SABIC Innovative Plastics Ultem 1110V PEI (Asia Pacific)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Enhanced flow Polyetherimide (Tg 217C). ECO Conforming, UL94 V0 and 5VA listing; color dependant, see UL Yellow Card.This data was supplied by SABIC-IP for the Asia Pacific region.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Ultem-1110V-PEI-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.36 g/cc	1.36 g/cc	ASTM D 792
Density	1.36 g/cc	0.0491 lb/inÂ³	ISO 1183
Moisture Absorption at Equilibrium	0.65 %	0.65 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	1.2 % @Temperature 23.0 Â°C	1.2 % @Temperature 73.4 Â°F	ISO 62
Linear Mold Shrinkage, Flow	0.0040 - 0.0060 cm/cm @Thickness 3.20 mm	0.0040 - 0.0060 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	16 g/10 min @Load 6.60 kg, Temperature 337 Â°C	16 g/10 min @Load 14.6 lb, Temperature 639 Â°F	ASTM D 1238
	21 g/10 min @Load 5.00 kg, Temperature 360 Â°C	21 g/10 min @Load 11.0 lb, Temperature 680 Â°F	[cm^3/10 min] Melt Volume Rate; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	80.0 MPa	11600 psi	5 mm/min; ISO 527
	85.0 MPa	12300 psi	Type I, 5 mm/min; ASTM D 638
Tensile Strength, Yield	110 MPa	16000 psi	Type I, 5 mm/min; ASTM D 638
	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 D 638
Elongation at Yield	6.0 %	6.0 %	5 mm/min; ISO 527
	7.0 %	7.0 %	Type I, 5 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
Tensile Modulus	3.50 GPa	508 ksi	1 mm/min; ISO 527
	3.72 GPa	540 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	140 MPa	20300 psi	2 mm/min; ISO 178
	165 MPa	23900 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	3.30 GPa	479 ksi	2 mm/min; ISO 178
	3.72 GPa	540 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.560 J/cm @Temperature 23.0 Â°C	1.05 ft-lb/in @Temperature 73.4 Â°F	ASTM D 256
	0.560 J/cm @Temperature -30.0 Â°C	1.05 ft-lb/in @Temperature -22.0 Â°F	ASTM D 256
Izod Impact, Unnotched	21.0 J/cm @Temperature 23.0 Â°C	39.3 ft-lb/in @Temperature 73.4 Â°F	ASTM D 4812
Izod Impact, Notched (ISO)	4.00 kJ/mÂ² @Temperature 23.0 Â°C	1.90 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1A
	4.00 kJ/mÂ² @Temperature -30.0 Â°C	1.90 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB @Temperature 23.0 Â°C	NB @Temperature 73.4 Â°F	80*10*4; ISO 180/1U
	NB @Temperature -30.0 Â°C	NB @Temperature -22.0 Â°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	NB @Temperature 23.0 Â°C	NB @Temperature 73.4 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	NB @Temperature -30.0 Â°C	NB @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	0.500 J/cmÂ² @Temperature 23.0	2.38 ft-lb/inÂ²	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA

Mechanical Properties	Metric	English	Comments
	Â°C	@Temperature 73.4 Â°F	
	0.500 J/cmÂ² @Temperature -30.0 Â°C	2.38 ft-lb/inÂ² @Temperature -22.0 Â°F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	28.0 J @Temperature 23.0 Â°C	20.7 ft-lb @Temperature 73.4 Â°F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 Âµm/m-Â°C @Temperature 23.0 - 150 Â°C	27.8 Âµin/in-Â°F @Temperature 73.4 - 302 Â°F	ISO 11359-2
	55.0 Âµm/m-Â°C @Temperature -40.0 - 150 Â°C	30.6 Âµin/in-Â°F @Temperature -40.0 - 302 Â°F	ASTM E 831
CTE, linear, Transverse to Flow	50.0 Âµm/m-Â°C @Temperature 23.0 - 150 Â°C	27.8 Âµin/in-Â°F @Temperature 73.4 - 302 Â°F	ISO 11359-2
	55.0 Âµm/m-Â°C @Temperature -40.0 - 150 Â°C	30.6 Âµin/in-Â°F @Temperature -40.0 - 302 Â°F	ASTM E 831
Deflection Temperature at 0.46 MPa (66 psi)	207 Â°C @Thickness 3.20 mm	405 Â°F @Thickness 0.126 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	185 Â°C	365 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	197 Â°C @Thickness 3.20 mm	387 Â°F @Thickness 0.126 in	unannealed; ASTM D 648
	199 Â°C @Thickness 6.40 mm	390 Â°F @Thickness 0.252 in	unannealed; ASTM D 648
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 D 1525
Glass Transition Temp, Tg	217 Â°C	423 Â°F	
Flammability, UL94	V-1 @Thickness 0.750 mm	V-1 @Thickness 0.0295 in	UL 94

Thermal Properties	Metric	English	Comments
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	5VA @Thickness 3.00 mm	5VA @Thickness 0.118 in	UL 94

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
Dielectric Constant	3.5 @Frequency 50.0 - 60.0 Hz	3.5 @Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	17.2 kV/mm @Thickness 3.20 mm	437 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
Dissipation Factor	0.0016 @Frequency 50.0 - 60.0 Hz	0.0016 @Frequency 50.0 - 60.0 Hz	IEC 60250
Comparative Tracking Index	>= 125 V	>= 125 V	IEC 60112
	175 V	175 V	IEC 60112

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