

SABIC® PC PC1003R resin

Polycarbonate

SABIC Innovative Plastics Asia Pacific

Message:

PC1003R resin is a medium-low flow (MFR = 10 at 300°C/1.2kg), heat and UV 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			
UL YellowCard	E207780-101295400		
Additive	Heat Stabilizer		
	Mold Release		
	UV Stabilizer		
Features	Medium Flow		
Uses	General Purpose		
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)	10	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	9.50	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow			Internal Method
-- ¹	0.50 to 0.70	%	
3.20 mm	0.50 to 0.70	%	
Water Absorption			
Saturation, 23°C	0.35	%	ISO 62
Equilibrium, 23°C	0.35	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	120		ASTM D785, 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
Break ⁵	> 70	%	ASTM D638
Break	> 70	%	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			
23°C	800	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, 3.20 mm	138	°C	ASTM D648
0.45 MPa, Unannealed, 64.0 mm Span ¹²	138	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	127	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹³	127	°C	ISO 75-2/Af
Vicat Softening Temperature	143	°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		
1 MHz	3.00		
Dissipation Factor			ASTM D150, IEC 60250
60 Hz	1.0E-3		
1 MHz	0.010		
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 to 90.0	%	ASTM D1003

Haze (2540 μm)	< 0.80	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 to 80.0	°C	
Rear Temperature	260 to 280	°C	
Middle Temperature	270 to 290	°C	
Front Temperature	280 to 310	°C	
Nozzle Temperature	270 to 290	°C	
Processing (Melt) Temp	280 to 310	°C	
Mold Temperature	80.0 to 110	°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*3		
12.	80*10*4 mm		
13.	80*10*4 mm		
14.	Rate B (120°C/h), Loading 2 (50 N)		

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