

SABIC Innovative Plastics EXTEM UH1026 TPI Blend

Category : Polymer , Thermoplastic , Polyimide, Thermoplastic

Material Notes:

High heat amorphous TPI Blend, Chemical Resistant, High Flow, IR-Transparent

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-EXTEM-UH1026-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	28 g/10 min @Load 6.60 kg, Temperature 400 °C	28 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	108 MPa	15700 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength	68.0 MPa	9860 psi	ASTM D638
Tensile Strength, Yield	115 MPa	16700 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	9.0 %	9.0 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	7.0 %	7.0 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	3.41 GPa	495 ksi	5 mm/min; ASTM D638
Flexural Strength	109 MPa @Temperature 150 °C	15800 psi @Temperature 302 °F	ASTM D790
Flexural Yield Strength	175 MPa	25400 psi	1.3 mm/min, 50 mm span; ASTM D790

Flexural Modulus Mechanical Properties	3.43 GPa Metric	497 ksi English	1.3 mm/min, 50 mm span; ASTM D790 Comments
	2.50 GPa @Temperature 150 °C	363 ksi @Temperature 302 °F	ASTM D790
Compressive Strength	160 MPa	23200 psi	SABIC Method
Izod Impact, Notched	0.490 J/cm	0.918 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	46.0 µm/m-°C @Temperature 23.0 - 150 °C	25.6 µin/in-°F @Temperature 73.4 - 302 °F	ASTM E 831
CTE, linear, Transverse to Flow	47.0 µm/m-°C @Temperature 23.0 - 150 °C	26.1 µin/in-°F @Temperature 73.4 - 302 °F	ASTM E 831
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)	257 °C @Thickness 3.20 mm	495 °F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	234 °C @Thickness 3.20 mm	453 °F @Thickness 0.126 in	unannealed; ASTM D648
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 @Thickness 0.750 mm	1760 °F @Thickness 0.0295 in	IEC 60695-2-12

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

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.5 @Frequency 1.00e+7 Hz	3.5 @Frequency 1.00e+7 Hz	ASTM D150
Dielectric Strength	54.0 kV/mm @Thickness 0.800 mm	1370 kV/in @Thickness 0.0315 in	in air; ASTM D149

Electrical Properties	Metric ^①	English ^①	Comments
Dissipation Factor	@Frequency 1.00e+7 Hz	@Frequency 1.00e+7 Hz	ASTM D150
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
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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