

SABIC Innovative Plastics ULTEM 1100V PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Transparent, standard flow Polyetherimide (Tg 217C). ECO Conforming, UL94 VO and 5VA listing; color dependant, see UL Yellow Card.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-1100V-PEI.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.36 g/cc	1.36 g/cc	ASTM D792
Density	1.27 g/cc	0.0459 lb/in ³	ISO 1183
Moisture Absorption	0.700 %	0.700 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	1.25 %	1.25 %	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	8.8 g/10 min @Load 6.60 kg, Temperature 337 Â°C	8.8 g/10 min @Load 14.6 lb, Temperature 639 Â°F	ASTM D1238
Melt Index of Compound	16 g/10 min @Load 5.00 kg, Temperature 220 Â°C	16 g/10 min @Load 11.0 lb, Temperature 428 Â°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
	85.0 MPa	12300 psi	5 mm/min; ISO 527
Tensile Strength, Yield	105 MPa	15200 psi	5 mm/min; ISO 527
	110 MPa	16000 psi	Type I, 5 mm/min; ASTM D638
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	3.20 GPa	464 ksi	1 mm/min; ISO 527
	3.72 GPa	540 ksi	5 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
	173 MPa	25100 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	3.30 GPa	479 ksi	2 mm/min; ISO 178
	3.43 GPa	497 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.370 J/cm	0.693 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	6.00 kJ/m ²	2.86 ft-lb/in ²	80*10*4; ISO 180/1A
	6.00 kJ/m ² @Temperature -30.0 Â°C	2.86 ft-lb/in ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
Charpy Impact, Notched	0.400 J/cm ²	1.90 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	38.0 J @Temperature 23.0 Â°C	28.0 ft-lb @Temperature 73.4 Â°F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	55.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	30.6 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ASTM E 831
	55.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	30.6 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ISO 11359-2
CTE, linear, Transverse to Flow	55.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	30.6 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ASTM E 831
	55.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	30.6 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	188 Â°C	370 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/ Af
	198 Â°C @Thickness 6.40 mm	388 Â°F @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	211 Â°C	412 Â°F	Rate B/50; ASTM D1525
	211 Â°C	412 Â°F	Rate B/50; ISO 306

Thermal Properties	212 Å°C Metric	414 Å°F English	Rate B/120: ISO 306 Comments
Glass Transition Temp, Tg	217 Å°C	423 Å°F	
Flammability, UL94	V-2	V-2	UL 94
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	V-1	V-1	UL 94
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	V-0	V-0	UL 94
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	5VA	5VA	UL 94
	@Thickness 3.00 mm	@Thickness 0.118 in	

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

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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