VALOX™ 357X resin

Polycarbonate + PBT

SABIC Innovative Plastics Europe

Message:

VALOX 357X is an impact modified, flame retarted PBT+PC blend. Applications like bobbins, switches and enclosures.

General Information			
UL YellowCard	E45329-100963601	E45329-101284020	
Additive	Flame Retardant Impact Modifier		
Features	Flame Retardant Impact Modified		
Uses	Bobbins Housings Switches		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.34	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR)			ASTM D1238
250°C/5.0 kg	9.6	g/10 min	
265°C/5.0 kg	13	g/10 min	
266°C/5.0 kg	13	g/10 min	
Melt Volume-Flow Rate (MVR)			ISO 1133
250°C/5.0 kg	8.00	cm³/10min	
265°C/5.0 kg	10.0	cm³/10min	
Molding Shrinkage			Internal Method
Flow [1]	1.1 to 1.8	%	
Flow : 3.20 mm	1.0 to 1.4	%	
Across Flow [2]	0.90 to 1.8	%	
Water Absorption			ISO 62
Saturation, 23°C	0.50	%	
Equilibrium, 23°C, 50% RH	0.15	%	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	115		ISO 2039-2
Ball Indentation Hardness (H 358/30)	115	MPa	ISO 2039-1
Mechanical	**Nominal Value**	**Unit**	**Test Method**

Tensile Modulus			
-- [3]	2000	MPa	ASTM D638
--	2200	MPa	ISO 527-2/1
Tensile Strength			
Yield [4]	50.0	MPa	ASTM D638
Yield	50.0	MPa	ISO 527-2/50
Break [5]	40.0	MPa	ASTM D638
Break	40.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield [6]	5.0	%	ASTM D638
Yield	5.0	%	ISO 527-2/50
Break [7]	30	%	ASTM D638
Break	30	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span [8]	2100	MPa	ASTM D790
-- [9]	2000	MPa	ISO 178
Flexural Stress			
--	80.0	MPa	ISO 178
Yield, 50.0 mm Span [10]	78.0	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	33.0	mg	Internal Method
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			
-30°C [11]	20	kJ/m²	ISO 179/1eA, ISO 179/2C
23°C [12]	45	kJ/m²	ISO 179/1eA
23°C	40	kJ/m²	ISO 179/2C
Charpy Unnotched Impact Strength [13]			ISO 179/1eU, ISO 179/2U
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
-30°C	150	J/m	ASTM D256
0°C	190	J/m	ASTM D256
23°C	500	J/m	ASTM D256
-30°C [14]	10	kJ/m²	ISO 180/1A
0°C [15]	20	kJ/m²	ISO 180/1A
23°C [16]	40	kJ/m²	ISO 180/1A
Unnotched Izod Impact			ASTM D4812, ISO 180/1U
-30°C	No Break		
23°C	No Break		
Instrumented Dart Impact (23°C, Total Energy)	35.0	J	ASTM D3763
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			

0.45 MPa, Unannealed, 3.20 mm	130	°C	ASTM D648
0.45 MPa, Unannealed, 100 mm Span [17]	135	°C	ISO 75-2/Be
0.45 MPa, Unannealed, 64.0 mm Span [18]	130	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	85.0	°C	ASTM D648
1.8 MPa, Unannealed, 100 mm Span [19]	85.0	°C	ISO 75-2/Ae
1.8 MPa, Unannealed, 64.0 mm Span [20]	85.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	180	°C	ASTM D1525, ISO 306/A50 13 [21]
--	145	°C	ASTM D1525, ISO 306/B50 14 [22]
--	150	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE			
Flow : -40 to 40°C	9.2E-5	cm/cm/°C	ASTM E831
Flow : 23 to 80°C	1.0E-4	cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	8.4E-5	cm/cm/°C	ASTM E831
Transverse : 23 to 80°C	1.0E-4	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.17	W/m/K	ISO 8302
RTI Elec	120	°C	UL 746
RTI Imp	120	°C	UL 746
RTI Str	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			
1.60 mm, in Oil	25	kV/mm	ASTM D149, IEC 60243-1
3.20 mm, in Oil	17	kV/mm	ASTM D149, IEC 60243-1
0.800 mm, in Oil	34	kV/mm	IEC 60243-1
Dielectric Constant			
1 MHz	3.00		ASTM D150, IEC 60250
50 Hz	3.00		IEC 60250
60 Hz	3.00		IEC 60250
Dissipation Factor			
1 MHz	0.013		ASTM D150
50 Hz	2.0E-3		IEC 60250
60 Hz	2.0E-3		IEC 60250
1 MHz	1.3E-3		IEC 60250
Arc Resistance [23]	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 3		UL 746
Comparative Tracking Index			IEC 60112
--	225	V	
Solution B	100	V	

High Amp Arc Ignition (HAI)	PLC 0		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 3		UL 746
Hot-wire Ignition (HWI)	PLC 3		UL 746
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
0.750 mm	V-0		
2.50 mm	5VA		
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Oxygen Index	30	%	ISO 4589-2
Fill Analysis	**Nominal Value**	**Unit**	**Test Method**
Melt Viscosity (260°C, 1500 sec^-1)	310	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.	Tensile Bar		
3.	50 mm/min		
4.	Type I, 50 mm/min		
5.	Type I, 50 mm/min		
6.	Type I, 50 mm/min		
7.	Type I, 50 mm/min		
8.	1.3 mm/min		
9.	2.0 mm/min		
10.	1.3 mm/min		
11.	80*10*4 sp=62mm		
12.	80*10*4 sp=62mm		
13.	80*10*4 sp=62mm		
14.	80*10*4		
15.	80*10*4		
16.	80*10*4		
17.	120*10*4 mm		
18.	80*10*4 mm		
19.	120*10*4 mm		

20.	80*10*4 mm
21.	Rate A (50°C/h), Loading 2 (50 N)
22.	Rate B (120°C/h), Loading 2 (50 N)
23.	Tungsten Electrode

Recommended distributors for this material

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