

ULTEM™ STM1500 resin

Polyether Imide

SABIC Innovative Plastics

Message:

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

General Information			
Features	Block Copolymer		
	Good Flexibility		
	Good Strength		
Uses	Wire & Cable Applications		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.18	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (295°C/6.6 kg)	12	g/10 min	ASTM D1238
Water Absorption ¹ (Equilibrium)	< 0.25	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ² (Yield)	28.3	MPa	ASTM D638
Tensile Elongation ³ (Break)	100	%	ASTM D638
Flexural Modulus ⁴ (100 mm Span)	386	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	26.0	mg	ASTM D1044
Elongation at Break			UL 1561
-- ⁵	400	%	
Aged 1 week : 135°C	370	%	
Retention 1 week : 135°C	94	%	
Tensile Strength at Break			UL 1561
-- ⁶	37.9	MPa	
Aged 1 week : 135°C	38.6	MPa	
Retention 1 week : 135°C	100	%	
Halogen Content	0		Internal Method
OSU Peak Heat Release Rate ⁷	140	kW/m ²	FAR 25.853
Cable Wall Thickness	254.0	µm	Internal Method
Corrosion			ASTM E5.2170
1 hr ⁸	4.00	nm	
24 hr	12.2	nm	
6 days	18.3	nm	
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	168	°C	DSC

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	ASTM D257
Volume Resistivity	4.1E+16	ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
3.20 mm, in Air	16	kV/mm	
3.20 mm, in Oil	16	kV/mm	
Dielectric Constant			ASTM D150
50 Hz	3.01		
60 Hz	3.01		
100 kHz	2.79		
Dissipation Factor			ASTM D150
50 Hz	0.010		
60 Hz	0.010		
100 kHz	5.6E-3		
Flammability	Nominal Value	Unit	Test Method
Oxygen Index	46	%	ASTM D2863
Injection	Nominal Value	Unit	
Drying Temperature	107	°C	
Drying Time	4.0 to 6.0	hr	
Drying Time, Maximum	8.0	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	
Rear Temperature	293 to 316	°C	
Middle Temperature	293 to 316	°C	
Front Temperature	293 to 316	°C	
Nozzle Temperature	299 to 321	°C	
Processing (Melt) Temp	299 to 321	°C	
Mold Temperature	65.6 to 93.3	°C	
Back Pressure	0.345 to 0.689	MPa	
Screw Speed	50 to 100	rpm	
Vent Depth	0.025 to 0.076	mm	
NOTE			
1.	Estimated		
2.	Type I, 50 mm/min		
3.	Type I, 50 mm/min		
4.	2.6 mm/min		
5.	Cable Wall Thickness 10 mil		
6.	Cable Wall Thickness 10 mil		
7.	5 minute test		
8.	2500 angstroms max		

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