

SABIC Innovative Plastics ULTEM 1010FC PEI (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Transparent, enhanced flow Polyetherimide (Tg 217C). Resin is RoHS compliant. UL94 V0 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 HU1010.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-1010FC-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 ^o 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 340 ^o C	13 g/10 min @Load 11.0 lb, Temperature 644 ^o 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)	5.00 kJ/m ²	2.38 ft-lb/in ²	80*10*4; ISO 180/1A
	5.00 kJ/m ² @Temperature -30.0 ^o C	2.38 ft-lb/in ² @Temperature -22.0 ^o F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*4; ISO 180/1U

Mechanical Properties	^{NB} Metric	^{NB} English	Comments 50-10-3, ISO 180/1U
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Taber Abrasion, mg/1000 Cycles	10	10	CS-17, 1 kg; SABIC Method

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
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
Thermal Conductivity	0.210 W/m-K	1.46 BTU-in/hr-ftÂ²- Â°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	195 Â°C	383 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	190 Â°C	374 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	211 Â°C	412 Â°F	Rate B/50; ISO 306
	212 Â°C	414 Â°F	Rate B/120; ISO 306
	215 Â°C	419 Â°F	Rate A/50; ISO 306
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-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
Oxygen Index	47 %	47 %	ISO 4589
Glow Wire Test	960 Â°C @Thickness 3.20 mm	1760 Â°F @Thickness 0.126 in	IEC 60695-2-12

Optical Properties	Metric	English	Comments
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Transmission Visible Optical Properties	90 % Metric	90 % English	transparent; thickness not quantified Comments
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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	
	2.9	2.9	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	28.0 kV/mm	711 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.00050	0.00050	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.0025	0.0025	IEC 60250
	@Frequency 2.45e+9 Hz	@Frequency 2.45e+9 Hz	
	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	IEC 60112

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

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