SILTEM™ Resin STM1600 - Americas

PEI | Saudi Basic Industries Corporation (SABIC)

Product Texts

SILTEM™ STM1600 resin is a flexible polyetherimide(PEI)-siloxane 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.

Processing/Physical Characteristics	Value	Unit	Test Standard
ASTM Data			
Melt Flow Index, MFI	**8.6**	g/10min	ASTM D 1238
Temperature	**295**	°C	-
Load	**6.6**	kg	-

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	**1380**	MPa	ISO 527
Yield stress	**42**	MPa	ISO 527
Yield strain	**10**	%	ISO 527
Stress at break	**41**	MPa	ISO 527
Strain at break	**50**	%	ISO 527
Flexural modulus	**1250**	MPa	ISO 178
Izod notched impact strength, +23°C, 4mm	**36**	kJ/m²	ISO 180/1A
Izod notched impact strength, -30°C, 4mm	**25**	kJ/m²	ISO 180/1A
ASTM Data			
Tensile Modulus	**1400**	MPa	ASTM D 638
Tensile Strength at Yield	**43**	MPa	ASTM D 638
Tensile Strength at Break	**40**	MPa	ASTM D 638
Elongation at Yield	**10**	%	ASTM D 638
Elongation at Break	**64**	%	ASTM D 638
Flexural Modulus	**1250**	MPa	ASTM D 790
Flexural Strength	**48**	MPa	ASTM D 790
Shore D Hardness	**72**	-	ASTM D 2240
Taber Abrasion Resistance	**50**	mg/1000 cycles	ASTM D 1044
Izod Impact notched, 1/8 in	**412**	J/m	ASTM D 256

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 0.45 MPa	**144**	°C	ISO 75-1/-2
Vicat softening temperature, 120°C/h 50N	**167**	°C	ISO 306
ASTM Data			
DTUL @ 264 psi	**80**	°C	ASTM D 648

Electrical properties	Value	Unit	Test Standard
ASTM Data			
Dielectric Strength, Short Time	**16.6**	kV/mm	ASTM D 149
Dissipation Factor, 1 MHz	**0.0055**	-	ASTM D 150
Dielectric Constant, 1 MHz	**3.02**	-	ASTM D 150
Surface Resistivity	**1E15**	Ohm	ASTM D 257
Volume Resistivity	**>1E15**	Ohm*cm	ASTM D 257

Other properties	Value	Unit	Test Standard
Water absorption	**0.58**	%	Sim. to ISO 62
Density	**1190**	kg/m³	ISO 1183
Density	**1190**	kg/m³	ASTM D 792

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	**105**	°C	-
Pre-drying - Time	**4 - 6**	h	-
Processing humidity	**≤0.02**	%	-

Melt temperature	**310 - 320**	°C	-
Mold temperature	**105 - 115**	°C	-
Zone 1	**310 - 320**	°C	-
Zone 2	**310 - 320**	°C	-
Zone 3	**310 - 320**	°C	-
Screw speed	**50 - 100**	rpm	-
Back pressure	**0.3 - 0.7**	MPa	-

Characteristics

Processing
Injection Molding

Special Characteristics
Flame retardant, Transparent

Additives
Flame retarding agent

Regional Availability
North America