

VALOX™ 312 resin

Polybutylene Terephthalate
SABIC Innovative Plastics Asia Pacific

Message:
Unreinforced, For compounding only (not for injection molding), Medium viscosity.

General Information			
Features	Medium viscosity		
Uses	Composite		
Processing Method	Compound extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.31	g/cm ³	ASTM D792
Specific Volume	0.770	cm ³ /g	ASTM D792
Molding Shrinkage			Internal method
Flow ¹	0.90 - 1.6	%	Internal method
Flow ²	1.5 - 2.3	%	Internal method
Transverse flow ³	1.0 - 1.7	%	Internal method
Transverse flow ⁴	1.6 - 2.4	%	Internal method
Water Absorption (24 hr)	0.080	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	117		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ⁵ (Yield)	51.7	MPa	ASTM D638
Tensile Elongation ⁶ (Break)	300	%	ASTM D638
Flexural Modulus ⁷ (50.0 mm Span)	2340	MPa	ASTM D790
Flexural Strength ⁸ (Yield, 50.0 mm Span)	82.7	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	53	J/m	ASTM D256
Unnotched Izod Impact (23°C)	1600	J/m	ASTM D4812
Dart Drop Impact ⁹ (23°C)	40.7	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, unannealed, 6.40mm	154	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	54.4	°C	ASTM D648
CLTE - Flow			ASTM E831
-40 to 40°C	8.1E-5	cm/cm/°C	ASTM E831
60 to 138°C	1.4E-4	cm/cm/°C	ASTM E831
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 4.0E+16	ohms · cm	ASTM D257
Dielectric Strength			ASTM D149

1.60 mm, in Oil	23	kV/mm	ASTM D149
3.20 mm, in Air	16	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
100 Hz	3.30		ASTM D150
1 MHz	3.10		ASTM D150
Dissipation Factor			ASTM D150
100 Hz	2.0E-3		ASTM D150
1 kHz	0.42		ASTM D150
1 MHz	0.020		ASTM D150

Extrusion	Nominal Value	Unit
Drying Temperature	110 - 120	°C
Drying Time	4.0 - 6.0	hr
Suggested Max Moisture	0.020	%
Cylinder Zone 1 Temp.	200 - 230	°C
Cylinder Zone 2 Temp.	240 - 255	°C
Cylinder Zone 3 Temp.	240 - 275	°C
Cylinder Zone 4 Temp.	240 - 275	°C
Adapter Temperature	240 - 275	°C
Melt Temperature	245 - 260	°C
Die Temperature	240 - 275	°C

Extrusion instructions

Drying Time (Cumulative): 8 hrsWater Bath Temperature: 25 - 35 °C

NOTE

- 0.75 to 2.3 mm
- 2.3 to 4.6 mm
- 0.75 to 2.3 mm
- 2.3 to 4.6 mm
- Type 1, 50mm/min
- Type 1, 50mm/min
- 1.3 mm/min
- 1.3 mm/min
- Modified

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