

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			
Additive	UV stabilizer		
	Flame retardancy		
Features	Flame retardancy		
Uses	Outdoor application		
RoHS Compliance	RoHS compliance		
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 - 1.0	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.10	%	ISO 62
Equilibrium, 23°C, 50% RH	0.030	%	ISO 62
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 ²	53.0	MPa	ASTM D638
Yield	51.0	MPa	ISO 527-2/50
Fracture ³	43.0	MPa	ASTM D638
Fracture	40.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	5.0	%	ASTM D638
Yield	4.0	%	ISO 527-2/50
Fracture ⁵	50	%	ASTM D638
Fracture	> 40	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁶	2200	MPa	ASTM D790

-- ⁷	2100	MPa	ISO 178
Flexural Stress			
--	75.0	MPa	ISO 178
Yield, 50.0mm 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	10	kJ/m ²	ISO 180/1A
0°C ¹¹	15	kJ/m ²	ISO 180/1A
23°C ¹²	50	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	50.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, unannealed, 3.20mm	75.0	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹³	77.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	105	°C	ASTM D1525 ¹⁴
--	122	°C	ISO 306/B50
--	123	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			ASTM E831, ISO 11359-2
Flow: -40 to 40°C	8.8E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: -40 to 40°C	9.0E-5	cm/cm/°C	ASTM E831, ISO 11359-2
RTI Elec	120	°C	UL 746
RTI Imp	120	°C	UL 746
RTI	120	°C	UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-0		UL 94
1.50 mm, Testing by SABIC	V-0		UL 94
3.00 mm	5VA		UL 94
3.00 mm, Testing by SABIC	5VA		UL 94
Glow Wire Flammability Index			IEC 60695-2-12
1.00 mm	960	°C	IEC 60695-2-12
3.00 mm ¹⁵	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
1.00 mm	825	°C	IEC 60695-2-13
3.00 mm	725	°C	IEC 60695-2-13
Fill Analysis	Nominal Value	Unit	Test Method

Melt Viscosity (260°C, 1500 sec ⁻¹)	260	Pa·s	ISO 11443
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.	5.0 mm/min		
2.	Type 1, 50mm/min		
3.	Type 1, 50mm/min		
4.	Type 1, 50mm/min		
5.	Type 1, 50mm/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		
13.	80*10*4 mm		
14.	标准 B (120°C/h), 载荷2 (50N)		
15.	by VDE		

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