

SILTEMTM RESIN STM1500

REGION AMERICAS

DESCRIPTION

SILTEMTM STM1500 resin is a flexible polyetherimide(PEI)-siloxane copolymer for cable and wire coatings. RoHS compliant.

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electrical Components and Infrastructure
Hydrocarbon and Energy	Nuclear
Industrial	Defense, Electronic Material Handling, Industrial Material Handling, Electronic Material
Mass Transportation	Rail, Aircraft Interiors

TYPICAL PROPERTY VALUES

Revision 20200610

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	28	MPa	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	100	%	ASTM D 638
Flexural Modulus, 2.6 mm/min, 100 mm span	380	MPa	ASTM D 790
Taber Abrasion, CS-17, 1 kg	26	mg/1000cy	ASTM D 1044
PHYSICAL			
Specific Gravity	1.18	-	ASTM D 792
Moisture Absorption (est)	<0	%	ASTM D 570
Melt Flow Rate, 295°C/6.6 kgf	12	g/10 min	ASTM D 1238
Matrix Tg	168	°C	DMA
Halogen Content	0	%	SABIC method
ELECTRICAL			
Volume Resistivity	4.1E+16	Ohm-cm	ASTM D 257
Surface Resistivity	>1.E+15	Ohm	ASTM D 257
Dielectric Strength, in air, 3.2 mm	16.1	kV/mm	ASTM D 149
Dielectric Strength, in oil, 3.2 mm	16.3	kV/mm	ASTM D 149
Relative Permittivity, 50/60 Hz	3.01	-	ASTM D 150
Relative Permittivity, 100 kHz	2.7	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.01	-	ASTM D 150
Dissipation Factor, 100 kHz	0.0056	-	ASTM D 150
FLAME CHARACTERISTICS			
OSU peak heat release rate (5 minute test)	140	kW/m ²	FAR 25.853
Oxygen Index (LOI)	46	%	ASTM D 2863
WIRE AND CABLE - UL 1581 TESTED ON 2.0MM WIRE WITH 0.12MMX20 STRANDED COPPER			
Cable Wall Thickness	10	mil	-
Tensile Strength (Wire/Cable), break	-	-	SABIC (UL1561)
Initial	37	MPa	-
Aged 1 week at 135°C	38	MPa	-
Tensile Strength Retention	102	%	-

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Elongation (Wire/Cable), break	-	-	SABIC (UL1561)
Initial	400	%	-
Aged 1 week at 135°C	370	%	-
Tensile Elongation Retention	94	%	-
COMBUSTION CORROSIVITY			
Corrosion, 1 hr (2500 angstroms max)	40	angstrom	ASTM E5.2170
Corrosion, 24 hrs	122	angstrom	ASTM E5.2170
Corrosion, 6 days	183	angstrom	ASTM E5.2170
INJECTION MOLDING			
Drying Temperature	105	°C	
Drying Time	4 – 6	hrs	
Drying Time (Cumulative)	8	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	300 – 320	°C	
Nozzle Temperature	300 – 320	°C	
Front - Zone 3 Temperature	295 – 315	°C	
Middle - Zone 2 Temperature	295 – 315	°C	
Rear - Zone 1 Temperature	295 – 315	°C	
Mold Temperature	65 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	50 – 100	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

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