

## SABIC Innovative Plastics ULTEM HU1000 PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

### Material Notes:

Transparent, standard 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. EtO and steam sterilizable.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-ULTEM-HU1000-PEI.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-HU1000-PEI.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.27 g/cc	1.27 g/cc	ASTM D792
Density	1.27 g/cc	0.0459 lb/in <sup>3</sup>	ISO 1183
Water Absorption	0.25 % @Time 86400 sec	0.25 % @Time 24.0 hour	ASTM D570
Moisture Absorption	0.700 %	0.700 %	23 <sup>o</sup> C / 50% RH; ISO 62
Moisture Absorption at Equilibrium	1.25 %	1.25 %	ASTM D570
Water Absorption at Saturation	1.25 %	1.25 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	9.0 g/10 min @Load 6.60 kg, Temperature 337 <sup>o</sup> C	9.0 g/10 min @Load 14.6 lb, Temperature 639 <sup>o</sup> F	ASTM D1238
Melt Index of Compound	13 g/10 min @Load 5.00 kg, Temperature 220 <sup>o</sup> C	13 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	85.0 MPa	12300 psi	5 mm/min; ISO 527
	90.0 MPa	13100 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	105 MPa	15200 psi	5 mm/min; ISO 527
	110 MPa	16000 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	60 %	60 %	Type I, 5 mm/min; ASTM D638
	60 %	60 %	5 mm/min; ISO 527
Elongation at Yield	6.0 %	6.0 %	5 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
			Type I, 5 mm/min; ASTM D638
Tensile Modulus	3.20 GPa	464 ksi	1 mm/min; ISO 527
	3.58 GPa	519 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	160 MPa	23200 psi	2 mm/min; ISO 178
	173 MPa	25100 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	3.30 GPa	479 ksi	2 mm/min; ISO 178
	3.43 GPa	497 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.530 J/cm	0.993 ft-lb/in	ASTM D256
	0.550 J/cm	1.03 ft-lb/in	ASTM D256
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Unnotched	13.35 J/cm	25.01 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	6.00 kJ/mÂ²	2.86 ft-lb/inÂ²	80*10*4; ISO 180/1A
	6.00 kJ/mÂ²	2.86 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Charpy Impact, Notched	0.400 J/cmÂ²	1.90 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 Âµm/m-Â°C	27.8 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	55.8 Âµm/m-Â°C	31.0 Âµin/in-Â°F	ASTME 831
	@Temperature -20.0 - 150 Â°C	@Temperature -4.00 - 302 Â°F	
CTE, linear, Transverse to Flow	50.0 Âµm/m-Â°C	27.8 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	54.0 Âµm/m-Â°C	30.0 Âµin/in-Â°F	ASTME 831
	@Temperature -20.0 - 150 Â°C	@Temperature -4.00 - 302 Â°F	
Deflection Temperature at 1.8 MPa (264 psi)	215 Â°C	419 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af

Thermal Properties	Metric	English	Comments
	@Thickness 6.40 mm	@Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	211 Â°C	412 Â°F	Rate B/120; ISO 306
	215 Â°C	419 Â°F	Rate B/50; ISO 306
	218 Â°C	424 Â°F	Rate B/50; ASTM D1525
Glass Transition Temp, Tg	217 Â°C	423 Â°F	
Oxygen Index	47 %	47 %	ASTM D2863

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	transparent; thickness not quantified

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+17 ohm-cm	1.00e+17 ohm-cm	ASTM D257
Dielectric Constant	3.15	3.15	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	27.9 kV/mm	709 kV/in	in oil; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	32.7 kV/mm	831 kV/in	in air; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.0013	0.0013	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0025	0.0025	ASTM D150
	@Frequency 2.45e+9 Hz	@Frequency 2.45e+9 Hz	
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	60 - 120 sec	60 - 120 sec	UL 746A
High Amp Arc Ignition, HAI	15 - 30 arcs	15 - 30 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	25.4 - 80.0 mm/min	1.00 - 3.15 in/min	UL 746A

Descriptive Properties	Value	Comments
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Descriptive Properties **laming, Ds 4 min**

Value

Comments<sup>2</sup>

## Contact Songhan Plastic Technology Co.,Ltd.

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