

SABIC Innovative Plastics Valox® IQ4860HR PBT

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

Material Notes:

Valox iQ* Resin iQ4860HR: Environmentally responsible iQ* PBT resin with 30% Glass reinforcement + UL94 V-0. Hydrolytically stable and impact modified.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-IQ4860HR-PBT.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.65 g/cc	1.65 g/cc	ASTM D792
Density	1.65 g/cc	0.0596 lb/in ³	ISO 1183
Moisture Absorption	0.0600 %	0.0600 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	0.19 %	0.19 %	ISO 62
Linear Mold Shrinkage, Flow	0.0040 - 0.0060 cm/cm @Thickness 3.20 mm	0.0040 - 0.0060 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0040 - 0.0080 cm/cm @Thickness 3.20 mm	0.0040 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	40 g/10 min @Load 5.00 kg, Temperature 250 Â°C	40 g/10 min @Load 11.0 lb, Temperature 482 Â°F	ASTM D1238
Melt Index of Compound	27 g/10 min @Load 5.00 kg, Temperature 220 Â°C	27 g/10 min @Load 11.0 lb, Temperature 428 Â°F	MVR [cm ³ /10 min]; ISO 1133
	27 g/10 min @Load 5.00 kg, Temperature 250 Â°C	27 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	97.0 MPa	14100 psi	5 mm/min; ISO 527
	108 MPa	15700 psi	Type I, 5 mm/min; ASTM D638
	119 MPa	17300 psi	Type I, 10 mm/min; SABIC - Japan Method
Tensile Strength, Yield	97.0 MPa	14100 psi	5 mm/min; ISO 527
	108 MPa	15700 psi	Type I, 5 mm/min; ASTM D638

Elongation at Break Mechanical Properties	1.0 % Metric	1.0 % English	5 mm/min; ISO 527 Comments
	1.7 %	1.7 %	Type I, 5 mm/min; ASTM D638
	8.0 %	8.0 %	Type I, 10 mm/min; SABIC - Japan Method
Elongation at Yield	1.0 %	1.0 %	5 mm/min; ISO 527
	1.7 %	1.7 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	10.7 GPa	1550 ksi	1 mm/min; ISO 527
	11.1 GPa	1610 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	180 MPa	26100 psi	1.3 mm/min, 50 mm span; ASTM D790
	180 MPa	26100 psi	2 mm/min; ISO 178
Flexural Modulus	8.97 GPa	1300 ksi	1.3 mm/min, 50 mm span; ASTM D790
	9.18 GPa	1330 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.920 J/cm	1.72 ft-lb/in	ASTM D256
	0.750 J/cm	1.41 ft-lb/in	ASTM D256
	@Temperature -30.0 Å°C	@Temperature -22.0 Å°F	
Izod Impact, Unnotched	7.94 J/cm	14.9 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	9.00 kJ/mÅ²	4.28 ft-lb/inÅ²	80*10*4; ISO 180/1A
	8.00 kJ/mÅ²	3.81 ft-lb/inÅ²	80*10*4; ISO 180/1A
	@Temperature -30.0 Å°C	@Temperature -22.0 Å°F	
Charpy Impact, Notched	2.10 J/cmÅ²	9.99 ft-lb/inÅ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	10.0 J	7.38 ft-lb	ASTM D3763
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	20.3 Åµm/m-Å°C	11.3 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
	20.3 Åµm/m-Å°C	11.3 Åµin/in-Å°F	ISO 11359-2
	@Temperature -40.0 -	@Temperature -40.0 -	

Thermal Properties	40.0 Â°C Metric	104 Â°F English	Comments
CTE, linear, Transverse to Flow	102 Âµm/m-Â°C	56.7 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	102 Âµm/m-Â°C	56.7 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	209 Â°C	408 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
Deflection Temperature at 1.8 MPa (264 psi)	187 Â°C	369 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	192 Â°C	378 Â°F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	157 Â°C	315 Â°F	Rate B/50; ASTM D1525
	157 Â°C	315 Â°F	Rate B/50; ISO 306
	157 Â°C	315 Â°F	Rate B/120; ISO 306
Flammability, UL94	V-0	V-0	UL 94 by SABIC-IP
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	5VA	5VA	UL 94 by SABIC-IP
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Electrical Properties	Metric	English	Comments
Dielectric Strength	20.0 kV/mm	508 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
Comparative Tracking Index	175 - 250 V	175 - 250 V	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	>= 150 mm/min	>= 5.91 in/min	UL 746A

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