

SABIC Innovative Plastics EXTEM UH1006 TPI Blend

Category : Polymer , Thermoplastic , Polyimide, Thermoplastic

Material Notes:

High Heat Amorphous TPI Blend, Excellent Chemical Resistance, High Continuous Use Temperature (CUT), Best-in-class FR, OSU and LOI.

Material is UL-listed. This material is RoHS compliant and also halogen free according VDE/DIN 472 part 815. Resin is subject to export control restrictions under both U.S. 15 CFR 774 and Annex I of Reg. (EC) 428/2009 as ECCN 1C008. Diversion contrary to law is prohibited.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-EXTEM-UH1006-TPI-Blend.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.37 g/cc	1.37 g/cc	ASTM D792
Density	1.37 g/cc	0.0495 lb/in ³	ISO 1183
Water Absorption	0.39 % @Time 86400 sec	0.39 % @Time 24.0 hour	ISO 62-1
Moisture Absorption	0.110 %	0.110 %	50% RH, 24 hrs; ISO 62-4
Water Absorption at Saturation	2.1 %	2.1 %	ISO 62
Linear Mold Shrinkage, Flow	0.0080 - 0.010 cm/cm @Thickness 3.20 mm	0.0080 - 0.010 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	10 g/10 min @Load 6.60 kg, Temperature 400 °C	10 g/10 min @Load 14.6 lb, Temperature 752 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	112	112	ASTM D785
Tensile Strength at Break	107 MPa	15500 psi	5 mm/min; ISO 527
	110 MPa	16000 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength	68.0 MPa	9860 psi	ASTM D638
Tensile Strength, Yield	112 MPa	16200 psi	5 mm/min; ISO 527
	120 MPa	17400 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	19 %	19 %	5 mm/min; ISO 527
	20 %	20 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	9.0 %	9.0 %	Type I, 5 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
Tensile Modulus	3.50 GPa	508 ksi	1 mm/min; ISO 527
	3.80 GPa	551 ksi	5 mm/min; ASTM D638
Flexural Strength	109 MPa	15800 psi	ASTM D790
	@Temperature 150 °C	@Temperature 302 °F	
Flexural Yield Strength	155 MPa	22500 psi	2 mm/min; ISO 178
	175 MPa	25400 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	3.00 GPa	435 ksi	2 mm/min; ISO 178
	3.52 GPa	511 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.50 GPa	363 ksi	ASTM D790
	@Temperature 150 °C	@Temperature 302 °F	
Compressive Strength	160 MPa	23200 psi	SABIC Method
Izod Impact, Notched	0.750 J/cm	1.41 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	9.00 kJ/m ²	4.28 ft-lb/in ²	80*10*4; ISO 180/1A
Charpy Impact, Notched	2.00 J/cm ²	9.52 ft-lb/in ²	ISO 179/2C

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	46.0 µm/m-°C	25.6 µin/in-°F	ASTM E 831
	@Temperature 23.0 - 150 °C	@Temperature 73.4 - 302 °F	
CTE, linear, Transverse to Flow	47.0 µm/m-°C	26.1 µin/in-°F	ASTM E 831
	@Temperature 23.0 - 150 °C	@Temperature 73.4 - 302 °F	
Thermal Conductivity	0.230 W/m-K	1.60 BTU-in/hr-ft ² -°F	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	260 °C	500 °F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	231 °C	448 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	238 °C	460 °F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	257 °C	495 °F	Rate B/50; ASTM D1525

Thermal Properties	Metric	English	Comments
	262 °C	504 °F	Rate B/120; ISO 306
Oxygen Index	47 %	47 %	ISO 4589
Glow Wire Test	875 °C	1610 °F	IEC 60695-2-13
	930 °C	1710 °F	IEC 60695-2-13
	960 °C	1760 °F	IEC 60695-2-12
	@Thickness 0.750 mm	@Thickness 0.0295 in	

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.5	3.5	ASTM D150
	@Frequency 1.00e+7 Hz	@Frequency 1.00e+7 Hz	
Dielectric Strength	54.0 kV/mm	1370 kV/in	in air; ASTM D149
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Dissipation Factor	0.00050	0.00050	ASTM D150
	@Frequency 1.00e+7 Hz	@Frequency 1.00e+7 Hz	
Comparative Tracking Index	100 - 175 V	100 - 175 V	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	UL 746A

Descriptive Properties	Value	Comments
Draeger Tube Toxicity, Flaming (1.52mm)	PASSES	AIMT 3.0005, ABD0031
FAA Flammability, FAR 25.853 A/B	PASSES	FAR 25.853
OSU total heat release (2 minute test)	0kW-min/m^2	FAR 25.853
OSU peak heat release rate (5 minute test)	21kW/m^2	FAR 25.853
Strength Retention after 1,000 hr aging in air at 240°C	88%	UL 746B
Strength Retention after 2,000 hr aging in air at 240°C	68%	UL 746B

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