

SABIC Innovative Plastics Ultem ATX102R 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-ATX102R-PEIPCE.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.43 g/cc	1.43 g/cc	ASTM D 792
Density	1.43 g/cc	0.0517 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.15 %	0.15 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	0.40 % @Temperature 23.0 ^o C	0.40 % @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 @Thickness 3.20 mm	0.0040 - 0.0060 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	40 g/10 min @Load 6.60 kg, Temperature 337 ^o C	40 g/10 min @Load 14.6 lb, Temperature 639 ^o F	ASTM D 1238
	55 g/10 min @Load 5.00 kg, Temperature 360 ^o C	55 g/10 min @Load 11.0 lb, Temperature 680 ^o F	[cm ³ /10 min] Melt Volume Rate; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	98.0 MPa	14200 psi	5 mm/min; ISO 527
	117 MPa	17000 psi	Type I, 5 mm/min; ASTM D 638
Tensile Strength, Yield	100 MPa	14500 psi	5 mm/min; ISO 527
	117 MPa	17000 psi	Type I, 5 mm/min; ASTM D 638
Elongation at Break	3.9 %	3.9 %	5 mm/min; ISO 527

Mechanical Properties	4.3 % Metric	4.3 % English	Type I, 5 mm/min; ASTM D 638 Comments
Elongation at Yield	3.3 %	3.3 %	5 mm/min; ISO 527
	4.3 %	4.3 %	Type I, 5 mm/min; ASTM D 638
Tensile Modulus	6.15 GPa	892 ksi	1 mm/min; ISO 527
	6.40 GPa	928 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	170 MPa	24700 psi	2 mm/min; ISO 178
	182 MPa	26400 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	5.24 GPa	760 ksi	2 mm/min; ISO 178
	5.88 GPa	853 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.950 J/cm @Temperature 23.0 Â°C	1.78 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)	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)	49.0 kJ/mÂ² @Temperature 23.0 Â°C	23.3 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	5.80 J/cmÂ² @Temperature 23.0 Â°C	27.6 ft-lb/inÂ² @Temperature 73.4 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	6.00 J/cmÂ² @Temperature -30.0 Â°C	28.6 ft-lb/inÂ² @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	0.500 J/cmÂ²	2.38 ft-lb/inÂ²	

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	0.700 J/cmÂ²	3.33 ft-lb/inÂ²	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
Impact Test	25.0 J	18.4 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	29.0 Âµm/m-Â°C	16.1 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	29.0 Âµm/m-Â°C	16.1 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 150 Â°C	@Temperature 73.4 - 302 Â°F	
CTE, linear, Transverse to Flow	77.0 Âµm/m-Â°C	42.8 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	77.0 Âµm/m-Â°C	42.8 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)	162 Â°C	324 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	169 Â°C	336 Â°F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	174 Â°C	345 Â°F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	158 Â°C	316 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	160 Â°C	320 Â°F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	164 Â°C	327 Â°F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	179 Â°C	354 Â°F	Rate B/50; ISO 306
	182 Â°C	360 Â°F	Rate B/120; ISO 306

Thermal Properties	Metric	English	Comments
	184 A °C	353 A F	HB 0/50, ASTM D 1525
Flammability, UL94	V-0	V-0	UL 94
	@Thickness 3.00 mm	@Thickness 0.118 in	
	5VA	5VA	UL 94
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	4.50e+16 ohm-cm	4.50e+16 ohm-cm	IEC 60093
Surface Resistance	4.00e+13 ohm	4.00e+13 ohm	ROA; IEC 60093
Dielectric Strength	25.0 kV/mm	635 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.0021	0.0021	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.0034	0.0034	IEC 60250
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0122	0.0122	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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