Self; SABIC Method
Limiting Pressure Velocity	2.10 MPa-m/sec	60000 psi-ft/min	0.51 m/s; SABIC Method
Taber Abrasion, mg/1000 Cycles	33	33	CS-17, 1 kg; ASTM D1044

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	16.2 Åµm/m-Å°C	9.00 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
	16.2 Åµm/m-Å°C	9.00 Åµin/in-Å°F	ASTM E 831
	@Temperature -20.0 - 150 Å°C	@Temperature -4.00 - 302 Å°F	
Deflection Temperature at 1.8 MPa (264 psi)	212 Å°C	414 Å°F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	233 Å°C	451 Å°F	Rate B/50; ASTM D1525
Glass Transition Temp, Tg	217 Å°C	423 Å°F	
UL RTI, Electrical	105 Å°C	221 Å°F	UL 746B
UL RTI, Mechanical with Impact	105 Å°C	221 Å°F	UL 746B
UL RTI, Mechanical without Impact	105 Å°C	221 Å°F	UL 746B
Flammability, UL94	V-0	V-0	UL 94
	@Thickness 0.830 mm	@Thickness 0.0327 in	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	100 - 175 V	100 - 175 V	UL 746A

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