

XENOY™ 1731 resin

Polycarbonate + PBT
SABIC Innovative Plastics

Message:
Impact/chemical resistant. UV-Stabilized. Excellent physical property retention in automotive exteriors and OVAD.

General Information	
UL YellowCard	E121562-220835
Additive	UV Stabilizer
Features	Good Chemical Resistance
	Good Impact Resistance
Uses	Automotive Exterior Parts
Processing Method	Injection Molding
Multi-Point Data	Coefficient of Thermal Expansion vs. Temperature (ASTM E831)
	Elastic Modulus vs Temperature (ASTM D4065)
	Flexural DMA (ASTM D4065)
	Instrumented Impact (Energy) (ASTM D3763)
	Instrumented Impact (Load) (ASTM D3763)
	Pressure-Volume-Temperature (PVT - Zoller Method)
	Shear DMA (ASTM D4065)
	Specific Heat vs. Temperature (ASTM D3417)
	Tensile Fatigue
	Tensile Stress vs. Strain (ASTM D638)
	Thermal Conductivity vs. Temperature (ASTM E1530)
	Viscosity vs. Shear Rate (ASTM D3835)

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.22	g/cm ³	ASTM D792, ISO 1183
Specific Volume	0.820	cm ³ /g	ASTM D792
Melt Mass-Flow Rate (MFR)			
250°C/5.0 kg	9.6	g/10 min	ASTM D1238
250°C/5.0 kg	8.0	g/10 min	ISO 1133
Molding Shrinkage			Internal Method
Flow : 3.20 mm	0.50 to 0.70	%	
Across Flow : 3.20 mm	0.60 to 0.80	%	
Water Absorption			ISO 62
Saturation, 23°C	0.28	%	
Equilibrium, 23°C, 50% RH	0.080	%	
Mechanical	Nominal Value	Unit	Test Method

Tensile Modulus			
-- ¹	2370	MPa	ASTM D638
--	2330	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	61.4	MPa	ASTM D638
Yield	60.0	MPa	ISO 527-2/50
Break ³	56.0	MPa	ASTM D638
Break	58.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	5.0	%	ASTM D638
Yield	5.0	%	ISO 527-2/50
Break ⁵	100	%	ASTM D638
Break	90	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2340	MPa	ASTM D790
-- ⁷	2210	MPa	ISO 178
Flexural Stress			
--	93.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	93.1	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	65	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	110	J/m	ASTM D256
23°C	670	J/m	ASTM D256
23°C, 6.40 mm	160	J/m	ASTM D256
-30°C ¹⁰	16	kJ/m ²	ISO 180/1A
23°C ¹¹	59	kJ/m ²	ISO 180/1A
Instrumented Dart Impact			ASTM D3763
-30°C, Total Energy	61.5	J	
23°C, Total Energy	61.1	J	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 6.40 mm	116	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	93.0	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	107	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹²	99.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	125	°C	ASTM D1525 ¹³
--	127	°C	ISO 306/B50
--	130	°C	ISO 306/B120
CLTE			
Flow : -40 to 40°C	7.8E-5	cm/cm/°C	ASTM E831, ISO 11359-2

Flow : -40 to 95°C	8.3E-5	cm/cm/°C	ASTM E831
Transverse : -40 to 40°C	7.6E-5	cm/cm/°C	ASTM E831, ISO 11359-2
RTI Elec	75.0	°C	UL 746
RTI Imp	75.0	°C	UL 746
RTI Str	75.0	°C	UL 746
Electrical	Nominal Value	Test Method	
Arc Resistance ¹⁴	PLC 5	ASTM D495	
Comparative Tracking Index (CTI)	PLC 2	UL 746	
High Amp Arc Ignition (HAI)	PLC 0	UL 746	
High Voltage Arc Tracking Rate (HVTR)	PLC 2	UL 746	
Hot-wire Ignition (HWI)	PLC 2	UL 746	
Flammability	Nominal Value	Test Method	
Flame Rating (1.50 mm)	HB	UL 94	
Injection	Nominal Value	Unit	
Drying Temperature	110	°C	
Drying Time	4.0 to 6.0	hr	
Drying Time, Maximum	8.0	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	50 to 80	%	
Rear Temperature	243 to 266	°C	
Middle Temperature	249 to 271	°C	
Front Temperature	254 to 277	°C	
Nozzle Temperature	254 to 271	°C	
Processing (Melt) Temp	260 to 277	°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	0.013 to 0.020	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)		

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