

VALOX™ HX215HP resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

High Flow, Unreinforced, Polybutylene Terephthalate (PBT) with mold release. 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	
Additive	demoulding
Features	High liquidity
	Biocompatibility
	Compliance of Food Exposure
Uses	Drug
	Medical/nursing supplies
Agency Ratings	ISO 10993
	USP Class VI
Appearance	Available colors
Processing Method	Compound extrusion
	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.31	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	80	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	70.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	1.5 - 2.0	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.34	%	ISO 62
Equilibrium, 23°C, 50% RH	0.080	%	ISO 62

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2700	MPa	ASTM D638
--	2600	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	60.0	MPa	ASTM D638
Yield	50.0	MPa	ISO 527-2/50
Fracture ³	26.0	MPa	ASTM D638

Fracture	49.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	3.7	%	ASTM D638
Yield	3.2	%	ISO 527-2/50
Fracture ⁵	10	%	ASTM D638
Fracture	10	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁶	2500	MPa	ASTM D790
-- ⁷	2260	MPa	ISO 178
Flexural Stress			
--	80.0	MPa	ISO 178
Yield, 50.0mm span ⁸	89.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	6.5	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	30	J/m	ASTM D256
23°C	30	J/m	ASTM D256
-30°C ¹⁰	2.7	kJ/m ²	ISO 180/1A
23°C ¹¹	2.9	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	20.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	150	°C	ASTM D648
1.8 MPa, unannealed, 3.20mm	54.0	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹²	49.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	180	°C	ASTM D1525, ISO 306/B120 10 ¹³
--	183	°C	ISO 306/B50
Linear thermal expansion coefficient			ASTM E831, ISO 11359-2
Flow: -40 to 40°C	7.6E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: -40 to 40°C	7.8E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 - 4.0	hr	
Drying Time, Maximum	12	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 - 80	%	
Rear Temperature	232 - 249	°C	
Middle Temperature	238 - 254	°C	
Front Temperature	243 - 260	°C	
Nozzle Temperature	238 - 254	°C	

Processing (Melt) Temp	243 - 260	°C
Mold Temperature	48.9 - 76.7	°C
Back Pressure	0.345 - 0.689	MPa
Screw Speed	50 - 100	rpm
Vent Depth	0.013 - 0.025	mm
Extrusion	Nominal Value	Unit
Drying Temperature	110 - 120	°C
Drying Time	4.0 - 6.0	hr
Suggested Max Moisture	0.020	%
Cylinder Zone 1 Temp.	200 - 230	°C
Cylinder Zone 2 Temp.	240 - 255	°C
Cylinder Zone 3 Temp.	240 - 275	°C
Cylinder Zone 4 Temp.	240 - 275	°C
Adapter Temperature	240 - 275	°C
Melt Temperature	245 - 260	°C
Die Temperature	240 - 275	°C
Extrusion instructions		

Drying Time (Cumulative): 8 hrsWater Bath Temperature: 25 - 35 °C

NOTE		
1.	5.0 mm/min	
2.	Type 1, 50mm/min	
3.	Type 1, 50mm/min	
4.	Type 1, 50mm/min	
5.	Type 1, 50mm/min	
6.	1.3 mm/min	
7.	2.0 mm/min	
8.	1.3 mm/min	
9.	80*10*4 sp=62mm	
10.	80*10*4	
11.	80*10*4	
12.	80*10*4 mm	
13.	标准 B (120°C/h), 载荷2 (50N)	

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