

VALOX™ 451E resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

20% GR. Easy flow version of VALOX 451.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 20% filler by weight		
Features	Good liquidity		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.53	g/cm ³	ASTM D792
Specific Volume	0.650	cm ³ /g	ASTM D792
Molding Shrinkage			Internal method
Flow ¹	0.60 - 0.90	%	Internal method
Flow ²	0.40 - 0.60	%	Internal method
Transverse flow ³	0.80 - 1.1	%	Internal method
Transverse flow ⁴	0.40 - 0.80	%	Internal method
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ⁵ (Break)	96.0	MPa	ASTM D638
Flexural Modulus ⁶ (50.0 mm Span)	5510	MPa	ASTM D790
Flexural Strength ⁷ (Break, 50.0 mm Span)	151	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	48	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, unannealed, 6.40mm	212	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	196	°C	ASTM D648
RTI Elec	120	°C	UL 746
RTI Imp	120	°C	UL 746
RTI	140	°C	UL 746
Electrical	Nominal Value		Test Method
Arc Resistance ⁸	PLC 7		ASTM D495
Comparative Tracking Index (CTI)	PLC 3		UL 746
High Amp Arc Ignition (HAI)	PLC 0		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 4		UL 746
Hot-wire Ignition (HWI)	PLC 3		UL 746
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
0.710 mm	V-0		UL 94

2.99 mm	5VA	UL 94
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	238 - 254	°C
Middle Temperature	243 - 260	°C
Front Temperature	249 - 266	°C
Nozzle Temperature	243 - 260	°C
Processing (Melt) Temp	249 - 266	°C
Mold Temperature	65.6 - 87.8	°C
Back Pressure	0.345 - 0.689	MPa
Screw Speed	50 - 80	rpm
Vent Depth	0.025 - 0.038	mm
NOTE		
1.	3.2 - 4.6 mm	
2.	1.5 - 3.2 mm	
3.	3.2 - 4.6 mm	
4.	1.5 - 3.2 mm	
5.	Type 1, 5.0 mm/min	
6.	1.3 mm/min	
7.	1.3 mm/min	
8.	Tungsten electrode	

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