

SABIC Innovative Plastics Valox[®] 420R PBT (Asia Pacific)

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

Material Notes:

30% GR, ex strength/stiffness/dimensional stability; heat resistance. Appliance handles, spotlights, electric motors, etc. Internal mold release. This data was supplied by SABIC-IP for the Asia Pacific region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-420R-PBT-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.53 g/cc	1.53 g/cc	ASTM D 792
Water Absorption	0.060 %	0.060 %	ASTM D 570
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Flow	0.0030 - 0.0050 cm/cm	0.0030 - 0.0050 in/in	SABIC Method
	@Thickness 1.50 - 3.20 mm	@Thickness 0.0591 - 0.126 in	
	0.0050 cm/cm	0.0050 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
	0.0050 - 0.0080 cm/cm	0.0050 - 0.0080 in/in	SABIC Method
	@Thickness 3.20 - 4.60 mm	@Thickness 0.126 - 0.181 in	
Linear Mold Shrinkage, Transverse	0.0040 - 0.0060 cm/cm	0.0040 - 0.0060 in/in	SABIC Method
	@Thickness 1.50 - 3.20 mm	@Thickness 0.0591 - 0.126 in	
	0.0060 - 0.0090 cm/cm	0.0060 - 0.0090 in/in	SABIC Method
	@Thickness 3.20 - 4.60 mm	@Thickness 0.126 - 0.181 in	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	118	118	ASTM D 785
Tensile Strength at Break	119 MPa	17300 psi	Type I, 5 mm/min; ASTM D 638
Flexural Yield Strength	189 MPa	27400 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	7.58 GPa	1100 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.850 J/cm	1.59 ft-lb/in	ASTM D 256
	@Temperature 23.0		

Mechanical Properties	°C Metric	@Temperature 73.4 °F English	Comments
Izod Impact, Unnotched	8.01 J/cm @Temperature 23.0 °C	15.0 ft-lb/in @Temperature 73.4 °F	ASTM D 4812

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	25.2 µm/m-°C @Temperature -40.0 - 40.0 °C	14.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	25.2 µm/m-°C @Temperature 60.0 - 138 °C	14.0 µin/in-°F @Temperature 140 - 280 °F	ASTM E 831
Deflection Temperature at 0.46 MPa (66 psi)	215 °C @Thickness 6.40 mm	419 °F @Thickness 0.252 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	207 °C @Thickness 6.40 mm	405 °F @Thickness 0.252 in	unannealed; ASTM D 648
UL RTI, Electrical	140 °C	284 °F	UL 746B
UL RTI, Mechanical with Impact	140 °C	284 °F	UL 746B
UL RTI, Mechanical without Impact	140 °C	284 °F	UL 746B
Flammability, UL94	HB @Thickness 0.830 mm	HB @Thickness 0.0327 in	UL 94
	Oxygen Index	19 %	19 %

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.7 @Frequency 1.00e+6 Hz	3.7 @Frequency 1.00e+6 Hz	ASTM D 150
	3.8 @Frequency 100 Hz	3.8 @Frequency 100 Hz	ASTM D 150
Dielectric Strength	18.7 kV/mm @Thickness 3.20 mm	475 kV/in @Thickness 0.126 in	in air; ASTM D 149
	24.8 kV/mm @Thickness 1.60 mm	630 kV/in @Thickness 0.0630 in	in oil; ASTM D 149
	0.0020	0.0020	

Designation Factor Electrical Properties	Metric @Frequency 100 Hz	English @Frequency 100 Hz	ASTM D 150 Comments
	0.020	0.020	ASTM D 150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	120 - 180 sec	120 - 180 sec	Tungsten, PLC code 5; ASTM D 495
Comparative Tracking Index	>= 600 V	>= 600 V	PLC code 0; UL 746A

Descriptive Properties	Value	Comments
High Voltage Arc Resistance {PLC}, PLC Code	1	UL 746A

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