

SABIC Innovative Plastics Valox[®] HX3091HP PBT

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT)

Material Notes:

PBT for compounding/fibers only. Not intended for injection molding. Biocompatible. Melt viscosity at 250C and 21.6kgf is 3500-4500 poise. Available in Natural color (1001) only.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-HX3091HP-PBT.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.31 g/cc	1.31 g/cc	ASTM D792
Density	1.31 g/cc	0.0473 lb/in ³	ISO 1183
Moisture Absorption	0.0800 %	0.0800 %	23 [°] C / 50% RH; ISO 62
Water Absorption at Saturation	0.34 %	0.34 %	ISO 62
Viscosity	400000 cP	400000 cP	Melt Viscosity; SABIC Method
Linear Mold Shrinkage, Flow	0.018 - 0.022 cm/cm @Thickness 3.20 mm	0.018 - 0.022 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.018 - 0.022 cm/cm @Thickness 3.20 mm	0.018 - 0.022 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	21 g/10 min @Load 2.16 kg, Temperature 250 [°] C	21 g/10 min @Load 4.76 lb, Temperature 482 [°] F	ASTM D1238
Melt Index of Compound	19 g/10 min @Load 2.16 kg, Temperature 250 [°] C	19 g/10 min @Load 4.76 lb, Temperature 482 [°] F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	30.0 MPa	4350 psi	Type I, 50 mm/min; ASTM D638
	45.0 MPa	6530 psi	50 mm/min; ISO 527
Tensile Strength, Yield	46.0 MPa	6670 psi	50 mm/min; ISO 527
	56.0 MPa	8120 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	60 %	60 %	50 mm/min; ISO 527
	300 %	300 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	3.0 %	3.0 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
			Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.50 GPa	363 ksi	1 mm/min; ISO 527
	2.53 GPa	367 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	77.0 MPa	11200 psi	1.3 mm/min, 50 mm span; ASTM D790
	77.0 MPa	11200 psi	2 mm/min; ISO 178
Flexural Modulus	2.15 GPa	312 ksi	2 mm/min; ISO 178
	2.40 GPa	348 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.550 J/cm	1.03 ft-lb/in	ASTM D256
	0.500 J/cm	0.937 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	5.00 kJ/m ²	2.38 ft-lb/in ²	80*10*4; ISO 180/1A
	5.00 kJ/m ²	2.38 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.800 J/cm ²	3.81 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	35.0 J	25.8 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	77.0 Åµm/m-Å°C	42.8 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
	77.0 Åµm/m-Å°C	42.8 Åµin/in-Å°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
CTE, linear, Transverse to Flow	80.0 Åµm/m-Å°C	44.4 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
	80.0 Åµm/m-Å°C	44.4 Åµin/in-Å°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	50.0 Â°C	122 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	49.0 Â°C	120 Â°F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	170 Â°C	338 Â°F	Rate B/50; ASTM D1525
	170 Â°C	338 Â°F	Rate B/50; ISO 306
	171 Â°C	340 Â°F	Rate B/120; ISO 306

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