

XENOY™ X4850 resin

Polycarbonate + PBT

SABIC Innovative Plastics

Message:

XENOY X4850 is a hydrostable, high modulus, high ductile PC/PBT blend. Furthermore, this resin provides high chemical resistance, very low creep, low CTE, excellent fatigue and high heat dimensional stability. The X4850 could be positioned for body panels, safety equipment, housings, door handles, spring-loaded applications, medical device enclosures, outdoor sports equipment.

General Information			
Features	Ductile		
	Fatigue Resistant		
	Good Chemical Resistance		
	Good Creep Resistance		
	Good Dimensional Stability		
	Hydrolytically Stable		
Uses	Automotive Applications		
	Handles		
	Housings		
	Medical/Healthcare Applications		
	Outdoor Applications		
	Safety Equipment		
	Sporting Goods		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.31	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (266°C/5.0 kg)	4.5	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (265°C/5.0 kg)	4.00	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.70 to 0.90	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.42	%	
Equilibrium, 23°C, 50% RH	0.14	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	105	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	4000	MPa	ASTM D638
--	3850	MPa	ISO 527-2/1
Tensile Strength			

Yield ²	58.0	MPa	ASTM D638
Yield ³	65.0	MPa	ASTM D638
Yield	58.0	MPa	ISO 527-2/5
Yield	63.0	MPa	ISO 527-2/50
Break ⁴	60.0	MPa	ASTM D638
Break ⁵	55.0	MPa	ASTM D638
Break	50.0	MPa	ISO 527-2/5
Break	45.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁶	3.8	%	ASTM D638
Yield ⁷	3.7	%	ASTM D638
Yield	3.4	%	ISO 527-2/5
Yield	3.5	%	ISO 527-2/50
Break ⁸	140	%	ASTM D638
Break ⁹	130	%	ASTM D638
Break	80	%	ISO 527-2/5
Break	30	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ¹⁰	3700	MPa	ASTM D790
-- ¹¹	3500	MPa	ISO 178
Flexural Stress			
--	94.0	MPa	ISO 178
Yield, 50.0 mm Span ¹²	99.0	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	30.0	mg	Internal Method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹³			ISO 179/1eA
-30°C	11	kJ/m ²	
23°C	20	kJ/m ²	
Charpy Unnotched Impact Strength ¹⁴			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
-30°C	100	J/m	ASTM D256
0°C	120	J/m	ASTM D256
23°C	180	J/m	ASTM D256
-30°C ¹⁵	7.0	kJ/m ²	ISO 180/1A
0°C ¹⁶	11	kJ/m ²	ISO 180/1A
23°C ¹⁷	20	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹⁸			ISO 180/1U
-30°C	No Break		
23°C	No Break		

Instrumented Dart Impact			
-20°C, Total Energy	60.0	J	ASTM D3763
23°C, Total Energy	60.0	J	ASTM D3763
--	100	J	ISO 6603-2
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	125	°C	ASTM D648
0.45 MPa, Unannealed, 64.0 mm Span ¹⁹	121	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	101	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ²⁰	99.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	134	°C	ASTM D1525 ²¹
--	133	°C	ISO 306/B50
--	135	°C	ISO 306/B120
CLTE			
Flow : -40 to 40°C	5.2E-5	cm/cm/°C	ASTM E831
Flow : -30 to 80°C	6.3E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	7.5E-5	cm/cm/°C	ASTM E831
Transverse : -30 to 80°C	8.1E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.20	W/m/K	ISO 8302
Injection	Nominal Value	Unit	
Drying Temperature	90.0 to 100	°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 250	°C	
Middle Temperature	240 to 265	°C	
Front Temperature	250 to 270	°C	
Nozzle Temperature	250 to 265	°C	
Processing (Melt) Temp	255 to 270	°C	
Mold Temperature	60.0 to 80.0	°C	
NOTE			
1.	5.0 mm/min		
2.	Type I, 5.0 mm/min		
3.	Type I, 50 mm/min		
4.	Type I, 5.0 mm/min		
5.	Type I, 50 mm/min		
6.	Type I, 5.0 mm/min		
7.	Type I, 50 mm/min		
8.	Type I, 5.0 mm/min		
9.	Type I, 50 mm/min		
10.	1.3 mm/min		

11.	2.0 mm/min
12.	1.3 mm/min
13.	80*10*4 sp=62mm
14.	80*10*4 sp=62mm
15.	80*10*4
16.	80*10*4
17.	80*10*4
18.	80*10*4
19.	80*10*4 mm
20.	80*10*4 mm
21.	Rate B (120°C/h), Loading 2 (50 N)

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