

SABIC Innovative Plastics Ultem 1110V PEI (Europe-Africa-Middle East)

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 Europe-Africa-Middle East region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Ultem-1110V-PEI-Europe-Africa-Middle-East.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/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.65 %	0.65 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	1.2 % @Temperature 23.0 ^o C	1.2 % @Temperature 73.4 ^o 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 ^o C	16 g/10 min @Load 14.6 lb, Temperature 639 ^o F	ASTM D 1238
	21 g/10 min @Load 5.00 kg, Temperature 360 ^o C	21 g/10 min @Load 11.0 lb, Temperature 680 ^o 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

Tensile Modulus Mechanical Properties	3.50 GPa Metric	508 ksi English	1 mm/min* ISO 527 Comments
	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	°C Metric	@Temperature 73.4 °F English	Comments
	0.500 J/cm ²	2.38 ft-lb/in ²	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Impact Test	28.0 J	20.7 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 Åµm/m-Å°C	27.8 Åµin/in-Å°F	ISO 11359-2
	@Temperature 23.0 - 150 Å°C	@Temperature 73.4 - 302 Å°F	
	55.0 Åµm/m-Å°C	30.6 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 150 Å°C	@Temperature -40.0 - 302 Å°F	
CTE, linear, Transverse to Flow	50.0 Åµm/m-Å°C	27.8 Åµin/in-Å°F	ISO 11359-2
	@Temperature 23.0 - 150 Å°C	@Temperature 73.4 - 302 Å°F	
	55.0 Åµm/m-Å°C	30.6 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 150 Å°C	@Temperature -40.0 - 302 Å°F	
Deflection Temperature at 0.46 MPa (66 psi)	207 Å°C	405 Å°F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	185 Å°C	365 Å°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	197 Å°C	387 Å°F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	199 Å°C	390 Å°F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	200 Å°C	392 Å°F	Rate B/50; ISO 306
	205 Å°C	401 Å°F	Rate B/120; ISO 306
	219 Å°C	426 Å°F	Rate B/50; ASTM D 1525
Glass Transition Temp, Tg	217 Å°C	423 Å°F	
Flammability, UL94	V-1	V-1	UL 94
	@Thickness 0.750 mm	@Thickness 0.0295 in	

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

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	3.5	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	17.2 kV/mm	437 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.0016	0.0016	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Comparative Tracking Index	>= 125 V	>= 125 V	IEC 60112
	175 V	175 V	IEC 60112

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