

SABIC Innovative Plastics Valox[®] 4031 PBT (Europe-Africa-Middle East)

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

Material Notes:

VALOX 4031 is a 30% high strength glass fibre reinforced PBT injection moulding resin with excellent strength, stiffness and heat resistance. Applications: appliance handles, spotlights, electric motors.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-4031-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/in ³	ISO 1183
Filler Content	20 %	20 %	ASTM D229
Moisture Absorption	0.0600 %	0.0600 %	23 [°] C / 50% RH; ISO 62
Water Absorption at Saturation	0.26 %	0.26 %	ISO 62
Viscosity	150000 cP	150000 cP	Melt Viscosity, 260 [°] 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	50 g/10 min @Load 5.00 kg, Temperature 266 [°] C	50 g/10 min @Load 11.0 lb, Temperature 511 [°] F	ASTM D1238
Melt Index of Compound	12 g/10 min @Load 2.16 kg, Temperature 250 [°] C	12 g/10 min @Load 4.76 lb, Temperature 482 [°] F	MVR [cm ³ /10 min]; ISO 1133
	30 g/10 min @Load 5.00 kg, Temperature 250 [°] C	30 g/10 min @Load 11.0 lb, Temperature 482 [°] F	MVR [cm ³ /10 min]; ISO 1133
	40 g/10 min @Load 5.00 kg, Temperature 265 [°] C	40 g/10 min @Load 11.0 lb, Temperature 509 [°] F	MVR [cm ³ /10 min]; ISO 1133

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

Tensile Strength at Break Mechanical Properties	135 MPa Metric	19600 psi English	5 mm/min; ISO 527 Comments
	140 MPa	20300 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	135 MPa	19600 psi	5 mm/min; ISO 527
	140 MPa	20300 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	2.0 %	2.0 %	5 mm/min; ISO 527
	3.0 %	3.0 %	Flexural Strain, break, 2 mm/min; ISO 178
	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
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	10.0 GPa	1450 ksi	5 mm/min; ASTM D638
	10.0 GPa	1450 ksi	1 mm/min; ISO 527
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
	210 MPa	30500 psi	2 mm/min; ISO 178
Flexural Modulus	7.90 GPa	1150 ksi	1.3 mm/min, 50 mm span; ASTM D790
	8.30 GPa	1200 ksi	2 mm/min; ISO 178
Izod Impact, Notched	1.00 J/cm	1.87 ft-lb/in	ASTM D256
	1.00 J/cm	1.87 ft-lb/in	ASTM D256
	@Temperature 0.000 Å°C	@Temperature 32.0 Å°F	
	1.00 J/cm	1.87 ft-lb/in	ASTM D256
	@Temperature -30.0 Å°C	@Temperature -22.0 Å°F	
Izod Impact, Unnotched	8.80 J/cm	16.5 ft-lb/in	ASTM D4812
	8.80 J/cm	16.5 ft-lb/in	ASTM D4812
	@Temperature -30.0 Å°C	@Temperature -22.0 Å°F	
Izod Impact, Notched (ISO)	11.0 kJ/mÅ²	5.23 ft-lb/inÅ²	80*10*4; ISO 180/1A

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	80*10*4; ISO 180/1A
	11.0 kJ/m ² @Temperature 0.000 °C	5.23 ft-lb/in ² @Temperature 32.0 °F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	55.0 kJ/m ²	26.2 ft-lb/in ²	80*10*4; ISO 180/1U
	55.0 kJ/m ² @Temperature -30.0 °C	26.2 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	5.00 J/cm ²	23.8 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	6.50 J/cm ²	30.9 ft-lb/in ²	ISO 179/2C
	5.50 J/cm ² @Temperature -30.0 °C	26.2 ft-lb/in ² @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	6.00 J/cm ² @Temperature -30.0 °C	28.6 ft-lb/in ² @Temperature -22.0 °F	ISO 179/2C
Charpy Impact, Notched	0.700 J/cm ²	3.33 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.20 J/cm ²	5.71 ft-lb/in ²	ISO 179/2C
	0.600 J/cm ² @Temperature -30.0 °C	2.86 ft-lb/in ² @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.20 J/cm ² @Temperature -30.0 °C	5.71 ft-lb/in ² @Temperature -22.0 °F	ISO 179/2C

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
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

Electrical Properties	Metric	English	Comments
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	15.0 kV/mm	381 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
	18.0 kV/mm	457 kV/in	in oil; ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
	24.0 kV/mm	610 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	24.0 kV/mm	610 kV/in	in oil; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	26.0 kV/mm	660 kV/in	in oil; ASTM D149
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	26.0 kV/mm	660 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Dissipation Factor	0.0016	0.0016	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.014	0.014	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	120 - 180 sec	120 - 180 sec	Tungsten; ASTM D495
Comparative Tracking Index	250 V	250 V	IEC 60112
	>= 600 V	>= 600 V	UL 746A
Hot Wire Ignition, HWI	60 - 120 sec	60 - 120 sec	UL 746A
High Amp Arc Ignition, HAI	60 - 120 arcs	60 - 120 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	10.0 - 25.4 mm/min	0.394 - 1.00 in/min	UL 746A

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