

VALOX™ 310 resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

Unreinforced, general purpose. Typical viscosity 5000-7000.

General Information			
UL YellowCard	E45587-236807		
Features	General		
Uses	General		
Processing Method	Injection molding		
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			ASTM D638
Yield	51.7	MPa	ASTM D638
Fracture	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			ASTM D790
Yield, 50.0mm span	82.7	MPa	ASTM D790
Fracture, 50.0mm 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			ASTM D3029
23°C	40.7	J	ASTM D3029
23°C ⁹	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
RTI Elec	120	°C	UL 746
RTI Imp	120	°C	UL 746
RTI	140	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 4.0E+16	ohms · cm	ASTM D257
Dielectric Strength			ASTM D149
1.60 mm, in Air	23	kV/mm	ASTM D149
1.60 mm, in Oil	23	kV/mm	ASTM D149
3.20 mm, in Air	16	kV/mm	ASTM D149
3.20 mm, in Oil	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 MHz	0.020		ASTM D150
Arc Resistance ¹⁰	PLC 5		ASTM D495
Comparative Tracking Index (CTI)	PLC 0		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 1		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.47 mm)	HB		UL 94
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity	600	Pa · s	Internal method
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 - 4.0	hr	
Drying Time, Maximum	12	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 - 80	%	
Rear Temperature	232 - 249	°C	
Middle Temperature	238 - 254	°C	
Front Temperature	243 - 260	°C	
Nozzle Temperature	238 - 254	°C	
Processing (Melt) Temp	243 - 260	°C	
Mold Temperature	48.9 - 76.7	°C	
Back Pressure	0.345 - 0.689	MPa	
Screw Speed	50 - 100	rpm	
Vent Depth	0.013 - 0.025	mm	

NOTE	
1.	0.75 to 2.3 mm
2.	2.3 to 4.6 mm
3.	0.75 to 2.3 mm
4.	2.3 to 4.6 mm
5.	Type 1, 50mm/min
6.	Type 1, 50mm/min
7.	1.3 mm/min
8.	1.3 mm/min
9.	Modified
10.	Tungsten electrode

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