

VALOX* 3706 Resin

SABIC Innovative Plastics - Polycarbonate + PBT

General Information

Product Description

Impact modified PBT+PC resin. Outdoor enclosure. Not available in all colors.

General

Additive	• Impact Modifier
Features	• Impact Modified
Uses	• Outdoor Applications
Forms	• Pellets
Processing Method	• Injection Molding

ASTM and ISO Properties ¹

Physical	Nominal Value Unit	Test Method
Specific Gravity	1.30 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR)		ASTM D1238
260°C/5.0 kg	23 g/10 min	
266°C/5.0 kg	23 g/10 min	
Molding Shrinkage - Flow (3.20 mm)	1.2 to 1.4 %	ASTM D955
Molding Shrinkage - Across Flow (3.20 mm)	1.2 to 1.4 %	ASTM D955
Mechanical	Nominal Value Unit	Test Method
Tensile Modulus ²	1970 MPa	ASTM D638
Tensile Strength ³ (Yield)	49.0 MPa	ASTM D638
Tensile Strength ³ (Break)	39.3 MPa	ASTM D638
Tensile Elongation ³ (Yield)	6.0 %	ASTM D638
Tensile Elongation ³ (Break)	50 %	ASTM D638
Flexural Modulus ⁴ (50.0 mm Span)	2000 MPa	ASTM D790
Flexural Strength ⁴ (Yield, 50.0 mm Span)	78.6 MPa	ASTM D790
Impact	Nominal Value Unit	Test Method
Notched Izod Impact (23°C)	667 J/m	ASTM D256
Instrumented Dart Impact (23°C, Total Energy)	49.7 J	ASTM D3763

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Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load 0.45 MPa, Unannealed, 3.20 mm	127 °C	ASTM D648
Deflection Temperature Under Load 1.8 MPa, Unannealed, 3.20 mm	85.0 °C	ASTM D648
Vicat Softening Temperature	135 °C	ASTM D1525 ⁵
CLTE - Flow (-40 to 40°C)	0.000079 cm/cm/°C	ASTM E831
CLTE - Transverse (-40 to 40°C)	0.000086 cm/cm/°C	ASTM E831

Electrical	Nominal Value Unit	Test Method
Arc Resistance (PLC) ⁶	PLC 6	ASTM D495

Flammability	Nominal Value Unit	Test Method
Flame Rating - UL 1.50 mm 2.49 mm	V-0 5VA	UL 94

UL 746	Nominal Value Unit	Test Method
RTI Str	100 °C	UL 746
RTI Imp	85.0 °C	UL 746
RTI Elec	100 °C	UL 746
Comparative Tracking Index (CTI) (PLC)	PLC 2	UL 746
High Voltage Arc Tracking Rate (HVTR) (PLC)	PLC 4	UL 746
Hot-wire Ignition (HWI) (PLC)	PLC 2	UL 746
High Amp Arc Ignition (HAI) (PLC)	PLC 0	UL 746

Processing Information

Injection	Nominal Value Unit
Drying Temperature	121 °C
Drying Time	3.0 to 4.0 hr
Drying Time, Maximum	12 hr
Suggested Max Moisture	0.020 %
Suggested Shot Size	40 to 80 %
Rear Temperature	238 to 254 °C
Middle Temperature	243 to 260 °C
Front Temperature	249 to 266 °C
Nozzle Temperature	243 to 260 °C
Processing (Melt) Temp	249 to 266 °C
Mold Temperature	65.6 to 87.8 °C
Back Pressure	0.345 to 0.689 MPa
Screw Speed	50 to 80 rpm
Vent Depth	0.025 to 0.038 mm

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Notes

¹ Typical properties: these are not to be construed as specifications.

² 50 mm/min

³ Type I, 50 mm/min

⁴ 1.3 mm/min

⁵ Rate B (120°C/h), Loading 2 (50 N)

⁶ Tungsten Electrode