

SABIC Innovative Plastics Valox[®] IQ3001 PBT

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

Material Notes:

Valox IQ3001 is an unfilled environmentally responsible iQ-PBT resin modified with elastomer. Targeted for flexible hinge applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-IQ3001-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	0.0700 %	0.0700 %	23 [°] C / 50% RH; ISO 62
Water Absorption at Saturation	0.11 %	0.11 %	ISO 62
Linear Mold Shrinkage, Flow	0.021 - 0.027 cm/cm @Thickness 3.20 mm	0.021 - 0.027 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.021 - 0.027 cm/cm @Thickness 3.20 mm	0.021 - 0.027 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	26 g/10 min @Load 1.20 kg, Temperature 250 [°] C	26 g/10 min @Load 2.65 lb, Temperature 482 [°] F	ASTM D1238
Melt Index of Compound	24 g/10 min @Load 1.20 kg, Temperature 250 [°] C	24 g/10 min @Load 2.65 lb, Temperature 482 [°] F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	50.0 MPa	7250 psi	50 mm/min; ISO 527
	51.0 MPa	7400 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	55.0 MPa	7980 psi	50 mm/min; ISO 527
	56.0 MPa	8120 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	60 %	60 %	Type I, 50 mm/min; ASTM D638
	60 %	60 %	50 mm/min; ISO 527
Elongation at Yield	5.0 %	5.0 %	Type I, 50 mm/min; ASTM D638
	5.0 %	5.0 %	50 mm/min; ISO 527

Tensile Modulus Mechanical Properties	2.60 GPa Metric	377 ksi English	5 mm/min; ASTM D638 Comments
	2.60 GPa	377 ksi	1 mm/min; ISO 527
Flexural Yield Strength	80.0 MPa	11600 psi	2 mm/min; ISO 178
	82.0 MPa	11900 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.40 GPa	348 ksi	2 mm/min; ISO 178
	2.50 GPa	363 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.280 J/cm	0.525 ft-lb/in	ASTM D256
	0.270 J/cm	0.506 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched	17.0 J/cm	31.8 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	4.00 kJ/m ²	1.90 ft-lb/in ²	80*10*4; ISO 180/1A
	4.00 kJ/m ²	1.90 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.10 J/cm ²	5.23 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	23.0 J	17.0 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	85.0 Åµm/m-Å°C	47.2 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 150 Å°C	@Temperature -40.0 - 302 Å°F	
	85.0 Åµm/m-Å°C	47.2 Åµin/in-Å°F	ISO 11359-2
	@Temperature -30.0 - 80.0 Å°C	@Temperature -22.0 - 176 Å°F	
CTE, linear, Transverse to Flow	79.0 Åµm/m-Å°C	43.9 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 150 Å°C	@Temperature -40.0 - 302 Å°F	
	79.0 Åµm/m-Å°C	43.9 Åµin/in-Å°F	ISO 11359-2
	@Temperature -30.0 - 80.0 Å°C	@Temperature -22.0 - 176 Å°F	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (6.7 psi)	135 °C	275 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	148 °C @Thickness 6.40 mm	298 °F @Thickness 0.252 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	48.0 °C	118 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	54.0 °C @Thickness 3.20 mm	129 °F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	177 °C	351 °F	Rate B/50; ASTM D1525
	177 °C	351 °F	Rate B/120; ISO 306
	178 °C	352 °F	Rate B/50; ISO 306

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