

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	Good dimensional stability		
	Good creep resistance		
	Good chemical resistance		
	Fatigue resistance		
	Hydrolysis stability		
	ductility		
Uses	Safety equipment		
	Handle		
	Application in Automobile Field		
	Outdoor application		
	Sporting goods		
	Shell		
	Medical/nursing supplies		
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 - 0.90	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.42	%	ISO 62
Equilibrium, 23°C, 50% RH	0.14	%	ISO 62
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
Fracture ⁴	60.0	MPa	ASTM D638
Fracture ⁵	55.0	MPa	ASTM D638
Fracture	50.0	MPa	ISO 527-2/5
Fracture	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
Fracture ⁸	140	%	ASTM D638
Fracture ⁹	130	%	ASTM D638
Fracture	80	%	ISO 527-2/5
Fracture	30	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ¹⁰	3700	MPa	ASTM D790
-- ¹¹	3500	MPa	ISO 178
Flexural Stress			
--	94.0	MPa	ISO 178
Yield, 50.0mm 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	ISO 179/1eA
23°C	20	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ¹⁴			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
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		ISO 180/1U
23°C	No Break		ISO 180/1U

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, 3.20mm	125	°C	ASTM D648
0.45 MPa, unannealed, 64.0mm span ¹⁹	121	°C	ISO 75-2/Bf
1.8 MPa, unannealed, 3.20mm	101	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm 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
Linear thermal expansion coefficient			
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
Lateral: -40 to 40°C	7.5E-5	cm/cm/°C	ASTM E831
Horizontal: -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 - 100	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	40.0 - 60.0	°C	
Rear Temperature	230 - 250	°C	
Middle Temperature	240 - 265	°C	
Front Temperature	250 - 270	°C	
Nozzle Temperature	250 - 265	°C	
Processing (Melt) Temp	255 - 270	°C	
Mold Temperature	60.0 - 80.0	°C	
NOTE			
1.	5.0 mm/min		
2.	Type 1, 5.0 mm/min		
3.	Type 1, 50mm/min		
4.	Type 1, 5.0 mm/min		
5.	Type 1, 50mm/min		
6.	Type 1, 5.0 mm/min		
7.	Type 1, 50mm/min		
8.	Type 1, 5.0 mm/min		
9.	Type 1, 50mm/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.	标准 B (120°C/h), 载荷2 (50N)

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

