

SABIC Innovative Plastics ULTEM 1000E PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Transparent, standard flow Polyetherimide (Tg 217C) with internal mold release. ECO Conforming. US FDA and EU Food Contact compliant, NSF 51 Listing. Effective June, 2007 this grade will no longer be supported with biocompatibility information and should not be used for medical applications which require biocompatibility. Alternative grade HU1000E.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-1000E-PEI.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.27 g/cc	1.27 g/cc	ASTM D792
Water Absorption	0.25 % @Time 86400 sec	0.25 % @Time 24.0 hour	ASTM D570
Moisture Absorption at Equilibrium	1.25 %	1.25 %	ASTM D570
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	12 g/10 min @Load 6.60 kg, Temperature 337 °C	12 g/10 min @Load 14.6 lb, Temperature 639 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	110 MPa	16000 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	60 %	60 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	7.0 %	7.0 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	3.58 GPa	519 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	165 MPa	23900 psi	2.6 mm/min, 100 mm span; ASTM D790
Flexural Modulus	3.51 GPa	509 ksi	2.6 mm/min, 100 mm span; ASTM D790
Poissons Ratio	0.36	0.36	ASTM E 132
Izod Impact, Notched	0.530 J/cm	0.993 ft-lb/in	ASTM D256
Izod Impact, Unnotched	13.35 J/cm	25.01 ft-lb/in	ASTM D4812

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	55.8 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature -20.0 - 150 $^\circ\text{C}$	31.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature -4.00 - 302 $^\circ\text{F}$	ASTM E 831
CTE, linear, Transverse to Flow	54.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature -20.0 - 150 $^\circ\text{C}$	30.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature -4.00 - 302 $^\circ\text{F}$	ASTM E 831
Thermal Conductivity	0.220 W/m-K	1.53 BTU-in/hr-ft ² - $^\circ\text{F}$	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	210 $^\circ\text{C}$ @Thickness 6.40 mm	410 $^\circ\text{F}$ @Thickness 0.252 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	201 $^\circ\text{C}$ @Thickness 6.40 mm	394 $^\circ\text{F}$ @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	218 $^\circ\text{C}$	424 $^\circ\text{F}$	Rate B/50; ASTM D1525
Glass Transition Temp, Tg	217 $^\circ\text{C}$	423 $^\circ\text{F}$	

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

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