SILTEM™ RESIN STM1500

REGION EUROPE

DESCRIPTION

SILTEM™ STM1500 resin is a flexible polyetherimide(PEI)-siloxane copolymer designed for wire and cable applications. The material is RoHS compliant and 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 processing equipment. The material may also be used for extrusion of e.g. corrugated pipes and profiles as well as flexible injection molded parts.

ISCC+ certified renewable bio-based solutions are available for this grade via differentiated color nomenclature.

INDUSTRY	SUB INDUSTRY
Automotive	Aerospace
Electrical and Electronics	Energy Management
Industrial	Electrical, Material Handling, Defense
Mass Transportation	Rail

TYPICAL PROPERTY VALUES

Revision 20251113

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Taber Abrasion, CS-17, 1 kg	60	mg/1000cy	SABIC method
Tensile Stress, yield, 50 mm/min	20	MPa	ISO 527
Tensile Stress, break, 50 mm/min	25	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	15	%	ISO 527
Tensile Strain, break, 50 mm/min	110	%	ISO 527
Tensile Modulus, 1 mm/min	590	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	20	MPa	ISO 178
Flexural Stress, break, 2 mm/min	18	MPa	ISO 178
Flexural Modulus, 2 mm/min	470	MPa	ISO 178
IMPACT			
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	25	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	15	kJ/m²	ISO 180/1A
THERMAL			
CTE, 23°C to 80°C, flow	1.1E-04	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	9.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	75	°C	ISO 306
Vicat Softening Temp, Rate B/120	78	°C	ISO 306
PHYSICAL			
Mold Shrinkage on Tensile Bar, flow	1.2 – 1.4	%	SABIC method
Density	1.18	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.12	%	ISO 62-1
Melt Volume Rate, MVR at 320°C/2.16 kg	8	cm³/10 min	ISO 1133

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
ELECTRICAL			
Volume Resistivity	4.7E+14	Ω.cm	IEC 60093
Surface Resistivity, ROA	1.E+15	Ω	IEC 60093
Dielectric Strength, in oil, 3.2 mm	19	kV/mm	IEC 60243-1
Relative Permittivity, 100 Hz	3	-	IEC 60250
Dissipation Factor, 100 Hz	0.0091	-	IEC 60250
Comparative Tracking Index	175	V	IEC 60112
FLAME CHARACTERISTICS			
UL Compliant, 94V-1 Flame Class Rating	1.6	mm	UL 94 by SABIC-IP
Glow Wire Flammability Index 960°C, passes at	3.2	mm	IEC 60695-2-12
Oxygen Index (LOI)	48	%	ISO 4589
PROFILE EXTRUSION			
Drying Temperature	105 – 110	°C	
Drying Time	5 – 7	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	285 – 320	°C	
Barrel - Zone 1 Temperature	280 – 290	°C	
Barrel - Zone 2 Temperature	300 – 310	°C	
Barrel - Zone 3 Temperature	310 – 320	°C	
Barrel - Zone 4 Temperature	310 – 325	°C	
Hopper Temperature	60 – 100	°C	
Adapter Temperature	315 – 325	°C	
Die Temperature	300 – 320	°C	
Calibrator Temperature	60 – 80	°C	

DISCLAIMER