

SABIC Innovative Plastics ULTEM 2100F PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

10% Glass fiber filled, standard flow Polyetherimide (Tg 217C). ECO Conforming, UL94 V0 and 5VA listing. US FDA and EU Food Contact Compliant, NSF 51 listing. WRAS certification in recognized colors.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-2100F-PEI.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.34 g/cc	1.34 g/cc	ASTM D792
Water Absorption	0.21 % @Time 86400 sec	0.21 % @Time 24.0 hour	ASTM D570
Moisture Absorption at Equilibrium	1.2 %	1.2 %	ASTM D570
Linear Mold Shrinkage, Flow	0.0050 - 0.0060 cm/cm @Thickness 3.20 mm	0.0050 - 0.0060 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	7.0 g/10 min @Load 6.60 kg, Temperature 337 Â°C	7.0 g/10 min @Load 14.6 lb, Temperature 639 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	114	114	ASTM D785
Tensile Strength at Break	115 MPa	16700 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	114 MPa	16500 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	6.0 %	6.0 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	4.68 GPa	679 ksi	5 mm/min; ASTM D638
Flexural Strength	199 MPa	28900 psi	2.6 mm/min, 100 mm span; ASTM D790
Flexural Modulus	5.17 GPa	750 ksi	2.6 mm/min, 100 mm span; ASTM D790
Izod Impact, Notched	0.530 J/cm	0.993 ft-lb/in	ASTM D256
	4.59 J/cm @Thickness 3.20 mm	8.60 ft-lb/in @Thickness 0.126 in	ASTM D256
Izod Impact, Unnotched	4.80 J/cm	8.99 ft-lb/in	ASTM D4812

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	32.4 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	18.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTM E 831
	@Temperature -20.0 - 150 $\text{Å}^\circ\text{C}$	@Temperature -4.00 - 302 $\text{Å}^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	210 $\text{Å}^\circ\text{C}$	410 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	208 $\text{Å}^\circ\text{C}$	406 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	223 $\text{Å}^\circ\text{C}$	433 $\text{Å}^\circ\text{F}$	Rate B/50; ASTM D1525
Glass Transition Temp, Tg	217 $\text{Å}^\circ\text{C}$	423 $\text{Å}^\circ\text{F}$	
UL RTI, Electrical	170 $\text{Å}^\circ\text{C}$	338 $\text{Å}^\circ\text{F}$	UL 746B
UL RTI, Mechanical with Impact	170 $\text{Å}^\circ\text{C}$	338 $\text{Å}^\circ\text{F}$	UL 746B
UL RTI, Mechanical without Impact	170 $\text{Å}^\circ\text{C}$	338 $\text{Å}^\circ\text{F}$	UL 746B
Flammability, UL94	V-0	V-0	UL 94
	@Thickness 0.410 mm	@Thickness 0.0161 in	
	5VA	5VA	UL 94
	@Thickness 1.91 mm	@Thickness 0.0752 in	
Oxygen Index	47 %	47 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+17 ohm-cm	1.00e+17 ohm-cm	ASTM D257
Dielectric Constant	3.5	3.5	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	27.6 kV/mm	701 kV/in	in oil; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.0014	0.0014	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0046	0.0046	ASTM D150
	@Frequency 2.45e+9 Hz	@Frequency 2.45e+9 Hz	
Arc Resistance	60 - 120 sec	60 - 120 sec	Tungsten; ASTM D495

Comparative Tracking Index Electrical Properties	100 - 175 V Metric	100 - 175 V English	UL 746A Comments
Hot Wire Ignition, HWI	60 - 120 sec	60 - 120 sec	UL 746A
High Amp Arc Ignition, HAI	0.00 - 15 arcs	0.00 - 15 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	25.4 - 80.0 mm/min	1.00 - 3.15 in/min	UL 746A

Descriptive Properties	Value	Comments
NBS Smoke Density, Flaming, Ds 4 min	1.8	ASTM E 662

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