

SABIC Innovative Plastics ULTEM HU1110 PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Enhanced flow Polyetherimide (Tg 217C). ECO Conforming. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO 10993 or USP Class VI), food contact compliant. EtO and steam sterilizable. NSF 51 listing, compliant in recognized colors.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-HU1110-PEI.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.36 g/cc	1.36 g/cc	ASTM D792
Density	1.36 g/cc	0.0491 lb/in ³	ISO 1183
Moisture Absorption	0.650 %	0.650 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	1.2 %	1.2 %	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	16 g/10 min @Load 6.60 kg, Temperature 337 ^o C	16 g/10 min @Load 14.6 lb, Temperature 639 ^o F	ASTM D1238
Melt Index of Compound	21 g/10 min @Load 5.00 kg, Temperature 360 ^o C	21 g/10 min @Load 11.0 lb, Temperature 680 ^o F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	85.0 MPa	12300 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	110 MPa	16000 psi	Type I, 5 mm/min; ASTM D638
	110 MPa	16000 psi	5 mm/min; ISO 527
Elongation at Break	60 %	60 %	5 mm/min; ISO 527
	70 %	70 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	6.0 %	6.0 %	5 mm/min; ISO 527
	7.0 %	7.0 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	3.50 GPa	508 ksi	1 mm/min; ISO 527
	3.72 GPa	540 ksi	5 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
Flexural Yield Strength	140 MPa	20000 psi	2 mm/min; ISO 178
	165 MPa	23900 psi	2.6 mm/min, 100 mm span; ASTM D790
	174 MPa	25200 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	3.30 GPa	479 ksi	2 mm/min; ISO 178
	3.42 GPa	496 ksi	1.3 mm/min, 50 mm span; ASTM D790
	3.72 GPa	540 ksi	2.6 mm/min, 100 mm span; ASTM D790
Izod Impact, Notched	0.560 J/cm	1.05 ft-lb/in	ASTM D256
	19.22 J/cm	36.01 ft-lb/in	ASTM D256
	@Thickness 3.20 mm	@Thickness 0.126 in	
Izod Impact, Notched (ISO)	4.00 kJ/m ²	1.90 ft-lb/in ²	80*10*4; ISO 180/1A
	4.00 kJ/m ²	1.90 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.500 J/cm ²	2.38 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Gardner Impact	23.0 J	17.0 ft-lb	ASTM D3029
Dart Drop, Total Energy	28.0 J	20.7 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	55.0 Åµm/m-Å°C	30.6 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
	55.0 Åµm/m-Å°C	30.6 Åµin/in-Å°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
CTE, linear, Transverse to Flow	55.0 Åµm/m-Å°C	30.6 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
	55.0 Åµm/m-Å°C	30.6 Åµin/in-Å°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 1.8 MPa (264 psi)	210 Â°C	410 Â°F	Flattw 80*10-4 sp-64mm, ISO 75/A1
	198 Â°C @Thickness 6.40 mm	388 Â°F @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	200 Â°C	392 Â°F	Rate B/50; ISO 306
	205 Â°C	401 Â°F	Rate B/120; ISO 306
	219 Â°C	426 Â°F	Rate B/50; ASTM D1525
Glass Transition Temp, Tg	217 Â°C	423 Â°F	
UL RTI, Electrical	170 Â°C	338 Â°F	UL 746B
UL RTI, Mechanical with Impact	170 Â°C	338 Â°F	UL 746B
UL RTI, Mechanical without Impact	170 Â°C	338 Â°F	UL 746B
Flammability, UL94	V-2 @Thickness 0.710 mm	V-2 @Thickness 0.0280 in	UL 94
	V-0 @Thickness 0.750 mm	V-0 @Thickness 0.0295 in	UL 94
	5VA @Thickness 3.00 mm	5VA @Thickness 0.118 in	UL 94

Electrical Properties	Metric	English	Comments
Arc Resistance	120 - 180 sec	120 - 180 sec	Tungsten; ASTM D495
Comparative Tracking Index	100 - 175 V	100 - 175 V	UL 746A
Hot Wire Ignition, HWI	60 - 120 sec	60 - 120 sec	UL 746A
High Amp Arc Ignition, HAI	15 - 30 arcs	15 - 30 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	25.4 - 80.0 mm/min	1.00 - 3.15 in/min	UL 746A

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