

VALOX™ SHF4930 resin

Polybutylene Terephthalate
SABIC Innovative Plastics Europe

Message:
Super high flow FR PBT grade with 15% Glass reinforced

General Information			
UL YellowCard	E45329-641596		
Filler / Reinforcement	Glass Fiber, 15% Filler by Weight		
Features	Flame Retardant		
	High Flow		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.54	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR)			
250°C/2.16 kg	18	g/10 min	ASTM D1238
250°C/2.16 kg	20	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR)			ISO 1133
250°C/2.16 kg	16.0	cm ³ /10min	
250°C/5.0 kg	53.0	cm ³ /10min	
Molding Shrinkage			Internal Method
Flow ¹	0.50 to 0.80	%	
Flow : 3.20 mm	0.50 to 0.80	%	
Across Flow ²	0.60 to 0.90	%	
Water Absorption			ISO 62
Saturation, 23°C	0.23	%	
Equilibrium, 23°C, 50% RH	0.070	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	117		ISO 2039-2
Ball Indentation Hardness (H 358/30)	190	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ³	6300	MPa	ASTM D638
--	6200	MPa	ISO 527-2/1
Tensile Strength			
Yield ⁴	80.0	MPa	ASTM D638
Yield	85.0	MPa	ISO 527-2/5
Break ⁵	80.0	MPa	ASTM D638

Break	85.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁶	2.0	%	ASTM D638
Yield	2.0	%	ISO 527-2/5
Break ⁷	2.0	%	ASTM D638
Break	2.0	%	ISO 527-2/5
Flexural Modulus			
50.0 mm Span ⁸	5170	MPa	ASTM D790
-- ⁹	5300	MPa	ISO 178
Flexural Stress			
--	140	MPa	ISO 178
Yield, 50.0 mm Span ¹⁰	129	MPa	ASTM D790
Flexural Strain at Break ¹¹	3.0	%	ISO 178
Filler Content	15	%	ASTM D229
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-30°C	6.0	kJ/m ²	ISO 179/2C
23°C ¹²	6.0	kJ/m ²	ISO 179/1eA, ISO 179/2C
Charpy Unnotched Impact Strength			ISO 179/2U
-30°C	23	kJ/m ²	
23°C	29	kJ/m ²	
Notched Izod Impact			
-30°C	50	J/m	ASTM D256
0°C	50	J/m	ASTM D256
23°C	50	J/m	ASTM D256
-30°C ¹³	6.0	kJ/m ²	ISO 180/1A
0°C ¹⁴	6.0	kJ/m ²	ISO 180/1A
23°C ¹⁵	6.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
-30°C	270	J/m	ASTM D4812
23°C	310	J/m	ASTM D4812
-30°C ¹⁶	19	kJ/m ²	ISO 180/1U
23°C ¹⁷	25	kJ/m ²	ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	55.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	215	°C	ASTM D648
0.45 MPa, Unannealed, 64.0 mm Span ¹⁸	215	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	195	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁹	195	°C	ISO 75-2/Af
Vicat Softening Temperature			

--	215	°C	ASTM D1525 ²⁰
--	197	°C	ASTM D1525, ISO 306/B50 14 ²¹
--	218	°C	ISO 306/A50
--	195	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE			
Flow : -40 to 40°C	3.9E-5	cm/cm/°C	ASTM E831
Flow : -40 to 40°C	4.2E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	9.3E-5	cm/cm/°C	ASTM E831
Transverse : -40 to 40°C	9.8E-5	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+12	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Electric Strength			IEC 60243-1
0.800 mm, in Oil	40	kV/mm	
1.50 mm, in Oil	27	kV/mm	
1.60 mm, in Oil	28	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
High Amp Arc Ignition (HAI)	PLC 0		UL 746
Hot-wire Ignition (HWI)	PLC 3		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.800 mm)	V-0		UL 94
Glow Wire Flammability Index (0.750 to 1.50 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
0.800 mm	750	°C	
1.50 mm	700	°C	
Oxygen Index	27	%	ISO 4589-2
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity			ISO 11443
250°C, 1500 sec ⁻¹	90.0	Pa·s	
260°C, 1500 sec ⁻¹	65.0	Pa·s	
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.	2 mm/min	
12.	80*10*4 sp=62mm	
13.	80*10*4	
14.	80*10*4	
15.	80*10*4	
16.	80*10*4	
17.	80*10*4	
18.	80*10*4 mm	
19.	80*10*4 mm	
20.	Rate A (50°C/h), Loading 2 (50 N)	
21.	Rate B (120°C/h), Loading 2 (50 N)	

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