

SABIC Innovative Plastics Ultem ATX203R 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-ATX203R-PEIPCE.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.49 g/cc	1.49 g/cc	ASTM D 792
Density	1.49 g/cc	0.0538 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.19 %	0.19 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	0.60 % @Temperature 23.0 ^o C	0.60 % @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	22 g/10 min	22 g/10 min	ASTM D 1238
	@Load 6.60 kg, Temperature 337 ^o C	@Load 14.6 lb, Temperature 639 ^o F	
	23 g/10 min	23 g/10 min	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	@Load 5.00 kg, Temperature 360 ^o C	@Load 11.0 lb, Temperature 680 ^o F	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	154 MPa	22300 psi	5 mm/min; ISO 527
	162 MPa	23500 psi	Type I, 5 mm/min; ASTM D 638
Tensile Strength, Yield	154 MPa	22300 psi	5 mm/min; ISO 527
	162 MPa	23500 psi	Type I, 5 mm/min; ASTM D 638
Elongation at Break	2.0 %	2.0 %	5 mm/min; ISO 527

Mechanical Properties	2.2% Metric	2.2% English	Type I, 5 mm/min; ASTM D 638 Comments
Elongation at Yield	2.0 %	2.0 %	5 mm/min; ISO 527
	2.2 %	2.2 %	Type I, 5 mm/min; ASTM D 638
Tensile Modulus	10.21 GPa	1481 ksi	1 mm/min; ISO 527
	10.26 GPa	1488 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	214 MPa	31000 psi	1.3 mm/min, 50 mm span; ASTM D 790
	225 MPa	32600 psi	2 mm/min; ISO 178
Flexural Modulus	8.70 GPa	1260 ksi	2 mm/min; ISO 178
	8.96 GPa	1300 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.690 J/cm @Temperature 23.0 Â°C	1.29 ft-lb/in @Temperature 73.4 Â°F	ASTM D 256
Izod Impact, Unnotched	7.48 J/cm @Temperature 23.0 Â°C	14.0 ft-lb/in @Temperature 73.4 Â°F	ASTM D 4812
Izod Impact, Notched (ISO)	7.00 kJ/mÂ² @Temperature 23.0 Â°C	3.33 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1A
	7.00 kJ/mÂ² @Temperature -30.0 Â°C	3.33 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	39.0 kJ/mÂ² @Temperature 23.0 Â°C	18.6 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1U
	40.0 kJ/mÂ² @Temperature -30.0 Â°C	19.0 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	3.90 J/cmÂ² @Temperature 23.0 Â°C	18.6 ft-lb/inÂ² @Temperature 73.4 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	4.40 J/cmÂ² @Temperature -30.0 Â°C	20.9 ft-lb/inÂ² @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	0.700 J/cmÂ²		

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
	0.700 J/cmÂ² @Temperature -30.0 Â°C	3.33 ft-lb/inÂ² @Temperature -22.0 Â°F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	10.0 J @Temperature 23.0 Â°C	7.38 ft-lb @Temperature 73.4 Â°F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	16.0 Âµm/m-Â°C	8.89 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	16.0 Âµm/m-Â°C	8.89 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 150 Â°C	@Temperature 73.4 - 302 Â°F	
CTE, linear, Transverse to Flow	52.0 Âµm/m-Â°C	28.9 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	52.0 Âµm/m-Â°C	28.9 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)	189 Â°C	372 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	204 Â°C @Thickness 3.20 mm	399 Â°F @Thickness 0.126 in	unannealed; ASTM D 648
	207 Â°C @Thickness 6.40 mm	405 Â°F @Thickness 0.252 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	185 Â°C	365 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	196 Â°C @Thickness 3.20 mm	385 Â°F @Thickness 0.126 in	unannealed; ASTM D 648
	199 Â°C @Thickness 6.40 mm	390 Â°F @Thickness 0.252 in	unannealed; ASTM D 648
Vicat Softening Point	204 Â°C	399 Â°F	Rate B/50; ASTM D 1525
	204 Â°C	399 Â°F	Rate B/50; ISO 306

Thermal Properties	Metric	English	Comments
	210 Å C	410 Å F	UL 94 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	3.90e+16 ohm-cm	3.90e+16 ohm-cm	IEC 60093
Surface Resistance	3.20e+13 ohm	3.20e+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	
	0.0040	0.0040	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.0075	0.0075	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	>= 125 V	>= 125 V	IEC 60112
	130 V	130 V	IEC 60112

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

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