

SABIC® PC PC5800 resin

Polycarbonate

SABIC Innovative Plastics Asia Pacific

Message:

PC5800 resin is a very high flow (MFR = 8.9 at 250°C/1.2kg) polycarbonate product designed for use in the optical media market. It is available exclusively at www.sabicpc.com.

General Information			
Features	High Flow		
Uses	Optical Data Storage		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/1.2 kg)	8.9	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (250°C/1.2 kg)	8.30	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow ¹	0.50 to 0.70	%	Internal Method
Water Absorption			
Saturation, 23°C	0.35	%	ISO 62
Equilibrium, 23°C	0.35	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	2350	MPa	ASTM D638
--	2350	MPa	ISO 527-2/1
Tensile Strength			
Yield ³	60.0	MPa	ASTM D638
Yield	60.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	6.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Break ⁵	> 40	%	ASTM D638
Break	> 40	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2300	MPa	ASTM D790
-- ⁷	2300	MPa	ISO 178
Flexural Stress			
--	90.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	90.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact Strength ⁹			ISO 180/1A
-30°C	12	kJ/m ²	

23°C	15	kJ/m ²	
Unnotched Izod Impact Strength ¹⁰		ISO 180/1U	
-30°C	No Break		
23°C	No Break		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	132	°C	ASTM D648
0.45 MPa, Unannealed, 64.0 mm Span ¹¹	132	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	122	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹²	122	°C	ISO 75-2/Af
Vicat Softening Temperature	138	°C	ISO 306/B50, ASTM D1525 ¹³
Ball Pressure Test (125°C)	Pass	IEC 60695-10-2	
CLTE - Flow			
-40 to 95°C	7.0E-5	cm/cm/°C	ASTM E831
23 to 80°C	7.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.20	W/m/K	ASTM C177, ISO 8302
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+15	ohms · cm	IEC 60093
Relative Permittivity (1 MHz)	3.00		IEC 60250
Dissipation Factor (1 MHz)	0.010		IEC 60250
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ASTM D542, ISO 489
Transmittance (2540 μm)	> 90.0	%	ASTM D1003
Haze (2540 μm)	< 0.70	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	4.0 to 6.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 to 80.0	°C	
Rear Temperature	270 to 290	°C	
Middle Temperature	320 to 340	°C	
Front Temperature	350 to 380	°C	
Nozzle Temperature	340 to 370	°C	
Processing (Melt) Temp	340 to 370	°C	
Mold Temperature	75.0 to 95.0	°C	
NOTE			
1.	Tensile Bar		
2.	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*3
10.	80*10*3
11.	80*10*4 mm
12.	80*10*4 mm
13.	Rate B (120°C/h), Loading 2 (50 N)

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