

VALOX™ V3900WX resin

Polycarbonate + PBT

SABIC Innovative Plastics Asia Pacific

Message:

PBT/PC blend - Unreinforced - Flame Retardant. This is a UV-stabilized grade designed for outdoor enclosure applications requiring UL 746C F1 weatherability performance.

General Information			
UL YellowCard	E207780-498686		
Additive	Flame Retardant		
	UV Stabilizer		
Features	Flame Retardant		
Uses	Outdoor Applications		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.30	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (266°C/5.0 kg)	35	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (265°C/2.16 kg)	11.2	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.70 to 1.0	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.10	%	
Equilibrium, 23°C, 50% RH	0.030	%	
Outdoor Suitability	f1		UL 746C
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2200	MPa	ASTM D638
--	2100	MPa	ISO 527-2/1
Tensile Strength			
Yield	48.0	MPa	Internal Method
Yield ²	53.0	MPa	ASTM D638
Yield	51.0	MPa	ISO 527-2/50
Break ³	43.0	MPa	ASTM D638
Break	40.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	5.0	%	ASTM D638
Yield	4.0	%	ISO 527-2/50
Break	250	%	Internal Method
Break ⁵	50	%	ASTM D638
Break	42	%	ISO 527-2/50

Flexural Modulus			
50.0 mm Span ⁶	2200	MPa	ASTM D790
-- ⁷	2130	MPa	ISO 178
Flexural Stress			
--	73.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	80.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	52	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	110	J/m	ASTM D256
23°C	800	J/m	ASTM D256
-30°C ¹⁰	8.4	kJ/m ²	ISO 180/1A
23°C ¹¹	41	kJ/m ²	ISO 180/1A
Instrumented Dart Impact			ASTM D3763
-40°C, Total Energy	50.0	J	
23°C, Total Energy	50.0	J	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 6.40 mm	119	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	75.0	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	96.0	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹²	77.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	105	°C	ASTM D1525 ¹³
--	122	°C	ISO 306/B50
--	124	°C	ISO 306/B120
Ball Pressure Test			IEC 60695-10-2
75°C	Pass		
125°C	Pass		
CLTE			ASTM E831, ISO 11359-2
Flow : -40 to 40°C	8.8E-5	cm/cm/°C	
Transverse : -40 to 40°C	9.0E-5	cm/cm/°C	
RTI Elec	120	°C	UL 746
RTI Imp	120	°C	UL 746
RTI Str	120	°C	UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-0		
3.00 mm	5VA		
Glow Wire Flammability Index			IEC 60695-2-12
1.00 mm	960	°C	
3.00 mm ¹⁴	960	°C	

Glow Wire Ignition Temperature		IEC 60695-2-13
1.00 mm	825	°C
3.00 mm	725	°C
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	238 to 254	°C
Middle Temperature	243 to 260	°C
Front Temperature	249 to 266	°C
Nozzle Temperature	243 to 260	°C
Processing (Melt) Temp	249 to 266	°C
Mold Temperature	65.6 to 87.8	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	50 to 80	rpm
Vent Depth	0.025 to 0.038	mm
NOTE		
1.	5.0 mm/min	
2.	Type I, 50 mm/min	
3.	Type I, 50 mm/min	
4.	Type I, 50 mm/min	
5.	Type I, 50 mm/min	
6.	1.3 mm/min	
7.	2.0 mm/min	
8.	1.3 mm/min	
9.	80*10*4 sp=62mm	
10.	80*10*4	
11.	80*10*4	
12.	80*10*4 mm	
13.	Rate B (120°C/h), Loading 2 (50 N)	
14.	by VDE	

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