

SABIC Innovative Plastics Ultem 2412EPR PEI (Asia Pacific)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

40% 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 Asia Pacific region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Ultem-2412EPR-PEI-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.56 g/cc	1.56 g/cc	ASTM D 792
Density	1.56 g/cc	0.0564 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.40 %	0.40 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	0.80 % @Temperature 23.0 ^o C	0.80 % @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	0.0020 - 0.0040 cm/cm @Thickness 3.20 mm	0.0020 - 0.0040 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	9.5 g/10 min @Load 6.60 kg, Temperature 337 ^o C	9.5 g/10 min @Load 14.6 lb, Temperature 639 ^o F	ASTM D 1238
	13 g/10 min @Load 5.00 kg, Temperature 360 ^o C	13 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
Hardness, H358/30	165 MPa	23900 psi	ISO 2039-1
Tensile Strength at Break	90.0 MPa	13100 psi	5 mm/min; ISO 527
	105 MPa	15200 psi	Type I, 5 mm/min; ASTM D 638
Tensile Strength, Yield	90.0 MPa	13100 psi	5 mm/min; ISO 527
	105 MPa	15200 psi	Type I, 5 mm/min; ASTM D 638

Elongation at Break Mechanical Properties	1.5 % Metric	1.5 % English	Type I, 5 mm/min; ASTM D 638 Comments
	2.0 %	2.0 %	5 mm/min; ISO 527
Elongation at Yield	1.5 %	1.5 %	Type I, 5 mm/min; ASTM D 638
	2.0 %	2.0 %	5 mm/min; ISO 527
Tensile Modulus	9.80 GPa	1420 ksi	5 mm/min; ASTM D 638
	10.1 GPa	1460 ksi	1 mm/min; ISO 527
Flexural Yield Strength	145 MPa	21000 psi	2 mm/min; ISO 178
	148 MPa	21500 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	6.91 GPa	1000 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	7.20 GPa	1040 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.370 J/cm @Temperature 23.0 Â°C	0.693 ft-lb/in @Temperature 73.4 Â°F	ASTM D 256
Izod Impact, Unnotched	4.43 J/cm @Temperature 23.0 Â°C	8.30 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	2.00 J/cmÂ² @Temperature -30.0 Â°C	9.52 ft-lb/inÂ² @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	2.10 J/cmÂ² @Temperature 23.0 Â°C	9.99 ft-lb/inÂ² @Temperature 73.4 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU

Mechanical Properties	Metric	English	Comments
Charpy Impact, Notched	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.500 J/cmÂ²	2.38 ft-lb/inÂ²	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	Instrumented Impact Total Energy; ASTM D 3763
	16.0 J	11.8 ft-lb	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	25.0 Âµm/m-Â°C	13.9 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	25.0 Âµm/m-Â°C	13.9 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 150 Â°C	@Temperature 73.4 - 302 Â°F	
CTE, linear, Transverse to Flow	30.0 Âµm/m-Â°C	16.7 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	30.0 Âµm/m-Â°C	16.7 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 150 Â°C	@Temperature 73.4 - 302 Â°F	
Thermal Conductivity	0.280 W/m-K	1.94 BTU-in/hr-ftÂ²- Â°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	206 Â°C	403 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	207 Â°C	405 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	211 Â°C	412 Â°F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	213 Â°C	415 Â°F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	195 Â°C	383 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	203 Â°C	397 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	202 Â°C	396 Â°F	

Thermal Properties	Metric @ Thickness 3.20 mm	English @ Thickness 0.126 in	unannealed; ASTM D 648 Comments
	203 Å°C @Thickness 6.40 mm	397 Å°F @Thickness 0.252 in	unannealed; ASTM D 648
Vicat Softening Point	213 Å°C	415 Å°F	Rate B/50; ISO 306
	214 Å°C	417 Å°F	Rate B/120; ISO 306
	222 Å°C	432 Å°F	Rate B/50; ASTM D 1525
Glass Transition Temp, Tg	217 Å°C	423 Å°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	175 - 250 V	175 - 250 V	PLC code 3; 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, 125Å°C +/- 2Å°C	Passes	IEC 60695-10-2

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