

SABIC Innovative Plastics Ultem ATX153R PEI+PCE

Category : Polymer , Thermoplastic , Polyetherimide (PEI) , Polyetherimide (PEI) + PCE

Material Notes:

30% Glass fiber filled, high flow Polyetherimide blend with internal mold release. ECO Conforming, UL94 V0 and 5VA listing. This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Ultem-ATX153R-PEIPCE.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.47 g/cc	1.47 g/cc	ASTM D 792
Density	1.47 g/cc	0.0531 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.20 %	0.20 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	0.50 % @Temperature 23.0 ^o C	0.50 % @Temperature 73.4 ^o F	ISO 62
Linear Mold Shrinkage, Flow	0.0020 - 0.0040 cm/cm	0.0020 - 0.0040 in/in	on tensile bar; SABIC Method
	0.0020 - 0.0040 cm/cm @Thickness 3.20 mm	0.0020 - 0.0040 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0030 - 0.0050 cm/cm	0.0030 - 0.0050 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Melt Flow	28 g/10 min @Load 5.00 kg, Temperature 360 ^o C	28 g/10 min @Load 11.0 lb, Temperature 680 ^o F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	30 g/10 min @Load 6.60 kg, Temperature 337 ^o C	30 g/10 min @Load 14.6 lb, Temperature 639 ^o F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	143 MPa	20700 psi	5 mm/min; ISO 527
	144 MPa	20900 psi	Type I, 5 mm/min; ASTM D 638
Tensile Strength, Yield	143 MPa	20700 psi	5 mm/min; ISO 527
	144 MPa	20900 psi	Type I, 5 mm/min; ASTM D 638
Elongation at Break	2.4 %	2.4 %	5 mm/min; ISO 527

Mechanical Properties	2.5 % Metric	2.5 % English	Type I, 5 mm/min; ASTM D 638 Comments
Elongation at Yield	2.4 %	2.4 %	5 mm/min; ISO 527
	2.5 %	2.5 %	Type I, 5 mm/min; ASTM D 638
Tensile Modulus	9.68 GPa	1400 ksi	1 mm/min; ISO 527
	9.69 GPa	1410 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	203 MPa	29400 psi	1.3 mm/min, 50 mm span; ASTM D 790
	218 MPa	31600 psi	2 mm/min; ISO 178
Flexural Modulus	8.61 GPa	1250 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	8.72 GPa	1260 ksi	2 mm/min; ISO 178
Izod Impact, Notched	1.07 J/cm @Temperature 23.0 Â°C	2.00 ft-lb/in @Temperature 73.4 Â°F	ASTM D 256
Izod Impact, Unnotched	8.54 J/cm @Temperature 23.0 Â°C	16.0 ft-lb/in @Temperature 73.4 Â°F	ASTM D 4812
Izod Impact, Notched (ISO)	8.00 kJ/mÂ² @Temperature -30.0 Â°C	3.81 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
	9.00 kJ/mÂ² @Temperature 23.0 Â°C	4.28 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	47.0 kJ/mÂ² @Temperature 23.0 Â°C	22.4 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1U
	49.0 kJ/mÂ² @Temperature -30.0 Â°C	23.3 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	5.50 J/cmÂ² @Temperature 23.0 Â°C	26.2 ft-lb/inÂ² @Temperature 73.4 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	5.50 J/cmÂ² @Temperature -30.0 Â°C	26.2 ft-lb/inÂ² @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	0.800 J/cmÂ²		

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 Â°C	3.81 ft-lb/inÂ² @Temperature 73.4 Â°F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.800 J/cmÂ² @Temperature -30.0 Â°C	3.81 ft-lb/inÂ² @Temperature -22.0 Â°F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	15.0 J @Temperature 23.0 Â°C	11.1 ft-lb @Temperature 73.4 Â°F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	18.0 Âµm/m-Â°C	10.0 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	18.0 Âµm/m-Â°C	10.0 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 150 Â°C	@Temperature 73.4 - 302 Â°F	
CTE, linear, Transverse to Flow	58.0 Âµm/m-Â°C	32.2 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	58.0 Âµm/m-Â°C	32.2 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 150 Â°C	@Temperature 73.4 - 302 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	180 Â°C	356 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	191 Â°C @Thickness 3.20 mm	376 Â°F @Thickness 0.126 in	unannealed; ASTM D 648
	193 Â°C @Thickness 6.40 mm	379 Â°F @Thickness 0.252 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	169 Â°C	336 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	182 Â°C @Thickness 3.20 mm	360 Â°F @Thickness 0.126 in	unannealed; ASTM D 648
	185 Â°C @Thickness 6.40 mm	365 Â°F @Thickness 0.252 in	unannealed; ASTM D 648
Vicat Softening Point	190 Â°C	374 Â°F	Rate B/50; ISO 306
	192 Â°C	378 Â°F	Rate B/120; ISO 306

Thermal Properties	Metric	English	Comments
	153A°C	578A°F	FLU W/50, ASTM D 1525
Flammability, UL94	V-0	V-0	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	5VA	5VA	UL 94
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.10e+16 ohm-cm	1.10e+16 ohm-cm	IEC 60093
Surface Resistance	2.30e+16 ohm	2.30e+16 ohm	ROA; IEC 60093
Dielectric Strength	23.0 kV/mm	584 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.0035	0.0035	IEC 60250
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0037	0.0037	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.0096	0.0096	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	125 V	125 V	IEC 60112
	>= 125 V	>= 125 V	IEC 60112

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

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