

SABIC Innovative Plastics Valox[®] IQNH4550 PBT (Asia Pacific)

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

Material Notes:

Valox[®] IQNH4550 resin is a non-brominated/non-chlorinated flame retardant product based on an environmentally sustainable Valox iQ[®] PBT resin. Post-consumer recycle (PCR) usage is 31% based on EPEAT (Electronic Product Environmental Assessment Tool) method.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-IQNH4550-PBT-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.53 g/cc	1.53 g/cc	ASTM D792
Density	1.52 g/cc	0.0549 lb/in ³	ISO 1183
Moisture Absorption	0.0700 %	0.0700 %	23 [°] C / 50% RH; ISO 62
Water Absorption at Saturation	0.25 %	0.25 %	ISO 62
Linear Mold Shrinkage, Flow	0.0040 - 0.0090 cm/cm @Thickness 3.20 mm	0.0040 - 0.0090 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0080 - 0.013 cm/cm @Thickness 3.20 mm	0.0080 - 0.013 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	20 g/10 min @Load 5.00 kg, Temperature 250 [°] C	20 g/10 min @Load 11.0 lb, Temperature 482 [°] F	ASTM D1238
Melt Index of Compound	15 g/10 min @Load 5.00 kg, Temperature 250 [°] C	15 g/10 min @Load 11.0 lb, Temperature 482 [°] F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	104 MPa	15100 psi	Type I, 5 mm/min; ASTM D638
	105 MPa	15200 psi	5 mm/min; ISO 527
Tensile Strength, Yield	104 MPa	15100 psi	Type I, 5 mm/min; ASTM D638
	105 MPa	15200 psi	5 mm/min; ISO 527
Elongation at Break	2.0 %	2.0 %	Type I, 5 mm/min; ASTM D638
	2.0 %	2.0 %	5 mm/min; ISO 527
Elongation at Yield	2.0 %	2.0 %	Type I, 5 mm/min; ASTM D638
	2.0 %	2.0 %	5 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
Tensile Modulus	10.42 GPa	1501 ksi	1 mm/min; ISO 527
	11.0 GPa	1600 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	157 MPa	22800 psi	1.3 mm/min, 50 mm span; ASTM D790
	159 MPa	23100 psi	2 mm/min; ISO 178
Flexural Modulus	9.35 GPa	1360 ksi	2 mm/min; ISO 178
	9.37 GPa	1360 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.490 J/cm	0.918 ft-lb/in	ASTM D256
	0.460 J/cm	0.862 ft-lb/in	ASTM D256
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Notched (ISO)	6.00 kJ/mÂ²	2.86 ft-lb/inÂ²	80*10*4; ISO 180/1A
	5.00 kJ/mÂ²	2.38 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Unnotched (ISO)	35.0 kJ/mÂ²	16.7 ft-lb/inÂ²	80*10*3; ISO 180/1U
	32.0 kJ/mÂ²	15.2 ft-lb/inÂ²	80*10*4; ISO 180/1U
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Charpy Impact, Notched	0.500 J/cmÂ²	2.38 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	6.00 J	4.43 ft-lb	ASTM D3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	23.0 Âµm/m-Â°C	12.8 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	28.0 Âµm/m-Â°C	15.6 Âµin/in-Â°F	ISO 11359-2
	@Temperature -30.0 - 80.0 Â°C	@Temperature -22.0 - 176 Â°F	
CTE, linear, Transverse to Flow	78.0 Âµm/m-Â°C	43.3 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	

Thermal Properties	Metric $^{\circ}\text{C}$	English $^{\circ}\text{F}$	Comments
	@Temperature -30.0 - 80.0 $^{\circ}\text{C}$	@Temperature -22.0 - 176 $^{\circ}\text{F}$	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	190 $^{\circ}\text{C}$	374 $^{\circ}\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Af
	190 $^{\circ}\text{C}$	374 $^{\circ}\text{F}$	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	200 $^{\circ}\text{C}$	392 $^{\circ}\text{F}$	Rate B/120; ISO 306
	200 $^{\circ}\text{C}$	392 $^{\circ}\text{F}$	Rate B/50; ISO 306
	200 $^{\circ}\text{C}$	392 $^{\circ}\text{F}$	Rate B/50; ASTM D1525
Flammability, UL94	V-0	V-0	UL 94
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	5VA	5VA	UL 94
	@Thickness 3.00 mm	@Thickness 0.118 in	
Glow Wire Test	800 $^{\circ}\text{C}$	1470 $^{\circ}\text{F}$	IEC 60695-2-13
	960 $^{\circ}\text{C}$	1760 $^{\circ}\text{F}$	IEC 60695-2-12
	@Thickness 0.800 mm	@Thickness 0.0315 in	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	275 V	275 V	IEC 60112
	250 - 400 V	250 - 400 V	UL 746A
Hot Wire Ignition, HWI	>= 120 sec	>= 120 sec	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A

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