

SABIC Innovative Plastics ULTEM 2100R PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

10% Glass fiber filled, standard flow Polyetherimide (Tg 217C) with internal mold release. ECO Conforming, UL94 V0 and 5VA listing.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-2100R-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	7.8 g/10 min @Load 6.60 kg, Temperature 337 Â°C	7.8 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	0.850 J/cm	1.59 ft-lb/in	ASTM D256
	5.07 J/cm @Thickness 3.20 mm	9.50 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 Âµm/m-Â°C	18.0 Âµin/in-Â°F	ASTM E 831
	@Temperature -20.0 - 150 Â°C	@Temperature -4.00 - 302 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	210 Â°C	410 Â°F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	208 Â°C	406 Â°F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	223 Â°C	433 Â°F	Rate B/50; ASTM D1525
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	V-0	UL 94
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	5VA	5VA	UL 94
	@Thickness 1.90 mm	@Thickness 0.0748 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	27.5 kV/mm	699 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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