

SABIC Innovative Plastics ULTEM 1000 PEI (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Transparent, standard flow Polyetherimide (Tg 217C). Resin is RoHS compliant. UL94 V0, V2 and 5VA listing. US FDA and EU Food Contact compliant. 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 HU1000.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-1000-PEI-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Density	1.27 g/cc	0.0459 lb/in ³	ISO 1183
Moisture Absorption	0.700 %	0.700 %	23°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	0.0050 - 0.0070 in/in	on Tensile Bar; SABIC Method
Melt Index of Compound	13 g/10 min @Load 5.00 kg, Temperature 360 °C	13 g/10 min @Load 11.0 lb, Temperature 680 °F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	140 MPa	20300 psi	ISO 2039-1
Tensile Strength at Break	85.0 MPa	12300 psi	50 mm/min; ISO 527
Tensile Strength, Yield	105 MPa	15200 psi	50 mm/min; ISO 527
Elongation at Break	60 %	60 %	50 mm/min; ISO 527
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
Tensile Modulus	3.20 GPa	464 ksi	1 mm/min; ISO 527
Flexural Yield Strength	160 MPa	23200 psi	2 mm/min; ISO 178
Flexural Modulus	3.30 GPa	479 ksi	2 mm/min; ISO 178
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 °C	2.86 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*4; ISO 180/1U
	NB	NB	

Mechanical Properties	Metric @ Temperature -30.0 °C	English @ Temperature -22.0 °F	80*10*4-ISO 180/1U Comments
Charpy Impact, Notched	0.400 J/cm ²	1.90 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.00 J/cm ²	4.76 ft-lb/in ²	ISO 179/2C
Taber Abrasion, mg/1000 Cycles	0.400 J/cm ² @Temperature -30.0 °C	1.90 ft-lb/in ² @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	10	10	CS-17, 1 kg; SABIC Method

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 µm/m-°C	27.8 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 150 °C	@Temperature 73.4 - 302 °F	
CTE, linear, Transverse to Flow	50.0 µm/m-°C	27.8 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 150 °C	@Temperature 73.4 - 302 °F	
Thermal Conductivity	0.240 W/m-K	1.67 BTU-in/hr-ft ² -°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	200 °C	392 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	190 °C	374 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	211 °C	412 °F	Rate B/50; ISO 306
	212 °C	414 °F	Rate B/120; ISO 306
	215 °C	419 °F	Rate A/50; ISO 306
Glass Transition Temp, Tg	217 °C	423 °F	
UL RTI, Electrical	170 °C	338 °F	UL 746B
UL RTI, Mechanical with Impact	170 °C	338 °F	UL 746B
UL RTI, Mechanical without Impact	170 °C	338 °F	UL 746B
Flammability, UL94	V-2 @Thickness 0.400 mm	V-2 @Thickness 0.0157 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

Thermal Properties	Metric	English	Comments
Glow Wire Test	960 °C	1760 °F	IEC 60695-2-12
	@Thickness 3.20 mm	@Thickness 0.126 in	

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

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	2.9	2.9	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	2.9	2.9	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	16.0 kV/mm	406 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dielectric Strength	25.0 kV/mm	635 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dielectric Strength	33.0 kV/mm	838 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Dissipation Factor	0.00050	0.00050	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dissipation Factor	0.0025	0.0025	IEC 60250
	@Frequency 2.45e+9 Hz	@Frequency 2.45e+9 Hz	
Dissipation Factor	0.0060	0.0060	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	>= 100 V	>= 100 V	IEC 60112
	150 V	150 V	

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	PASSES	IEC 60695-10-2

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