SABIC Innovative Plastics ValoxÂ® IQ420 PBT (Europe-Africa-Middle East)

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

Material Notes:

Environmentally responsible Valox iQ420 resin: iQ-PBT+ 30% glass fiber reinforcement. Targeted for use in electrical motors, connectors, pump housings, spotlights, appliance handles, etc.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-IQ420-PBT-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.54 g/cc	1.54 g/cc	ASTM D792
Density	1.54 g/cc	0.0556 lb/inÂ³	ISO 1183
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ASTM D570
Moisture Absorption	0.100 %	0.100 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	0.090 %	0.090 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0080 - 0.010 cm/cm @Thickness 3.20 mm	0.0080 - 0.010 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	52 g/10 min @Load 5.00 kg, Temperature 250 Â°C	52 g/10 min @Load 11.0 lb, Temperature 482 Â°F	ASTM D1238
Melt Index of Compound	38 g/10 min @Load 5.00 kg, Temperature 250 Â°C	38 g/10 min @Load 11.0 lb, Temperature 482 Â°F	MVR [cm^3/10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	114 MPa	16500 psi	Type I, 5 mm/min; ASTM D638
	139 MPa	20200 psi	5 mm/min; ISO 527
Tensile Strength, Yield	114 MPa	16500 psi	Type I, 5 mm/min; ASTM D638
	139 MPa	20200 psi	5 mm/min; ISO 527
Elongation at Break	1.6 %	1.6 %	5 mm/min; ISO 527
	2.2 %	2.2 %	Type I, 5 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
Elongation at Yield	Yield	Yield	5 mm/min; ISO 527
	2.2 %	2.2 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	10.7 GPa	1550 ksi	1 mm/min; ISO 527
	11.8 GPa	1710 ksi	5 mm/min; ASTM D638
Flexural Strength	189 MPa	27400 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Yield Strength	210 MPa	30500 psi	1.3 mm/min, 50 mm span; ASTM D790
	210 MPa	30500 psi	2 mm/min; ISO 178
Flexural Modulus	9.10 GPa	1320 ksi	1.3 mm/min, 50 mm span; ASTM D790
	9.10 GPa	1320 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.820 J/cm	1.54 ft-lb/in	ASTM D256
	0.830 J/cm @Temperature -30.0 Â°C	1.55 ft-lb/in @Temperature -22.0 Â°F	ASTM D256
Izod Impact, Unnotched	7.70 J/cm	14.4 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	8.00 kJ/mÂ²	3.81 ft-lb/inÂ²	80*10*4; ISO 180/1A
	8.00 kJ/mÂ² @Temperature -30.0 Â°C	3.81 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
Charpy Impact, Notched	1.40 J/cmÂ²	6.66 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	7.00 J @Temperature 23.0 Â°C	5.16 ft-lb @Temperature 73.4 Â°F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	25.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	13.9 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ASTM E 831
	25.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	13.9 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ISO 11359-2
CTE, linear, Transverse to Flow	89.0 Âµm/m-Â°C	49.4 Âµin/in-Â°F	ASTM E 831

Thermal Properties	Metric	English	Comments
	89.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	49.4 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ISO 11359-2
Hot Ball Pressure Test	<= 200 Â°C	<= 392 Â°F	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	217 Â°C	423 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
Deflection Temperature at 1.8 MPa (264 psi)	205 Â°C	401 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	203 Â°C @Thickness 3.20 mm	397 Â°F @Thickness 0.126 in	unannealed; ASTM D648
	207 Â°C @Thickness 6.40 mm	405 Â°F @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	206 Â°C	403 Â°F	Rate B/50; ASTM D1525
	206 Â°C	403 Â°F	Rate B/50; ISO 306
	206 Â°C	403 Â°F	Rate B/120; ISO 306
UL RTI, Electrical	140 Â°C	284 Â°F	UL 746B
UL RTI, Mechanical with Impact	140 Â°C	284 Â°F	UL 746B
UL RTI, Mechanical without Impact	140 Â°C	284 Â°F	UL 746B
Flammability, UL94	HB @Thickness 0.840 mm	HB @Thickness 0.0331 in	UL 94

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	ASTM D257
Dielectric Strength	23.0 kV/mm @Thickness 3.20 mm	584 kV/in @Thickness 0.126 in	in air; ASTM D149
Comparative Tracking Index	250 - 400 V	250 - 400 V	UL 746A
High Voltage Arc-Tracking Rate, HVTR	25.4 - 80.0 mm/min	1.00 - 3.15 in/min	UL 746A

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