

SABIC Innovative Plastics ULTEM STM1500 PEI Copolymer

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Siloxane polyetherimide block copolymer. Wire and cable use. Strength and flexibility.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-ULTEM-STM1500-PEI-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.18 g/cc	1.18 g/cc	ASTM D792
Moisture Absorption	<= 0.000 %	<= 0.000 %	ASTM D570
Halogen Content	0.00 %	0.00 %	SABIC Method
Melt Flow	12 g/10 min @Load 6.60 kg, Temperature 295 Â°C	12 g/10 min @Load 14.6 lb, Temperature 563 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	37.0 MPa	5370 psi	(Wire/Cable), break Initial
	38.0 MPa	5510 psi	(Wire/Cable), break Aged 1 week at 135Â°C
Tensile Strength, Yield	28.0 MPa	4060 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	94 %	94 %	Retention
	100 %	100 %	Type I, 50 mm/min; ASTM D638
	102 %	102 %	Retention
	370 %	370 %	
	400 %	400 %	(Wire/Cable), break Initial
Flexural Modulus	0.380 GPa	55.1 ksi	2.6 mm/min, 100 mm span; ASTM D790
Taber Abrasion, mg/1000 Cycles	26	26	CS-17, 1 kg; ASTM D1044

Thermal Properties	Metric	English	Comments
Transformation Temperature, Tg	168 Â°C	334 Â°F	DMA
Oxygen Index	46 %	46 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	4.10e+16 ohm-cm	4.10e+16 ohm-cm	ASTM D257
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ASTM D257
Dielectric Constant	2.7	2.7	ASTM D150
	@Frequency 100000 Hz	@Frequency 100000 Hz	
Dielectric Strength	3.01	3.01	ASTM D150
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	16.1 kV/mm	409 kV/in	in air; ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dielectric Strength	16.3 kV/mm	414 kV/in	in oil; ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.0056	0.0056	ASTM D150
	@Frequency 100000 Hz	@Frequency 100000 Hz	
Dissipation Factor	0.010	0.010	ASTM D150
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	

Descriptive Properties	Value	Comments
Cable Wall Thickness	10mil	
Corrosion, 1 hr (2500 angstroms max)	40angstrom	ASTM E5.2170
Corrosion, 24 hrs	122angstrom	ASTM E5.2170
Corrosion, 6 days	183angstrom	ASTM E5.2170
OSU peak heat release rate (5 minute test)	140kW/m ²	FAR 25.853

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