VALOX™ SHF4320 resin

Polybutylene Terephthalate

SABIC Innovative Plastics Europe

Message:

VALOX SHF4320 is a 10% glass fibre reinforced PBT injection moulding resin with excellent flow combined with good mechanical and heat properties. Applications: Automotive connectors.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 10% filler by weight		
Features	Good Heat Resistance High liquidity		
Uses	Connector Application in Automobile Field		
RoHS Compliance	RoHS compliance		
Processing Method	Injection molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.36	g/cm³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	28.0	cm³/10min	ISO 1133
Molding Shrinkage [1]			Internal method
Flow	0.50 - 0.90	%	Internal method
Transverse flow	0.70 - 1.1	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.20	%	ISO 62
Equilibrium, 23°C, 50% RH	0.070	%	ISO 62
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	120		ISO 2039-2
Ball Indentation Hardness (H 358/30)	110	MPa	ISO 2039-1
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	4550	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/5
Yield	90.0	MPa	ISO 527-2/5
Fracture	90.0	MPa	ISO 527-2/5
Tensile Strain			ISO 527-2/5
Yield	3.4	%	ISO 527-2/5
Fracture	3.4	%	ISO 527-2/5
Flexural Modulus [2]	4000	MPa	ISO 178
Flexural Stress	130	MPa	ISO 178
Flexural Strain at Break [3]	5.0	%	ISO 178

Filler Content	10	%	ASTM D229
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength [4]			ISO 179/1eA
-30°C	5.0	kJ/m²	ISO 179/1eA
23°C	6.0	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength [5]			ISO 179/1eU
-30°C	30	kJ/m²	ISO 179/1eU
23°C	30	kJ/m²	ISO 179/1eU
Notched Izod Impact [6]			ISO 180/1A
-30°C	4.0	kJ/m²	ISO 180/1A
23°C	5.0	kJ/m²	ISO 180/1A
Unnotched Izod Impact Strength [7]			ISO 180/1U
-30°C	25	kJ/m²	ISO 180/1U
23°C	25	kJ/m²	ISO 180/1U
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	215	°C	ASTM D648
0.45 MPa, unannealed, 64.0mm span [8]	215	°C	ISO 75-2/Bf
1.8 MPa, unannealed, 64.0mm span [9]	185	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	220	°C	ASTM D1525, ISO 306/A50 9 [10]
--	205	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
Flow: -40 to 40°C	6.0E-5	cm/cm/°C	ASTM E831
Flow: -40 to 40°C	4.6E-5	cm/cm/°C	ISO 11359-2
Flow: 23 to 80°C	6.0E-5	cm/cm/°C	ISO 11359-2
Flow: 23 to 150°C	4.8E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	8.0E-5	cm/cm/°C	ASTM E831
Lateral: -40 to 40°C	8.2E-5	cm/cm/°C	ISO 11359-2
Lateral: 23 to 80°C	8.0E-5	cm/cm/°C	ISO 11359-2
Horizontal: 23 to 150°C	2.1E-4	cm/cm/°C	ISO 11359-2
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	ASTM D257, IEC 60093
Dielectric Strength			
0.800 mm, in Oil	30	kV/mm	ASTM D149
1.60 mm, in Oil	23	kV/mm	ASTM D149
3.20 mm, in Oil	18	kV/mm	ASTM D149
0.800mm, in oil	30	kV/mm	IEC 60243-1
1.60mm, in oil	23	kV/mm	IEC 60243-1

3.20mm, in oil	18	kV/mm	IEC 60243-1
Dielectric Constant			
1 MHz	3.40		ASTM D150, IEC 60250
50 Hz	3.10		IEC 60250
60 Hz	3.10		IEC 60250
Dissipation Factor			
1 MHz	0.015		ASTM D150, IEC 60250
50 Hz	1.0E-3		IEC 60250
60 Hz	1.0E-3		IEC 60250
Comparative Tracking Index	325	V	IEC 60112
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating (1.6 mm, Testing by SABIC)	HB		UL 94
Glow Wire Flammability Index (1.0 mm)	750	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
1.0 mm	775	°C	IEC 60695-2-13
1.5 mm	800	°C	IEC 60695-2-13
2.0 mm	775	°C	IEC 60695-2-13
3.0 mm	750	°C	IEC 60695-2-13
Fill Analysis	**Nominal Value**	**Unit**	**Test Method**
Melt Viscosity (260°C, 1500 sec^-1)	100	Pa·s	ISO 11443
Injection	**Nominal Value**	**Unit**	
Drying Temperature	110 - 120	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	40 - 60	°C	
Rear Temperature	230 - 245	°C	
Middle Temperature	240 - 255	°C	
Front Temperature	245 - 265	°C	
Nozzle Temperature	240 - 260	°C	
Processing (Melt) Temp	250 - 270	°C	
Mold Temperature	40 - 100	°C	
NOTE			
1.	Tensile Bar		
2.	2.0 mm/min		
3.	2 mm/min		
4.	80*10*4 sp=62mm		
5.	80*10*4 sp=62mm		
6.	80*10*4		
7.	80*10*4		
8.	80*10*4 mm		
9.	80*10*4 mm		
10.	速率 A (50°C/h), 载荷2 (50N)		

Recommended distributors for this material

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