

SABIC Innovative Plastics ULTEM 2410EPR PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

40% Glass fiber filled, high flow Polyetherimide (Tg 217C) with internal mold release for enhanced electroplatability. ECO Conforming, UL94 V0 listing.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-2410EPR-PEI.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.56 g/cc	1.56 g/cc	ASTM D792
Density	1.56 g/cc	0.0564 lb/in ³	ISO 1183
Moisture Absorption	0.400 %	0.400 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	0.80 %	0.80 %	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	0.0020 - 0.0040 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
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	8.9 g/10 min	8.9 g/10 min	ASTM D1238
	@Load 6.60 kg, Temperature 337 ^o C	@Load 14.6 lb, Temperature 639 ^o F	
Melt Index of Compound	11 g/10 min	11 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 5.00 kg, Temperature 360 ^o C	@Load 11.0 lb, Temperature 680 ^o F	

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	165 MPa	23900 psi	ISO 2039-1
Tensile Strength at Break	165 MPa	23900 psi	Type I, 5 mm/min; ASTM D638
	170 MPa	24700 psi	5 mm/min; ISO 527
Tensile Strength, Yield	165 MPa	23900 psi	Type I, 5 mm/min; ASTM D638
	170 MPa	24700 psi	5 mm/min; ISO 527
Elongation at Break	1.8 %	1.8 %	Type I, 5 mm/min; ASTM D638
	2.0 %	2.0 %	5 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
Elongation at Yield			Type I, 5 mm/min; ASTM D638
	2.0 %	2.0 %	5 mm/min; ISO 527
Tensile Modulus	11.0 GPa	1600 ksi	1 mm/min; ISO 527
	11.1 GPa	1610 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	220 MPa	31900 psi	2 mm/min; ISO 178
	240 MPa	34800 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	9.50 GPa	1380 ksi	2 mm/min; ISO 178
	10.65 GPa	1545 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.820 J/cm	1.54 ft-lb/in	ASTM D256
Izod Impact, Unnotched	4.10 J/cm	7.68 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	10.0 kJ/m ²	4.76 ft-lb/in ²	80*10*4; ISO 180/1A
	10.0 kJ/m ²	4.76 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	30.0 kJ/m ²	14.3 ft-lb/in ²	80*10*4; ISO 180/1U
	30.0 kJ/m ²	14.3 ft-lb/in ²	80*10*4; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	3.00 J/cm ²	14.3 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	3.50 J/cm ²	16.7 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	1.00 J/cm ²	4.76 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.00 J/cm ²	4.76 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	18.0 J	13.3 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	English $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	Comments
CTE, linear, Parallel to Flow	@Temperature -40.0 - 150 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 302 $\text{Å}^\circ\text{F}$	ASTM E 831
	15.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	8.33 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ISO 11359-2
CTE, linear, Transverse to Flow	@Temperature 23.0 - 150 $\text{Å}^\circ\text{C}$	@Temperature 73.4 - 302 $\text{Å}^\circ\text{F}$	ISO 11359-2
	45.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	25.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTM E 831
Thermal Conductivity	@Temperature -40.0 - 150 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 302 $\text{Å}^\circ\text{F}$	ASTM E 831
	45.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	25.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ISO 11359-2
Thermal Conductivity	0.300 W/m-K	2.08 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	206 $\text{Å}^\circ\text{C}$	403 $\text{Å}^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	208 $\text{Å}^\circ\text{C}$	406 $\text{Å}^\circ\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Be
	212 $\text{Å}^\circ\text{C}$	414 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	215 $\text{Å}^\circ\text{C}$	419 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	@Thickness 6.40 mm	@Thickness 0.252 in	
	197 $\text{Å}^\circ\text{C}$	387 $\text{Å}^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Af
	205 $\text{Å}^\circ\text{C}$	401 $\text{Å}^\circ\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	204 $\text{Å}^\circ\text{C}$	399 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	208 $\text{Å}^\circ\text{C}$	406 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
	214 $\text{Å}^\circ\text{C}$	417 $\text{Å}^\circ\text{F}$	Rate B/50; ISO 306
Glass Transition Temp, Tg	215 $\text{Å}^\circ\text{C}$	419 $\text{Å}^\circ\text{F}$	Rate B/120; ISO 306
	223 $\text{Å}^\circ\text{C}$	433 $\text{Å}^\circ\text{F}$	Rate B/50; ASTM D1525
	217 $\text{Å}^\circ\text{C}$	423 $\text{Å}^\circ\text{F}$	
Flammability, UL94	V-0	V-0	UL 94

Thermal Properties	@Thickness 0.400 mm Metric	@Thickness 0.0157 in English	Comments
Electrical Properties	Metric	English	Comments
Arc Resistance	120 - 180 sec	120 - 180 sec	Tungsten; ASTM D495
Comparative Tracking Index	100 - 175 V	100 - 175 V	UL 746A
Hot Wire Ignition, HWI	7.0 - 15 sec	7.0 - 15 sec	UL 746A
High Amp Arc Ignition, HAI	0.00 - 15 arcs	0.00 - 15 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	>= 150 mm/min	>= 5.91 in/min	UL 746A

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

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