

SABIC Innovative Plastics Ultem 2312EPR PEI (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

30% Milled glass filled, high flow Polyetherimide (Tg 217C) with internal mold release and enhanced electroplatability. ECO Conforming, UL94 V0 listing. This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Ultem-2312EPR-PEI-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.48 g/cc	1.48 g/cc	ASTM D 792
Density	1.48 g/cc	0.0535 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.50 %	0.50 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	0.90 % @Temperature 23.0 ^o C	0.90 % @Temperature 73.4 ^o F	ISO 62
Linear Mold Shrinkage, Flow	0.0040 - 0.0060 cm/cm	0.0040 - 0.0060 in/in	on tensile bar; SABIC Method
	0.0040 - 0.0060 cm/cm @Thickness 3.20 mm	0.0040 - 0.0060 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	13.7 g/10 min @Load 6.60 kg, Temperature 337 ^o C	13.7 g/10 min @Load 14.6 lb, Temperature 639 ^o F	ASTM D 1238
	14 g/10 min @Load 5.00 kg, Temperature 360 ^o C	14 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	80.0 MPa	11600 psi	5 mm/min; ISO 527
	94.0 MPa	13600 psi	Type I, 5 mm/min; ASTM D 638
Tensile Strength, Yield	80.0 MPa	11600 psi	5 mm/min; ISO 527
	94.0 MPa	13600 psi	Type I, 5 mm/min; ASTM D 638
Elongation at Break	2.0 %	2.0 %	Type I, 5 mm/min; ASTM D 638

Mechanical Properties	2.0 % Metric	2.0 % English	5 mm/min; ISO 527 Comments
Elongation at Yield	2.0 %	2.0 %	Type I, 5 mm/min; ASTM D 638
	2.0 %	2.0 %	5 mm/min; ISO 527
Tensile Modulus	5.30 GPa	769 ksi	1 mm/min; ISO 527
	6.48 GPa	940 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	145 MPa	21000 psi	2 mm/min; ISO 178
	156 MPa	22600 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	5.50 GPa	798 ksi	2 mm/min; ISO 178
	5.58 GPa	809 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.390 J/cm @Temperature 23.0 Â°C	0.731 ft-lb/in @Temperature 73.4 Â°F	ASTM D 256
Izod Impact, Unnotched	3.30 J/cm @Temperature 23.0 Â°C	6.18 ft-lb/in @Temperature 73.4 Â°F	ASTM D 4812
Izod Impact, Notched (ISO)	5.00 kJ/mÂ² @Temperature 23.0 Â°C	2.38 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1A
	5.00 kJ/mÂ² @Temperature -30.0 Â°C	2.38 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	25.0 kJ/mÂ² @Temperature 23.0 Â°C	11.9 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1U
	25.0 kJ/mÂ² @Temperature -30.0 Â°C	11.9 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	2.50 J/cmÂ² @Temperature 23.0 Â°C	11.9 ft-lb/inÂ² @Temperature 73.4 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	2.50 J/cmÂ² @Temperature -30.0 Â°C	11.9 ft-lb/inÂ² @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	0.400 J/cmÂ²	1.90 ft-lb/inÂ²	

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	0.500 J/cmÂ²	2.38 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	15.0 J	11.1 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	32.0 Âµm/m-Â°C	17.8 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	32.0 Âµm/m-Â°C	17.8 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 150 Â°C	@Temperature 73.4 - 302 Â°F	
CTE, linear, Transverse to Flow	35.0 Âµm/m-Â°C	19.4 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	35.0 Âµm/m-Â°C	19.4 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 150 Â°C	@Temperature 73.4 - 302 Â°F	
Thermal Conductivity	0.320 W/m-K	2.22 BTU-in/hr-ftÂ²-Â°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	204 Â°C	399 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	204 Â°C	399 Â°F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	206 Â°C	403 Â°F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	192 Â°C	378 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	199 Â°C	390 Â°F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	202 Â°C	396 Â°F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	

Vicat Softening Point Thermal Properties	211 Â°C Metric	412 Â°F English	Rate B/50; ISO 306 Comments
	213 Â°C	415 Â°F	Rate B/120; ISO 306
	216 Â°C	421 Â°F	Rate B/50; ASTM D 1525
Glass Transition Temp, Tg	217 Â°C	423 Â°F	
Flammability, UL94	V-0 @Thickness 0.400 mm	V-0 @Thickness 0.0157 in	UL 94

Electrical Properties	Metric	English	Comments
Arc Resistance	120 - 180 sec	120 - 180 sec	Tungsten, PLC code 5; ASTM D 495
Comparative Tracking Index	100 - 175 V	100 - 175 V	PLC code 4; UL 746A
Hot Wire Ignition, HWI	7.0 - 15 sec	7.0 - 15 sec	PLC code 4; UL 746A
High Amp Arc Ignition, HAI	0.00 - 15 arcs	0.00 - 15 arcs	surface, PLC code 4; UL 746A
High Voltage Arc-Tracking Rate, HVTR	>= 150 mm/min	>= 5.91 in/min	PLC code 4; UL 746A

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

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