

LEXAN™ PC1800R resin

Polycarbonate

SABIC Innovative Plastics

Message:

PC1800R resin is a medium-high flow (MFR = 18 at 300°C/1.2kg), heat stabilized, polycarbonate product with mold release designed for use in the general purpose molding market. It is available exclusively at www.sabicpc.com

General Information			
Additive	heat stabilizer		
	demoulding		
Features	Medium liquidity		
	Thermal Stability		
Uses	General		
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) (300°C/1.2 kg)	18	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	17.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow			Internal method
-- ¹	0.50 - 0.70	%	Internal method
3.20 mm	0.50 - 0.70	%	Internal method
Water Absorption			
Saturated, 23°C	0.35	%	ISO 62
Equilibrium, 23°C	0.35	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			
Class r	120		ASTM D785
R scale	120		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	2350	MPa	ASTM D638
--	2350	MPa	ISO 527-2/1
Tensile Strength			
Yield ³	63.0	MPa	ASTM D638
Yield	63.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	6.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50

Fracture ⁵	> 70	%	ASTM D638
Fracture	> 70	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁶	2300	MPa	ASTM D790
-- ⁷	2300	MPa	ISO 178
Flexural Stress			
--	90.0	MPa	ISO 178
Yield, 50.0mm span ⁸	90.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
23°C	700	J/m	ASTM D256
-30°C ⁹	12	kJ/m ²	ISO 180/1A
23°C ¹⁰	70	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	No Break		ASTM D4812, ISO 180/1U
-30°C ¹¹	No Break		ISO 180/1U
Instrumented Dart Impact (23°C, Energy at Peak Load)	65.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	135	°C	ASTM D648
0.45 MPa, unannealed, 64.0mm span ¹²	135	°C	ISO 75-2/Bf
1.8 MPa, unannealed, 3.20mm	124	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹³	124	°C	ISO 75-2/Af
Vicat Softening Temperature	141	°C	ISO 306/B50, ASTM D1525 ¹⁴
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	ASTM D257, IEC 60093
Dielectric Strength (1.60 mm)	27	kV/mm	ASTM D149, IEC 60243-1
Dielectric Constant			ASTM D150, IEC 60250
60 Hz	3.00		ASTM D150, IEC 60250
1 MHz	3.00		ASTM D150, IEC 60250
Dissipation Factor			ASTM D150, IEC 60250
60 Hz	1.0E-3		ASTM D150, IEC 60250
1 MHz	0.010		ASTM D150, IEC 60250
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.60 mm)	V-2		UL 94
Optical	Nominal Value	Unit	Test Method

Refractive Index	1.586		ASTM D542, ISO 489
Transmittance (2540 μm)	88.0 - 90.0	%	ASTM D1003
Haze (2540 μm)	< 0.80	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 - 80.0	°C	
Rear Temperature	260 - 280	°C	
Middle Temperature	270 - 290	°C	
Front Temperature	280 - 300	°C	
Nozzle Temperature	270 - 290	°C	
Processing (Melt) Temp	280 - 300	°C	
Mold Temperature	80.0 - 100	°C	

NOTE

1. Tensile Bar
2. 50 mm/min
3. Type 1, 50mm/min
4. Type 1, 50mm/min
5. Type 1, 50mm/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*3
12. 80*10*4 mm
13. 80*10*4 mm
14. 标准 B (120°C/h), 载荷2 (50N)

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