

CYCOLOY™ XCM851 resin

Polycarbonate + ABS

SABIC Innovative Plastics

Message:

High heat PC/ABS blend offering high modulus / low CTE and good practical impact

General Information			
Features	Impact resistance, good		
	Heat resistance, high		
Processing Method	Sheet extrusion molding		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.30	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (260°C/5.0 kg)	12	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	9.00	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.30 - 0.50	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.20	%	ISO 62
Equilibrium, 23°C, 50% RH	0.010	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	4750	MPa	ASTM D638
--	4600	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	60.0	MPa	ASTM D638
Yield	55.0	MPa	ISO 527-2/5
Fracture ³	35.0	MPa	ASTM D638
Fracture	45.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁴	4.0	%	ASTM D638
Yield	4.0	%	ISO 527-2/5
Fracture ⁵	12	%	ASTM D638
Fracture	10	%	ISO 527-2/5
Flexural Modulus			
50.0mm span ⁶	4550	MPa	ASTM D790
-- ⁷	4400	MPa	ISO 178
Flexural Stress			

--	100	MPa	ISO 178
Yield, 50.0mm span ⁸	108	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	15	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ¹⁰ (23°C)	No Break		ISO 179/1eU
Notched Izod Impact			
-30°C	80	J/m	ASTM D256
23°C	100	J/m	ASTM D256
-30°C ¹¹	9.0	kJ/m ²	ISO 180/1A
23°C ¹²	12	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹³ (23°C)	No Break		ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	60.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, unannealed, 3.20mm	119	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹⁴	122	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	138	°C	ASTM D1525 ¹⁵
--	139	°C	ISO 306/B50
--	140	°C	ISO 306/B120
Linear thermal expansion coefficient			
Flow: -40 to 40°C	4.1E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: -40 to 40°C	5.6E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Injection	Nominal Value	Unit	
Drying Temperature	110 - 120	°C	
Drying Time	2.0 - 6.0	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	30 - 80	%	
Rear Temperature	260 - 270	°C	
Middle Temperature	265 - 290	°C	
Front Temperature	270 - 300	°C	
Nozzle Temperature	260 - 290	°C	
Processing (Melt) Temp	270 - 300	°C	
Mold Temperature	60.0 - 100	°C	
Back Pressure	0.300 - 0.700	MPa	
Screw Speed	40 - 70	rpm	
Vent Depth	0.038 - 0.076	mm	
Extrusion	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	2.0 - 6.0	hr	
Suggested Max Moisture	0.020	%	

Cylinder Zone 1 Temp.	195 - 205	°C
Cylinder Zone 2 Temp.	200 - 220	°C
Cylinder Zone 3 Temp.	220 - 240	°C
Cylinder Zone 4 Temp.	230 - 260	°C
Adapter Temperature	230 - 260	°C
Melt Temperature	250 - 270	°C
Die Temperature	230 - 245	°C

Extrusion instructions

Drying Time (Cumulative): 8 hrsRoll Stack Temp - Bottom: 145 - 155 °C Roll Stack Temp - Middle: 110 - 120 °C Roll Stack Temp - Top: 100 - 110 °C

NOTE

1.	5.0 mm/min
2.	Type 1, 5.0 mm/min
3.	Type 1, 5.0 mm/min
4.	Type 1, 5.0 mm/min
5.	Type 1, 5.0 mm/min
6.	1.3 mm/min
7.	2.0 mm/min
8.	1.3 mm/min
9.	80*10*3 sp=62mm
10.	80*10*3 sp=62mm
11.	80*10*3
12.	80*10*3
13.	80*10*3
14.	80*10*4 mm
15.	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

