

VALOX™ 420 resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

30% GR, excellent strength, stiffness and dimensional stability. High heat resistance. Appliance handles, spotlights, electric motors, connectors.

General Information			
UL YellowCard	E207780-100173314	E45587-236813	
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight		
Features	Good dimensional stability		
	Rigid, good		
	Good strength		
	Heat resistance, high		
Uses	Handle		
	Home appliance components		
	Connector		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.53	g/cm³	ASTM D792
Specific Volume	0.658	cm³/g	ASTM D792
Molding Shrinkage			Internal method
Flow ¹	0.30 - 0.50	%	Internal method
Flow ²	0.50 - 0.80	%	Internal method
Transverse flow ³	0.40 - 0.60	%	Internal method
Transverse flow ⁴	0.60 - 0.90	%	Internal method
Water Absorption (24 hr)	0.060	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	118		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ⁵ (Break)	119	MPa	ASTM D638
Tensile Elongation ⁶ (Break)	3.0	%	ASTM D638
Flexural Modulus ⁷ (50.0 mm Span)	7580	MPa	ASTM D790
Flexural Strength ⁸ (Break, 50.0 mm Span)	190	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	85	J/m	ASTM D256
Unnotched Izod Impact (23°C)	800	J/m	ASTM D4812
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648

0.45 MPa, unannealed, 6.40mm	216	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	207	°C	ASTM D648
CLTE - Flow			ASTM E831
-40 to 40°C	2.5E-5	cm/cm/°C	ASTM E831
60 to 138°C	2.5E-5	cm/cm/°C	ASTM E831
RTI Elec	140	°C	UL 746
RTI Imp	140	°C	UL 746
RTI	140	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 3.2E+16	ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
1.60 mm, in Oil	25	kV/mm	ASTM D149
3.20 mm, in Air	19	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
100 Hz	3.80		ASTM D150
1 MHz	3.70		ASTM D150
Dissipation Factor			ASTM D150
100 Hz	2.0E-3		ASTM D150
1 MHz	0.020		ASTM D150
Arc Resistance ⁹	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 (0.838 mm)	HB		UL 94
Oxygen Index	19	%	ASTM D2863
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.	1.5 to 3.2 mm		

2.	3.2 to 4.6 mm
3.	1.5 to 3.2 mm
4.	3.2-4.6 mm
5.	Type 1, 5.0 mm/min
6.	Type 1, 5.0 mm/min
7.	1.3 mm/min
8.	1.3 mm/min
9.	Tungsten electrode

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

