

VALOX™ V4860HR resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

30% glass reinforced PBT, UL94 V-0 rated, Hydrolytically stable, Impact Modified.

General Information			
Filler / Reinforcement	Glass Fiber,30% Filler by Weight		
Additive	Impact Modifier		
Features	Hydrolytically Stable		
	Impact Modified		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.64	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/5.0 kg)	18	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (250°C/5.0 kg)	12.4	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal Method
Flow : 3.20 mm	0.50 to 0.70	%	
Across Flow : 3.20 mm	0.50 to 1.0	%	
Water Absorption			ISO 62
Saturation, 23°C	0.19	%	
Equilibrium, 23°C, 50% RH	0.060	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	9750	MPa	ASTM D638
--	9450	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	116	MPa	ASTM D638
Yield	112	MPa	ISO 527-2/5
Break ³	115	MPa	ASTM D638
Break	111	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁴	2.3	%	ASTM D638
Yield	2.1	%	ISO 527-2/5
Break ⁵	2.3	%	ASTM D638
Break	2.2	%	ISO 527-2/5
Flexural Modulus			
50.0 mm Span ⁶	6740	MPa	ASTM D790

-- ⁷	7880	MPa	ISO 178
Flexural Stress			
--	182	MPa	ISO 178
--	183	MPa	ISO 178
Yield, 50.0 mm Span ⁸	174	MPa	ASTM D790
Break, 50.0 mm Span ⁹	2.96	MPa	ASTM D790
Flexural Strain at Break ¹⁰	2.9	%	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹¹ (23°C)	11	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	74	J/m	ASTM D256
23°C	90	J/m	ASTM D256
-30°C ¹²	8.5	kJ/m ²	ISO 180/1A
23°C ¹³	10	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	13.4	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 6.40 mm	221	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	197	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	205	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁴	188	°C	ISO 75-2/ Af
Vicat Softening Temperature			
--	176	°C	ASTM D1525, ISO 306/B50 12 ¹⁵
--	175	°C	ISO 306/B120
Ball Pressure Test ¹⁶ (75°C)	Pass		IEC 60695-10-2
CLTE			
Flow : -40 to 95°C	2.4E-5	cm/cm/°C	ASTM E831
Flow : 23 to 80°C	2.3E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 95°C	1.1E-4	cm/cm/°C	ASTM E831
Transverse : 23 to 80°C	1.2E-4	cm/cm/°C	ISO 11359-2
Flammability	Nominal Value		Test Method
Flame Rating (0.800 mm, Testing by SABIC)	V-0		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	3.0 to 4.0	hr	
Drying Time, Maximum	12	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	30 to 70	%	
Rear Temperature	220 to 240	°C	
Middle Temperature	230 to 250	°C	
Front Temperature	240 to 260	°C	

Nozzle Temperature	240 to 260	°C
Processing (Melt) Temp	230 to 260	°C
Mold Temperature	60.0 to 120	°C
Back Pressure	0.345 to 0.690	MPa
Screw Speed	20 to 100	rpm
Vent Depth	0.025 to 0.038	mm

NOTE

1.	5.0 mm/min
2.	Type I, 5.0 mm/min
3.	Type I, 5.0 mm/min
4.	Type I, 5.0 mm/min
5.	Type I, 5.0 mm/min
6.	1.3 mm/min
7.	2.0 mm/min
8.	1.3 mm/min
9.	1.3 mm/min
10.	2 mm/min
11.	80*10*4 sp=62mm
12.	80*10*4
13.	80*10*4
14.	80*10*4 mm
15.	Rate B (120°C/h), Loading 2 (50 N)
16.	Approximate maximum

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