VALOX™ HX420HP resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

Medium Flow, 30% Glass filled, Polybutylene Terephthalate (PBT) resin. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO 10993 or USP Class VI), food contact compliant. Available in limited colors.

General Information			
Filler / Reinforcement	Glass Fiber,30% Filler by Weight		
Features	Biocompatible Food Contact Acceptable Medium Flow		
Uses	Medical/Healthcare Applications Pharmaceuticals		
Agency Ratings	ISO 10993 USP Class VI		
Appearance	Colors Available		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.53	g/cm³	ASTM D792, ISO 1183
Specific Volume	0.658	cm³/g	ASTM D792
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	26	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	20.0	cm³/10min	ISO 1133
Molding Shrinkage			Internal Method
Flow [1]	0.30 to 0.50	%	
Flow [2]	0.50 to 0.80	%	
Flow : 3.20 mm	0.30 to 0.80	%	
Across Flow [3]	0.40 to 0.60	%	
Across Flow [4]	0.60 to 0.90	%	
Water Absorption			
24 hr	0.060	%	ASTM D570
Saturation, 23°C	0.26	%	ISO 62
Equilibrium, 23°C, 50% RH	0.060	%	ISO 62
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	118		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**

Tensile Modulus			
-- [5]	9300	MPa	ASTM D638
--	9300	MPa	ISO 527-2/1
Tensile Strength			
Yield [6]	120	MPa	ASTM D638
Yield	125	MPa	ISO 527-2/5
Break [7]	120	MPa	ASTM D638
Break	125	MPa	ISO 527-2/5
Tensile Elongation			
Yield [8]	3.0	%	ASTM D638
Yield	2.0	%	ISO 527-2/5
Break [9]	3.0	%	ASTM D638
Break	2.0	%	ISO 527-2/5
Flexural Modulus			
50.0 mm Span [10]	7580	MPa	ASTM D790
-- [11]	8500	MPa	ISO 178
Flexural Stress			
--	195	MPa	ISO 178
Break, 50.0 mm Span [12]	189	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength [13] (23°C)	5.0	kJ/m²	ISO 179/1eA
Notched Izod Impact			
-30°C	80	J/m	ASTM D256
23°C	85	J/m	ASTM D256
-30°C [14]	7.0	kJ/m²	ISO 180/1A
23°C [15]	8.0	kJ/m²	ISO 180/1A
Unnotched Izod Impact			
23°C	800	J/m	ASTM D4812
-30°C [16]	45	kJ/m²	ISO 180/1U
23°C [17]	45	kJ/m²	ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	10.0	J	ASTM D3763
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 6.40 mm	216	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	207	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span [18]	200	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	215	°C	ASTM D1525, ISO 306/B50 13 [19]
--	220	°C	ISO 306/B120
CLTE			
Flow : -40 to 40°C	2.5E-5	cm/cm/°C	ASTM E831, ISO 11359-2

Flow : 60 to 138°C	2.5E-5	cm/cm/°C	ASTM E831
Transverse : -40 to 40°C	1.2E-4	cm/cm/°C	ISO 11359-2
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	> 3.2E+16	ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
1.60 mm, in Oil	25	kV/mm	
3.20 mm, in Air	19	kV/mm	
Dielectric Constant			ASTM D150
100 Hz	3.80		
1 MHz	3.70		
Dissipation Factor			ASTM D150
100 Hz	2.0E-3		
1 MHz	0.020		
Injection	**Nominal Value**	**Unit**	
Drying Temperature	121	°C	
Drying Time	3.0 to 4.0	hr	
Drying Time, Maximum	12	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 80	%	
Rear Temperature	238 to 254	°C	
Middle Temperature	243 to 260	°C	
Front Temperature	249 to 266	°C	
Nozzle Temperature	243 to 260	°C	
Processing (Melt) Temp	249 to 266	°C	
Mold Temperature	65.6 to 87.8	°C	
Back Pressure	0.345 to 0.689	MPa	
Screw Speed	50 to 80	rpm	
Vent Depth	0.025 to 0.038	mm	
NOTE			
1.	1.5 to 3.2 mm		
2.	3.2 to 4.6 mm		
3.	1.5 to 3.2 mm		
4.	3.2-4.6 mm		
5.	5.0 mm/min		
6.	Type I, 5.0 mm/min		
7.	Type I, 5.0 mm/min		
8.	Type I, 5.0 mm/min		
9.	Type I, 5.0 mm/min		
10.	1.3 mm/min		
11.	2.0 mm/min		
12.	1.3 mm/min		
13.	80*10*4 sp=62mm		

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

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection.All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China