

SABIC Innovative Plastics Ultem ATX152R PEI+PCE

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

Material Notes:

20% 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-ATX152R-PEIPCE.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.41 g/cc	1.41 g/cc	ASTM D 792
Density	1.41 g/cc	0.0509 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.22 %	0.22 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	0.58 % @Temperature 23.0 ^o C	0.58 % @Temperature 73.4 ^o F	ISO 62
Linear Mold Shrinkage, Flow	0.0030 - 0.0050 cm/cm	0.0030 - 0.0050 in/in	on tensile bar; SABIC Method
	0.0030 - 0.0050 cm/cm @Thickness 3.20 mm	0.0030 - 0.0050 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0040 - 0.0060 cm/cm	0.0040 - 0.0060 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Melt Flow	32 g/10 min @Load 5.00 kg, Temperature 360 ^o C	32 g/10 min @Load 11.0 lb, Temperature 680 ^o F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	35 g/10 min @Load 6.60 kg, Temperature 337 ^o C	35 g/10 min @Load 14.6 lb, Temperature 639 ^o F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	122 MPa	17700 psi	5 mm/min; ISO 527
	128 MPa	18600 psi	Type I, 5 mm/min; ASTM D 638
Tensile Strength, Yield	122 MPa	17700 psi	5 mm/min; ISO 527
	128 MPa	18600 psi	Type I, 5 mm/min; ASTM D 638
Elongation at Break	2.5 %	2.5 %	Type I, 5 mm/min; ASTM D 638

Mechanical Properties	3.5 % Metric	3.5 % English	5 mm/min; ISO 527 Comments
Elongation at Yield	2.5 %	2.5 %	Type I, 5 mm/min; ASTM D 638
	2.8 %	2.8 %	5 mm/min; ISO 527
Tensile Modulus	6.70 GPa	972 ksi	1 mm/min; ISO 527
	7.10 GPa	1030 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	180 MPa	26100 psi	2 mm/min; ISO 178
	200 MPa	29000 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	6.31 GPa	915 ksi	2 mm/min; ISO 178
	6.55 GPa	950 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.800 J/cm @Temperature 23.0 Â°C	1.50 ft-lb/in @Temperature 73.4 Â°F	ASTM D 256
Izod Impact, Unnotched	8.00 J/cm @Temperature 23.0 Â°C	15.0 ft-lb/in @Temperature 73.4 Â°F	ASTM D 4812
Izod Impact, Notched (ISO)	6.00 kJ/mÂ² @Temperature 23.0 Â°C	2.86 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1A
	6.00 kJ/mÂ² @Temperature -30.0 Â°C	2.86 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	51.0 kJ/mÂ² @Temperature 23.0 Â°C	24.3 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1U
	52.0 kJ/mÂ² @Temperature -30.0 Â°C	24.7 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	5.00 J/cmÂ² @Temperature 23.0 Â°C	23.8 ft-lb/inÂ² @Temperature 73.4 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	5.10 J/cmÂ² @Temperature -30.0 Â°C	24.3 ft-lb/inÂ² @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	0.600 J/cmÂ²		

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
	0.600 J/cmÂ² @Temperature -30.0 Â°C	2.86 ft-lb/inÂ² @Temperature -22.0 Â°F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	20.0 J @Temperature 23.0 Â°C	14.8 ft-lb @Temperature 73.4 Â°F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	13.0 Âµm/m-Â°C	7.22 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	13.0 Âµm/m-Â°C	7.22 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 150 Â°C	@Temperature 73.4 - 302 Â°F	
CTE, linear, Transverse to Flow	49.0 Âµm/m-Â°C	27.2 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	49.0 Âµm/m-Â°C	27.2 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)	182 Â°C	360 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	190 Â°C @Thickness 3.20 mm	374 Â°F @Thickness 0.126 in	unannealed; ASTM D 648
	192 Â°C @Thickness 6.40 mm	378 Â°F @Thickness 0.252 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	166 Â°C	331 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
	184 Â°C @Thickness 6.40 mm	363 Â°F @Thickness 0.252 in	unannealed; ASTM D 648
Vicat Softening Point	191 Â°C	376 Â°F	Rate B/120; ISO 306
	192 Â°C	378 Â°F	Rate B/50; ASTM D 1525

Thermal Properties	Metric	English	Comments
	152A°C	570A°F	UL94 V-0, ISO 306
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	1.30e+16 ohm-cm	1.30e+16 ohm-cm	IEC 60093
Surface Resistance	3.00e+13 ohm	3.00e+13 ohm	ROA; IEC 60093
Dielectric Strength	22.0 kV/mm	559 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.0030	0.0030	IEC 60250
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0032	0.0032	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.0095	0.0095	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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