

VALOX™ SHF4910 resin

Polybutylene Terephthalate
SABIC Innovative Plastics Europe

Message:
6.5% glass reinforced, Super High Flow, flame retardant PBT.

General Information			
UL YellowCard	E45329-643224		
Filler / Reinforcement	Glass Fiber,6.5% Filler by Weight		
Additive	Flame Retardant		
Features	Flame Retardant		
	High Flow		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.46	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	31	g/10 min	ASTM D1238, ISO 1133
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	25.0	cm³/10min	ISO 1133
Molding Shrinkage			Internal Method
Flow ¹	0.70 to 1.3	%	
Flow : 3.20 mm	0.70 to 1.3	%	
Across Flow ²	1.1 to 1.7	%	
Water Absorption			ISO 62
Saturation, 23°C	0.26	%	
Equilibrium, 23°C, 50% RH	0.070	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ³	4210	MPa	ASTM D638
--	4350	MPa	ISO 527-2/1
Tensile Strength			
Yield ⁴	66.0	MPa	ASTM D638
Yield	73.0	MPa	ISO 527-2/5
Break ⁵	66.0	MPa	ASTM D638
Break	73.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁶	3.1	%	ASTM D638
Yield	3.5	%	ISO 527-2/5
Break ⁷	3.1	%	ASTM D638

Break	3.5	%	ISO 527-2/5
Flexural Modulus			
50.0 mm Span ⁸	3650	MPa	ASTM D790
-- ⁹	3650	MPa	ISO 178
Flexural Stress			
--	115	MPa	ISO 178
Yield, 50.0 mm Span ¹⁰	117	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-30°C	5.0	kJ/m ²	ISO 179/2C
23°C ¹¹	5.0	kJ/m ²	ISO 179/1eA, ISO 179/2C
Charpy Unnotched Impact Strength			ISO 179/2U
-30°C	27	kJ/m ²	
23°C	32	kJ/m ²	
Notched Izod Impact			
-30°C	36	J/m	ASTM D256
23°C	42	J/m	ASTM D256
-30°C ¹²	4.0	kJ/m ²	ISO 180/1A
23°C ¹³	5.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
-30°C	320	J/m	ASTM D4812
23°C	490	J/m	ASTM D4812
-30°C ¹⁴	21	kJ/m ²	ISO 180/1U
23°C ¹⁵	26	kJ/m ²	ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	48.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	200	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	160	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁶	145	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	216	°C	ASTM D1525 ¹⁷
--	191	°C	ASTM D1525 ¹⁸
--	217	°C	ISO 306/A50
--	192	°C	ISO 306/B50
--	195	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE			
Flow : -40 to 40°C	5.5E-5	cm/cm/°C	ASTM E831
Flow : -40 to 40°C	6.3E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	9.5E-5	cm/cm/°C	ASTM E831

Transverse : -40 to 40°C	1.0E-4	cm/cm/°C	ISO 11359-2
RTI Elec	130	°C	UL 746
RTI Imp	120	°C	UL 746
RTI Str	130	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+13	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Electric Strength			IEC 60243-1
0.800 mm, in Oil	51	kV/mm	
1.60 mm, in Oil	31	kV/mm	
3.20 mm, in Oil	18	kV/mm	
Dissipation Factor (1 MHz)	0.016		IEC 60250
Comparative Tracking Index	275	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.800 mm)	V-0		UL 94
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Oxygen Index	28	%	ISO 4589-2
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (250°C, 1500 sec ⁻¹)	110	Pa·s	ISO 11443
Injection	Nominal Value	Unit	
Drying Temperature	110 to 120	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	40.0 to 60.0	°C	
Rear Temperature	230 to 245	°C	
Middle Temperature	240 to 255	°C	
Front Temperature	245 to 265	°C	
Nozzle Temperature	240 to 260	°C	
Processing (Melt) Temp	250 to 270	°C	
Mold Temperature	40.0 to 100	°C	
NOTE			
1.	Tensile Bar		
2.	Tensile Bar		
3.	5.0 mm/min		
4.	Type I, 5.0 mm/min		
5.	Type I, 5.0 mm/min		
6.	Type I, 5.0 mm/min		
7.	Type I, 5.0 mm/min		
8.	1.3 mm/min		
9.	2.0 mm/min		
10.	1.3 mm/min		
11.	80*10*4 sp=62mm		

12.	80*10*4
13.	80*10*4
14.	80*10*4
15.	80*10*4
16.	80*10*4 mm
17.	Rate A (50°C/h), Loading 2 (50 N)
18.	Rate B (120°C/h), Loading 2 (50 N)

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