

VALOX™ 325 resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

General purpose, unreinforced, improved processing. Applications like sprinklers and nozzles, pumps, door handle, tank covers, pens, pencils etc.

General Information			
UL YellowCard	E121562-220785		
Features	General Purpose		
	Good Processability		
Uses	General Purpose		
	Handles		
	Pump Parts		
	Writing Instruments		
Processing Method	Injection Molding		
Multi-Point Data	Coefficient of Thermal Expansion vs. Temperature (ASTM E831)		
	Elastic Modulus vs Temperature (ASTM D4065)		
	Flexural DMA (ASTM D4065)		
	Instrumented Impact (Energy) (ASTM D3763)		
	Instrumented Impact (Load) (ASTM D3763)		
	Shear DMA (ASTM D4065)		
	Specific Heat vs. Temperature (ASTM D3417)		
	Tensile Fatigue		
	Tensile Stress vs. Strain (ASTM D638)		
	Thermal Conductivity vs. Temperature (ASTM E1530)		
	Viscosity vs. Shear Rate (ASTM D3835)		
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 to 1.6	%	
Flow ²	1.5 to 2.3	%	
Across Flow ³	1.0 to 1.7	%	
Across Flow ⁴	1.6 to 2.4	%	
Water Absorption			ASTM D570
24 hr	0.080	%	
Equilibrium, 23°C	0.34	%	

Outdoor Suitability	f1		UL 746C
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)	200	%	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
Gardner 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, 6.40 mm	154	°C	
1.8 MPa, Unannealed, 6.40 mm	54.4	°C	
CLTE - Flow			ASTM E831
-40 to 40°C	8.1E-5	cm/cm/°C	
60 to 138°C	1.4E-4	cm/cm/°C	
RTI Elec	120	°C	UL 746
RTI Imp	120	°C	UL 746
RTI Str	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 Oil	23	kV/mm	
3.20 mm, in Air	16	kV/mm	
3.20 mm, in Oil	16	kV/mm	
Dielectric Constant			ASTM D150
100 Hz	3.30		
1 MHz	3.10		
Dissipation Factor			ASTM D150
100 Hz	2.0E-3		
1 MHz	0.020		
Arc Resistance ¹⁰	PLC 4		ASTM D495
Comparative Tracking Index (CTI)	PLC 0		UL 746
High Amp Arc Ignition (HAI)	PLC 0		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 1		UL 746
Hot-wire Ignition (HWI)	PLC 3		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.838 mm)	HB		UL 94
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	232 to 249	°C
Middle Temperature	238 to 254	°C
Front Temperature	243 to 260	°C
Nozzle Temperature	238 to 254	°C
Processing (Melt) Temp	243 to 260	°C
Mold Temperature	48.9 to 76.7	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	50 to 100	rpm
Vent Depth	0.013 to 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 I, 50 mm/min |
| 6. | Type I, 50 mm/min |
| 7. | 1.3 mm/min |
| 8. | 1.3 mm/min |
| 9. | Modified |
| 10. | Tungsten Electrode |

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