

VALOX™ 357 resin

Polycarbonate + PBT

SABIC Innovative Plastics

Message:

PBT+PC, UL94V-0/5VA Rated, Impact Modified, Opaque, Unreinforced. Applications like bobbins, switches and enclosures.

General Information			
UL YellowCard	E45587-236811	E207780-100434202	E207780-643583
Additive	Impact modifier		
Features	Impact modification		
Uses	Switch		
	Shell		
	spool		
Appearance	Opacity		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.34	g/cm ³	ASTM D792, ISO 1183
Specific Volume	0.751	cm ³ /g	ASTM D792
Melt Mass-Flow Rate (MFR) (250°C/5.0 kg)	9.6	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (250°C/5.0 kg)	8.00	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal method
Flow ¹	0.80 - 1.1	%	Internal method
Flow ²	1.0 - 1.4	%	Internal method
Flow: 3.20mm	1.0 - 1.4	%	Internal method
Transverse flow ³	0.90 - 1.3	%	Internal method
Transverse flow ⁴	1.2 - 1.6	%	Internal method
Water Absorption			
24 hr	0.080	%	ASTM D570
Saturated, 23°C	0.50	%	ISO 62
Equilibrium, 23°C, 50% RH	0.15	%	ISO 62
Outdoor Suitability	f2		UL 746C
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	117		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ⁵	2020	MPa	ASTM D638
Tensile Strength ⁶			ASTM D638
Yield	48.0	MPa	ASTM D638
Fracture	48.0	MPa	ASTM D638

Tensile Elongation ⁷			ASTM D638
Yield	5.0	%	ASTM D638
Fracture	110	%	ASTM D638
Flexural Modulus ⁸ (50.0 mm Span)	2070	MPa	ASTM D790
Flexural Strength ⁹			ASTM D790
Yield, 50.0mm span	83.0	MPa	ASTM D790
Fracture, 50.0mm span	83.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹⁰ (23°C)	45	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	150	J/m	ASTM D256
23°C	530	J/m	ASTM D256
-30°C ¹¹	10	kJ/m ²	ISO 180/1A
23°C ¹²	45	kJ/m ²	ISO 180/1A
Unnotched Izod Impact (23°C)	3200	J/m	ASTM D4812
Instrumented Dart Impact (23°C, Total Energy)	35.0	J	ASTM D3763
Dart Drop Impact			ASTM D3029
23°C	43.0	J	ASTM D3029
23°C ¹³	43.4	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 6.40mm	138	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	99.0	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹⁴	84.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	134	°C	ASTM D1525 ¹⁵
--	145	°C	ISO 306/B50
--	150	°C	ISO 306/B120
Linear thermal expansion coefficient			
Flow: -40 to 40°C	9.2E-5	cm/cm/°C	ASTM E831
Flow: 60 to 138°C	1.2E-4	cm/cm/°C	ASTM E831
Flow: -40 to 40°C	7.2E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	8.4E-5	cm/cm/°C	ASTM E831, ISO 11359-2
RTI Elec	120	°C	UL 746
RTI Imp	120	°C	UL 746
RTI	140	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.2E+16	ohms · cm	ASTM D257
Dielectric Strength			ASTM D149
1.60 mm, in Oil	25	kV/mm	ASTM D149
3.20 mm, in Air	19	kV/mm	ASTM D149

3.20 mm, in Oil	19	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
100 Hz	3.20		ASTM D150
1 MHz	3.20		ASTM D150
Dissipation Factor			ASTM D150
100 Hz	3.0E-3		ASTM D150
1 MHz	0.030		ASTM D150
Arc Resistance ¹⁶	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 2		UL 746
High Amp Arc Ignition (HAI)	PLC 3		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 3		UL 746
Hot-wire Ignition (HWI)	PLC 2		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.460 mm	HB		UL 94
0.630 mm	V-0		UL 94
3.00 mm	5VA		UL 94
Oxygen Index	30	%	ASTM D2863
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	48.9 - 76.7	°C	
Back Pressure	0.345 - 0.689	MPa	
Screw Speed	50 - 100	rpm	
Vent Depth	0.025 - 0.038	mm	
NOTE			
1.	0.75 to 2.3 mm		
2.	2.3 to 4.6 mm		
3.	0.75 to 2.3 mm		
4.	2.3 to 4.6 mm		
5.	5.0 mm/min		
6.	Type 1, 50mm/min		
7.	Type 1, 50mm/min		
8.	1.3 mm/min		

9.	1.3 mm/min
10.	80*10*4 sp=62mm
11.	80*10*4
12.	80*10*4
13.	Modified
14.	80*10*4 mm
15.	标准 B (120°C/h), 载荷2 (50N)
16.	Tungsten electrode

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