

VALOX™ V3500EX resin

Polybutylene Terephthalate
SABIC Innovative Plastics Europe

Message:

Unfilled PBT,Flame Retardant, good flow, high elongation at break for Extrusion applications (Monofilaments, Insulation Cables),Electrical Parts and Connectors

General Information			
UL YellowCard	E45329-100066906		
Additive	Flame Retardant		
Features	Flame Retardant		
	Good Flow		
Uses	Connectors		
	Electrical Parts		
	Monofilaments		
	Wire & Cable Applications		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.50	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR)			ASTM D1238
265°C/5.0 kg	50	g/10 min	
266°C/5.0 kg	50	g/10 min	
Melt Volume-Flow Rate (MVR)			ISO 1133
250°C/2.16 kg	13.0	cm³/10min	
250°C/5.0 kg	13.0	cm³/10min	
265°C/5.0 kg	40.0	cm³/10min	
Molding Shrinkage ¹			Internal Method
Flow	1.1 to 1.8	%	
Across Flow	0.90 to 1.8	%	
Water Absorption			ISO 62
Saturation, 23°C	0.35	%	
Equilibrium, 23°C, 50% RH	0.080	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	118		ISO 2039-2
Ball Indentation Hardness (H 358/30)	170	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			

-- ²	3100	MPa	ASTM D638
--	3200	MPa	ISO 527-2/1
Tensile Strength			
Yield ³	60.0	MPa	ASTM D638
Yield	60.0	MPa	ISO 527-2/50
Break ⁴	40.0	MPa	ASTM D638
Break	50.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁵	3.0	%	ASTM D638
Yield	3.0	%	ISO 527-2/50
Break ⁶	15	%	ASTM D638
Break	> 70	%	ISO 527-2/50
Flexural Modulus ⁷	2850	MPa	ISO 178
Flexural Stress	95.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-30°C	5.0	kJ/m ²	ISO 179/2C
23°C ⁸	5.0	kJ/m ²	ISO 179/1eA
23°C	6.0	kJ/m ²	ISO 179/2C
Charpy Unnotched Impact Strength			ISO 179/2U
-30°C	80	kJ/m ²	
23°C	95	kJ/m ²	
Notched Izod Impact			
-30°C	40	J/m	ASTM D256
0°C	40	J/m	ASTM D256
23°C	40	J/m	ASTM D256
-30°C ⁹	6.0	kJ/m ²	ISO 180/1A
0°C ¹⁰	6.0	kJ/m ²	ISO 180/1A
23°C ¹¹	6.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
-30°C	830	J/m	ASTM D4812
23°C	950	J/m	ASTM D4812
-30°C ¹²	60	kJ/m ²	ISO 180/1U
23°C ¹³	60	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	165	°C	ASTM D648
0.45 MPa, Unannealed, 64.0 mm Span ¹⁴	165	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	80.0	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁵	80.0	°C	ISO 75-2/Af
Vicat Softening Temperature			

--	220	°C	ASTM D1525, ISO 306/A50 11 ¹⁶
--	180	°C	ASTM D1525, ISO 306/B50, ISO 306/B120 ¹⁷
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE			ISO 11359-2
Flow : -40 to 40°C	6.0E-5	cm/cm/°C	
Flow : 23 to 150°C	1.9E-4	cm/cm/°C	
Transverse : -40 to 40°C	7.4E-5	cm/cm/°C	
Transverse : 23 to 150°C	1.4E-4	cm/cm/°C	
RTI Elec	75.0	°C	UL 746
RTI Imp	75.0	°C	UL 746
RTI Str	75.0	°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			
1.60 mm, in Oil	39	kV/mm	ASTM D149, IEC 60243-1
3.20 mm, in Oil	21	kV/mm	ASTM D149, IEC 60243-1
0.800 mm, in Oil	62	kV/mm	IEC 60243-1
Dielectric Constant (1 MHz)	2.90		ASTM D150, IEC 60250
Dissipation Factor (1 MHz)	0.016		ASTM D150, IEC 60250
Comparative Tracking Index	225	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.800 mm, Testing by SABIC)	V-0		UL 94
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (260°C, 1500 sec ⁻¹)	170	Pa·s	ISO 11443
Injection	Nominal Value	Unit	
Drying Temperature	110 to 120	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	40.0 to 60.0	°C	
Rear Temperature	230 to 245	°C	
Middle Temperature	240 to 255	°C	
Front Temperature	245 to 265	°C	
Nozzle Temperature	240 to 260	°C	
Processing (Melt) Temp	250 to 270	°C	
Mold Temperature	40.0 to 100	°C	
NOTE			
1.	Tensile Bar		
2.	50 mm/min		
3.	Type I, 50 mm/min		
4.	Type I, 50 mm/min		

5.	Type I, 50 mm/min
6.	Type I, 50 mm/min
7.	2.0 mm/min
8.	80*10*4 sp=62mm
9.	80*10*4
10.	80*10*4
11.	80*10*4
12.	80*10*4
13.	80*10*4
14.	80*10*4 mm
15.	80*10*4 mm
16.	Rate A (50°C/h), Loading 2 (50 N)
17.	Rate B (120°C/h), Loading 2 (50 N)

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