SABIC Innovative Plastics ValoxÂ® 420 PBT (Europe-Africa-Middle East)

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

Material Notes:

VALOX 420 is a 30% glass fiber reinforced PBT injection moulding resin with excellent mechanical and thermal properties. Applications: appliance handles, spotlights, electric motors.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-420-PBT-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.53 g/cc	1.53 g/cc	ASTM D792
Density	1.53 g/cc	0.0553 lb/inÂ³	ISO 1183
Filler Content	30 %	30 %	ASTM D229
Moisture Absorption	0.0600 %	0.0600 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	0.26 %	0.26 %	ISO 62
Viscosity	130000 cP	130000 cP	Melt Viscosity, 260Â°C, 1500 sec-1; ISO 11443
Linear Mold Shrinkage, Flow	0.0030 - 0.0070 cm/cm	0.0030 - 0.0070 in/in	on Tensile Bar; SABIC Method
Linear Mold Shrinkage, Transverse	0.0050 - 0.010 cm/cm	0.0050 - 0.010 in/in	on Tensile Bar; SABIC Method
Melt Flow	55 g/10 min @Load 5.00 kg, Temperature 266 Â°C	55 g/10 min @Load 11.0 lb, Temperature 511 Â°F	ASTM D1238
Melt Index of Compound	12 g/10 min @Load 2.16 kg, Temperature 250 Â°C	12 g/10 min @Load 4.76 lb, Temperature 482 Â°F	MVR [cm^3/10 min]; ISO 1133
	30 g/10 min @Load 5.00 kg, Temperature 250 Â°C	30 g/10 min @Load 11.0 lb, Temperature 482 Â°F	MVR [cm^3/10 min]; ISO 1133
	45 g/10 min @Load 5.00 kg, Temperature 265 Â°C	45 g/10 min @Load 11.0 lb, Temperature 509 Â°F	MVR [cm^3/10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	ISO 2039-2
Hardness, H358/30	125 MPa	18100 psi	ISO 2039-1

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	135 MPa	19600 psi	5 mm/min; ISO 527
	145 MPa	21000 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	135 MPa	19600 psi	5 mm/min; ISO 527
	145 MPa	21000 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	2.0 %	2.0 %	5 mm/min; ISO 527
	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
	4.0 %	4.0 %	Flexural Strain, break, 2 mm/min; ISO 178
Elongation at Yield	2.0 %	2.0 %	5 mm/min; ISO 527
	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	10.25 GPa	1487 ksi	1 mm/min; ISO 527
	10.3 GPa	1490 ksi	5 mm/min; ASTM D638
Flexural Strength	190 MPa	27600 psi	1.3 mm/min, 50 mm span; ASTM D790
	200 MPa	29000 psi	2 mm/min; ISO 178
Flexural Yield Strength	190 MPa	27600 psi	1.3 mm/min, 50 mm span; ASTM D790
	205 MPa	29700 psi	2 mm/min; ISO 178
Flexural Modulus	8.00 GPa	1160 ksi	1.3 mm/min, 50 mm span; ASTM D790
	8.50 GPa	1230 ksi	2 mm/min; ISO 178
Izod Impact, Notched	1.10 J/cm	2.06 ft-lb/in	ASTM D256
	1.05 J/cm @Temperature 0.000 Â°C	1.97 ft-lb/in @Temperature 32.0 Â°F	ASTM D256
	1.05 J/cm @Temperature -30.0 Â°C	1.97 ft-lb/in @Temperature -22.0 Â°F	ASTM D256
Izod Impact, Unnotched	9.70 J/cm	18.2 ft-lb/in	ASTM D4812
	9.70 J/cm @Temperature -30.0 Â°C	18.2 ft-lb/in @Temperature -22.0 Â°F	ASTM D4812
Izod Impact, Notched (ISO)	10.0 kJ/mÂ²	4.76 ft-lb/inÂ²	80*10*4; ISO 180/1A

Mechanical Properties	Metric	English	Comments
	5.00 kJ/mÂ² @Temperature -40.0 Â°C	2.38 ft-lb/inÂ² @Temperature -40.0 Â°F	80*10*4; ISO 180/1A
	9.00 kJ/mÂ² @Temperature -30.0 Â°C	4.28 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
	10.0 kJ/mÂ² @Temperature 0.000 Â°C	4.76 ft-lb/inÂ² @Temperature 32.0 Â°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	50.0 kJ/mÂ²	23.8 ft-lb/inÂ²	80*10*4; ISO 180/1U
	45.0 kJ/mÂ² @Temperature -30.0 Â°C	21.4 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	4.50 J/cmÂ²	21.4 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	5.50 J/cmÂ²	26.2 ft-lb/inÂ²	ISO 179/2C
	4.50 J/cmÂ² @Temperature -30.0 Â°C	21.4 ft-lb/inÂ² @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	5.00 J/cmÂ² @Temperature -30.0 Â°C	23.8 ft-lb/inÂ² @Temperature -22.0 Â°F	ISO 179/2C
Charpy Impact, Notched	0.500 J/cmÂ²	2.38 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.10 J/cmÂ²	5.23 ft-lb/inÂ²	ISO 179/2C
	0.500 J/cmÂ² @Temperature -30.0 Â°C	2.38 ft-lb/inÂ² @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.10 J/cmÂ² @Temperature -30.0 Â°C	5.23 ft-lb/inÂ² @Temperature -22.0 Â°F	ISO 179/2C
Taber Abrasion, mg/1000 Cycles	19	19	CS-17, 1 kg; SABIC Method

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	ASTM D257
	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093

Electrical Properties	Metric	English	Comments
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
Dielectric Constant	3.1 @Frequency 1.00e+6 Hz	3.1 @Frequency 1.00e+6 Hz	IEC 60250
	3.1 @Frequency 50.0 - 60.0 Hz	3.1 @Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	16.0 kV/mm @Thickness 3.20 mm	406 kV/in @Thickness 0.126 in	in oil; ASTM D149
	16.0 kV/mm @Thickness 3.20 mm	406 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
	19.0 kV/mm @Thickness 1.00 mm	483 kV/in @Thickness 0.0394 in	short time; IEC 60243-1
	24.0 kV/mm @Thickness 1.60 mm	610 kV/in @Thickness 0.0630 in	in oil; ASTM D149
	24.0 kV/mm @Thickness 1.60 mm	610 kV/in @Thickness 0.0630 in	in oil; IEC 60243-1
	30.0 kV/mm @Thickness 0.800 mm	762 kV/in @Thickness 0.0315 in	in oil; IEC 60243-1
	30.0 kV/mm @Thickness 0.800 mm	762 kV/in @Thickness 0.0315 in	in oil; ASTM D149
Dissipation Factor	0.0010 @Frequency 50.0 - 60.0 Hz	0.0010 @Frequency 50.0 - 60.0 Hz	IEC 60250
	0.010 @Frequency 1.00e+6 Hz	0.010 @Frequency 1.00e+6 Hz	IEC 60250
Arc Resistance	120 - 180 sec	120 - 180 sec	Tungsten; ASTM D495
Comparative Tracking Index	>= 600 V	>= 600 V	UL 746A
	>= 600 V	>= 600 V	IEC 60112
Hot Wire Ignition, HWI	60 - 120 sec	60 - 120 sec	UL 746A

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