

## SABIC Innovative Plastics ULTEM HU2410 PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

### Material Notes:

40% Glass fiber filled, enhanced flow Polyetherimide (Tg 217C). ECO Conforming. For medical devices and pharmaceutical applications.

Healthcare management of change, biocompatible (ISO 10993 or USP Class VI), food contact compliant.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-ULTEM-HU2410-PEI.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-HU2410-PEI.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.61 g/cc	1.61 g/cc	ASTM D792
Density	1.56 g/cc	0.0564 lb/in <sup>3</sup>	ISO 1183
Water Absorption	0.13 % @Time 86400 sec	0.13 % @Time 24.0 hour	ASTM D570
Moisture Absorption	0.400 %	0.400 %	23 <sup>o</sup> C / 50% RH; ISO 62
Moisture Absorption at Equilibrium	0.90 %	0.90 %	ASTM D570
Water Absorption at Saturation	0.80 %	0.80 %	ISO 62
Linear Mold Shrinkage, Flow	0.0010 - 0.0030 cm/cm @Thickness 3.20 mm	0.0010 - 0.0030 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	5.2 g/10 min @Load 6.60 kg, Temperature 337 <sup>o</sup> C	5.2 g/10 min @Load 14.6 lb, Temperature 639 <sup>o</sup> F	ASTM D1238
Melt Index of Compound	11 g/10 min @Load 5.00 kg, Temperature 220 <sup>o</sup> C	11 g/10 min @Load 11.0 lb, Temperature 428 <sup>o</sup> F	MVR [cm <sup>3</sup> /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	179 MPa	26000 psi	Type I, 5 mm/min; ASTM D638
	180 MPa	26100 psi	5 mm/min; ISO 527
Tensile Strength, Yield	180 MPa	26100 psi	5 mm/min; ISO 527
	186 MPa	27000 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	2.0 %	2.0 %	5 mm/min; ISO 527
	2.5 %	2.5 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	2.0 %	2.0 %	5 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
			Type I, 5 mm/min; ASTM D638
Tensile Modulus	11.5 GPa	1670 ksi	1 mm/min; ISO 527
	11.72 GPa	1700 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	240 MPa	34800 psi	2 mm/min; ISO 178
	254 MPa	36800 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	10.0 GPa	1450 ksi	2 mm/min; ISO 178
	11.43 GPa	1658 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	1.12 J/cm	2.10 ft-lb/in	ASTM D256
	1.14 J/cm	2.14 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched	4.27 J/cm	8.00 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	10.0 kJ/m <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1A
	10.0 kJ/m <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.00 J/cm <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	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	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	14.4 µm/m-°C	8.00 µin/in-°F	ASTM E 831
	@Temperature -20.0 - 150 °C	@Temperature -4.00 - 302 °F	
CTE, linear, Transverse to Flow	15.0 µm/m-°C	8.33 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
CTE, linear, Transverse to Flow	45.0 µm/m-°C	25.0 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	45.0 µm/m-°C	25.0 µin/in-°F	

Thermal Properties	Metric @ Temperature -40.0 - 40.0 Â°C	English @ Temperature -40.0 - 104 Â°F	ISO 11359-2 Comments
Deflection Temperature at 1.8 MPa (264 psi)	197 Â°C	387 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	212 Â°C @Thickness 6.40 mm	414 Â°F @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	214 Â°C	417 Â°F	Rate B/50; ISO 306
	215 Â°C	419 Â°F	Rate B/120; ISO 306
	234 Â°C	453 Â°F	Rate B/50; ASTM D1525
Glass Transition Temp, Tg	217 Â°C	423 Â°F	
Oxygen Index	54 %	54 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.50e+16 ohm-cm	1.50e+16 ohm-cm	ASTM D257
Dielectric Constant	3.7 @Frequency 1000 Hz	3.7 @Frequency 1000 Hz	ASTM D150
Dielectric Strength	24.0 kV/mm @Thickness 1.60 mm	610 kV/in @Thickness 0.0630 in	in oil; ASTM D149
Dissipation Factor	0.0020 @Frequency 1000 Hz	0.0020 @Frequency 1000 Hz	ASTM D150

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