

VALOX™ 325 resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

VALOX 325 is a general purpose, unreinforced PBT injection moulding resin. Applications: sprinklers and nozzles, pumps, doorhandles, tank covers, pens and pencils.

General Information			
UL YellowCard	E45329-236588		
Features	General		
Uses	Handle		
	Pump parts		
	General		
	Stationery		
RoHS Compliance	RoHS compliance		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.31	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR)			ASTM D1238
265°C/5.0 kg	50	g/10 min	ASTM D1238
266°C/5.0 kg	50	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR)			ISO 1133
250°C/2.16 kg	14.0	cm ³ /10min	ISO 1133
250°C/5.0 kg	30.0	cm ³ /10min	ISO 1133
265°C/5.0 kg	48.0	cm ³ /10min	ISO 1133
Molding Shrinkage ¹			Internal method
Flow	1.1 - 2.0	%	Internal method
Transverse flow	0.90 - 1.8	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.34	%	ISO 62
Equilibrium, 23°C, 50% RH	0.080	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	118		ISO 2039-2
Ball Indentation Hardness (H 358/30)	135	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	2400	MPa	ASTM D638
--	2400	MPa	ISO 527-2/1
Tensile Strength			

Yield ³	55.0	MPa	ASTM D638
Yield	55.0	MPa	ISO 527-2/50
Fracture ⁴	35.0	MPa	ASTM D638
Fracture	55.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁵	3.0	%	ASTM D638
Yield	3.0	%	ISO 527-2/50
Fracture ⁶	250	%	ASTM D638
Fracture	100	%	ISO 527-2/50
Flexural Modulus ⁷	2300	MPa	ISO 178
Flexural Stress	80.0	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	9.00	mg	Internal method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/2C
-30°C	5.0	kJ/m ²	ISO 179/2C
23°C	6.0	kJ/m ²	ISO 179/2C
Charpy Unnotched Impact Strength			ISO 179/2U
-30°C	No Break		ISO 179/2U
23°C	No Break		ISO 179/2U
Notched Izod Impact			
-30°C	50	J/m	ASTM D256
0°C	50	J/m	ASTM D256
23°C	50	J/m	ASTM D256
-30°C ⁸	6.0	kJ/m ²	ISO 180/1A
0°C ⁹	6.0	kJ/m ²	ISO 180/1A
23°C ¹⁰	6.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
-30°C	1200	J/m	ASTM D4812
23°C	No Break		ASTM D4812, ISO 180/1U
-30°C ¹¹	No Break		ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ¹²			
0.45 MPa, unannealed, 64.0mm span	115	°C	ISO 75-2/Bf
1.8 MPa, unannealed, 64.0mm span	50.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	175	°C	ASTM D1525, ISO 306/B50, ISO 306/B120 ¹³
--	220	°C	ASTM D1525, ISO 306/A50 ¹⁴
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			ISO 11359-2
Flow: 23 to 80°C	1.3E-4	cm/cm/°C	ISO 11359-2

Lateral: 23 to 80°C	1.3E-4	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.16	W/m/K	ISO 8302
RTI Elec	120	°C	UL 746
RTI Imp	120	°C	UL 746
RTI	140	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	ASTM D257, IEC 60093
Dielectric Strength			
0.800 mm, in Oil	31	kV/mm	ASTM D149
1.60 mm, in Oil	25	kV/mm	ASTM D149
3.20 mm, in Oil	16	kV/mm	ASTM D149
0.800mm, in oil	31	kV/mm	IEC 60243-1
1.00 mm ¹⁵	16	kV/mm	IEC 60243-1
1.60mm, in oil	25	kV/mm	IEC 60243-1
3.20mm, in oil	16	kV/mm	IEC 60243-1
Dielectric Constant			
1 MHz	3.10		ASTM D150, IEC 60250
50 Hz	2.90		IEC 60250
60 Hz	2.90		IEC 60250
Dissipation Factor			
1 MHz	0.020		ASTM D150, IEC 60250
50 Hz	3.0E-4		IEC 60250
60 Hz	3.0E-4		IEC 60250
Comparative Tracking Index			IEC 60112
--	600	V	IEC 60112
Solution B	350	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	HB		UL 94
3.00 mm	HB		UL 94
Glow Wire Flammability Index			IEC 60695-2-12
1.00 mm	850	°C	IEC 60695-2-12
3.20 mm	750	°C	IEC 60695-2-12
Oxygen Index	21	%	ISO 4589-2
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (260°C, 1500 sec ⁻¹)	215	Pa·s	ISO 11443
Injection	Nominal Value	Unit	
Drying Temperature	110 - 120	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	40.0 - 60.0	°C	

Rear Temperature	230 - 245	°C
Middle Temperature	240 - 255	°C
Front Temperature	245 - 265	°C
Nozzle Temperature	240 - 260	°C
Processing (Melt) Temp	250 - 270	°C
Mold Temperature	40.0 - 100	°C

NOTE

1.	Tensile Bar
2.	50 mm/min
3.	Type 1, 50mm/min
4.	Type 1, 50mm/min
5.	Type 1, 50mm/min
6.	Type 1, 50mm/min
7.	2.0 mm/min
8.	80*10*4
9.	80*10*4
10.	80*10*4
11.	80*10*4
12.	80*10*4 mm
13.	标准 B (120°C/h), 载荷2 (50N)
14.	速率 A (50°C/h), 载荷2 (50N)
15.	Short-Time

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