

SABIC Innovative Plastics Valox® 176HP PBT

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

Material Notes:

Unreinforced, FDA compliant neat PBT resin for fibers. Natural Color Only, Not intended for injection molding.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-176HP-PBT.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.32 g/cc	1.32 g/cc	ASTM D792
Density	1.31 g/cc	0.0473 lb/in ³	ISO 1183
Moisture Absorption	0.0700 %	0.0700 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	0.080 %	0.080 %	ISO 62
Linear Mold Shrinkage, Flow	0.015 - 0.018 cm/cm @Thickness 3.20 mm	0.015 - 0.018 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.016 - 0.020 cm/cm @Thickness 3.20 mm	0.016 - 0.020 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	127 g/10 min @Load 1.20 kg, Temperature 250 ^o C	127 g/10 min @Load 2.65 lb, Temperature 482 ^o F	ASTM D1238
Melt Index of Compound	127 g/10 min @Load 1.20 kg, Temperature 250 ^o C	127 g/10 min @Load 2.65 lb, Temperature 482 ^o F	MVR [cm ³ /10 min]; ISO 1133
	231 g/10 min @Load 2.16 kg, Temperature 250 ^o C	231 g/10 min @Load 4.76 lb, Temperature 482 ^o F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	45.0 MPa	6530 psi	50 mm/min; ISO 527
	50.0 MPa	7250 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	45.0 MPa	6530 psi	50 mm/min; ISO 527
	50.0 MPa	7250 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	1.8 %	1.8 %	50 mm/min; ISO 527
	2.0 %	2.0 %	Type I, 50 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
	2.0 %	2.0 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.50 GPa	363 ksi	5 mm/min; ASTM D638
	2.60 GPa	377 ksi	1 mm/min; ISO 527
Flexural Yield Strength	81.0 MPa	11700 psi	2 mm/min; ISO 178
	84.0 MPa	12200 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.29 GPa	332 ksi	2 mm/min; ISO 178
	2.39 GPa	347 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.280 J/cm	0.525 ft-lb/in	ASTM D256
Izod Impact, Unnotched	8.90 J/cm	16.7 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	2.00 kJ/m ²	0.952 ft-lb/in ²	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	35.0 kJ/m ²	16.7 ft-lb/in ²	80*10*4; ISO 180/1U
Charpy Impact, Notched	0.700 J/cm ²	3.33 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	5.00 J @Temperature 23.0 Â°C	3.69 ft-lb @Temperature 73.4 Â°F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	85.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	47.2 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ISO 11359-2
CTE, linear, Transverse to Flow	85.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	47.2 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ISO 11359-2
Deflection Temperature at 0.46 MPa (66 psi)	113 Â°C	235 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	104 Â°C @Thickness 3.20 mm	219 Â°F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	51.0 Â°C	124 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	48.0 Â°C @Thickness 3.20 mm	118 Â°F @Thickness 0.126 in	unannealed; ASTM D648

Thermal Properties	Metric C	English	Comments, ISO 306
	178 °C	352 °F	Rate B/50; ISO 306

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