

SABIC Innovative Plastics ULTEM STM1700 PEI Copolymer

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Siltem STM1700 is a flexible copolymer designed for wire and cable applications. It offers a halogen free (according VDE 0472) flame retardant solution that also offers low smoke emission and toxicity. It is an amber colored transparent material that can be selfcolored and easily processed on conventional equipment. The material may also have a fit in flexible profiles or injection molded parts.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-STM1700-PEI-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183
Water Absorption at Saturation	0.76 %	0.76 %	ISO 62
Linear Mold Shrinkage, Flow	0.0087 - 0.0092 cm/cm @Thickness 3.20 mm	0.0087 - 0.0092 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	7.0 g/10 min @Load 6.60 kg, Temperature 295 Â°C	7.0 g/10 min @Load 14.6 lb, Temperature 563 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	80	80	ASTM D2240
Tensile Strength at Break	53.0 MPa	7690 psi	Type I, 5 mm/min; ASTM D638
	59.0 MPa	8560 psi	50 mm/min; ISO 527
Tensile Strength, Yield	62.0 MPa	8990 psi	Type I, 5 mm/min; ASTM D638
	68.0 MPa	9860 psi	50 mm/min; ISO 527
Elongation at Break	15 %	15 %	50 mm/min; ISO 527
	20 %	20 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	5.0 %	5.0 %	Type I, 5 mm/min; ASTM D638
	5.0 %	5.0 %	50 mm/min; ISO 527
Tensile Modulus	2.30 GPa	334 ksi	1 mm/min; ISO 527
	2.40 GPa	348 ksi	5 mm/min; ASTM D638
Flexural Strength	94.0 MPa	13600 psi	ASTM D790

Mechanical Properties	Metric	English	Comments
Flexural Yield Strength	98.0 MPa	14200 psi	2 mm/min; ISO 178
Flexural Modulus	2.00 GPa	290 ksi	2 mm/min; ISO 178
	2.15 GPa	312 ksi	ASTM D790
	2.15 GPa	312 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	1.75 J/cm	3.28 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	16.0 kJ/mÂ²	7.61 ft-lb/inÂ²	80*10*4; ISO 180/1A
	8.00 kJ/mÂ²	3.81 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Tear Strength	37.0 kN/m	211 pli	ISO 34 (Method A)
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Taber Abrasion, mg/1000 Cycles	50	50	CS-17, 1 kg; ASTM D1044

Thermal Properties	Metric	English	Comments
Transformation Temperature, Tg	200 Â°C	392 Â°F	DMA
Deflection Temperature at 0.46 MPa (66 psi)	164 Â°C	327 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
Deflection Temperature at 1.8 MPa (264 psi)	145 Â°C	293 Â°F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	180 Â°C	356 Â°F	Rate B/120; ISO 306
Flammability, UL94	V-0	V-0	UL 94 by SABIC-IP
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Oxygen Index	48 %	48 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+16 ohm-cm	>= 1.00e+16 ohm-cm	ASTM D257
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ASTM D257
Dielectric Constant	3.0	3.0	ASTM D150
	@Frequency 100000 Hz	@Frequency 100000 Hz	
	3.04	3.04	

Electrical Properties	Metric	English	Comments
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150
	3.13	3.13	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	16.7 kV/mm	424 kV/in	in oil; ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.0054	0.0054	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.0061	0.0061	ASTM D150
	@Frequency 100000 Hz	@Frequency 100000 Hz	
	0.011	0.011	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	

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