

SABIC LEXAN™ PC1000R

PC1000R resin is a medium-low flow (MFR = 10 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

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183
Water Absorption	0.35 %	0.35 %	23°C/sat; ISO 62
Moisture Absorption at Equilibrium	0.35 %	0.35 %	ASTM D570
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	SABIC method
	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC method
Melt Flow	9.0 g/10 min @Load 1.20 kg, Temperature 300 °C	9.0 g/10 min @Load 2.65 lb, Temperature 572 °F	cm ³ /10 min; ISO 1133
	10 g/10 min @Load 1.20 kg, Temperature 300 °C	10 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	ASTM D785
	120	120	ISO 2039-2
Tensile Strength, Yield	63.0 MPa	9140 psi	50 mm/min; ISO 527
	63.0 MPa	9140 psi	50 mm/min; ASTM D638
Elongation at Break	>= 70 %	>= 70 %	50mm/min; ISO 527
	>= 70 %	>= 70 %	50mm/min; ASTM D638
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
	6.0 %	6.0 %	50 mm/min; ASTM D638
Tensile Modulus	2.35 GPa	341 ksi	50 mm/min; ASTM D638
	2.35 GPa	341 ksi	1mm/min; ISO 527
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	90.0 MPa	13100 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.30 GPa	334 ksi	2 mm/min; ISO 178
	2.30 GPa	334 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	8.00 J/cm	15.0 ft-lb/in	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D4812
Izod Impact, Notched (ISO)	70.0 kJ/m ²	33.3 ft-lb/in ²	80*10*3; ISO 180/1A

	12.0 kJ/m ² @Temperature -30.0 °C	5.71 ft-lb/in ² @Temperature -22.0 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*3; ISO 180/1U
Dart Drop, Total Energy	65.0 J	47.9 ft-lb	peak; ASTM D3763

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	ASTM D257
	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Dielectric Constant	3.0 @Frequency 60 Hz	3.0 @Frequency 60 Hz	IEC 60250
	3.0 @Frequency 1e+6 Hz	3.0 @Frequency 1e+6 Hz	IEC 60250
	3.0 @Frequency 60 Hz	3.0 @Frequency 60 Hz	ASTM D150
	3.0 @Frequency 1e+6 Hz	3.0 @Frequency 1e+6 Hz	ASTM D150
Dielectric Strength	27.0 kV/mm @Thickness 1.60 mm	686 kV/in @Thickness 0.0630 in	IEC 60243-1
	27.0 kV/mm @Thickness 1.60 mm	686 kV/in @Thickness 0.0630 in	ASTM D149
Dissipation Factor	0.0010 @Frequency 60 Hz	0.0010 @Frequency 60 Hz	ASTM D150
	0.0010 @Frequency 60 Hz	0.0010 @Frequency 60 Hz	IEC 60250
	0.010 @Frequency 1e+6 Hz	0.010 @Frequency 1e+6 Hz	ASTM D150
	0.010 @Frequency 1e+6 Hz	0.010 @Frequency 1e+6 Hz	IEC 60250

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 µm/m-°C @Temperature -40.0 - 95.0 °C	38.9 µin/in-°F @Temperature -40.0 - 203 °F	ASTM E831
	70.0 µm/m-°C @Temperature 23.0 - 80.0 °C	38.9 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft ² -°F	ASTM C177
	0.200 W/m-K	1.39 BTU-in/hr-ft ² -°F	ISO 8302
Hot Ball Pressure Test	125 °C	257 °F	IEC 60695-10-2

Deflection Temperature at 0.46 MPa (66 psi)	138 °C	280 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	138 °C @Thickness 3.20 mm	280 °F @Thickness 0.126 in	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	127 °C	261 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	127 °C @Thickness 3.20 mm	261 °F @Thickness 0.126 in	ASTM D648
Vicat Softening Point	143 °C	289 °F	Rate B/50; ISO 306
	143 °C	289 °F	Rate B/50; ASTM D1525
Flammability, UL94	V-2 @Thickness 1.60 mm	V-2 @Thickness 0.0630 in	UL 94

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ISO 489
	1.586	1.586	ASTM D542
Haze	<= 0.80 % @Thickness 2.54 mm	<= 0.80 % @Thickness 0.100 in	ASTM D1003
Transmission, Visible	88 - 90 % @Thickness 2.54 mm	88 - 90 % @Thickness 0.100 in	ASTM D1003

Processing Properties	Metric	English	Comments
Processing Temperature	60.0 - 80.0 °C	140 - 176 °F	Hopper Temperature
Nozzle Temperature	270 - 290 °C	518 - 554 °F	Injection Molding
Zone 1	260 - 280 °C	500 - 536 °F	
Zone 2	270 - 290 °C	518 - 554 °F	
Zone 3	280 - 310 °C	536 - 590 °F	
Melt Temperature	280 - 310 °C	536 - 590 °F	
Mold Temperature	80.0 - 110 °C	176 - 230 °F	
Drying Temperature	120 °C	248 °F	Injection Molding
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	Injection Molding
Moisture Content	0.020 %	0.020 %	