

**TECHNICAL DATA SHEET****PC 1003R – (PC RESIN POLYCARBONATE 1003R)****Product Description**

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

Origin: SAUDI- SABIC

Properties	Test Method	Units	Values
<u>Mechanical</u>			
Tensile Stress, yld, Type I, 50 mm/min	ASTM D 638	MPa	63
Tensile Strain, yld, Type I, 50 mm/min	ASTM D 638	%	6
Tensile Strain, brk, Type I, 50 mm/min	ASTM D 638	%	>70
Tensile Modulus, 50 mm/min	ASTM D 638	MPa	2350
Flexural Stress, yld, 1.3 mm/min, 50 mm span	ASTM D 790	MPa	90
Flexural Modulus, 1.3 mm/min, 50 mm span	ASTM D 790	MPa	2300
Hardness, Rockwell R	ASTM D 785	-	120
Tensile Stress, yield, 50 mm/min	ISO 527	MPa	63
Tensile Strain, yield, 50 mm/min	ISO 527	%	6
Tensile Strain, break, 50 mm/min	ISO 527	%	>70
Tensile Modulus, 1 mm/min	ISO 527	MPa	2350
Flexural Stress, yield, 2 mm/min	ISO 178	MPa	90
Flexural Modulus, 2 mm/min	ISO 178	MPa	2300
Hardness, Rockwell	ISO 2039-2	-	120
<u>Impact</u>			
Izod Impact, unnotched, 23°C	ASTM D 4812	J/m	NB
Izod Impact, notched, 23°C	ASTM D 256	J/m	800
Instrumented Impact Energy @ peak, 23°C	ASTM D 3763	J	65
Izod Impact, unnotched 80*10*3 +23°C	ISO 180/1U	KJ/m ²	NB
Izod Impact, unnotched 80*10*3 -30°C	ISO 180/1U	KJ/m ²	NB
Izod Impact, notched 80*10*3 +23°C	ISO 180/1A	KJ/m ²	70
Izod Impact, notched 80*10*3 -30°C	ISO 180/1A	KJ/m ²	12



Thermal	Test Method	Units	Values
Vicat Softening Temp, Rate B/50	ASTM D 1525	°C	143
HDT, 0.45 MPa, 3.2 mm	ASTM D 648	°C	138
HDT, 1.82 MPa, 3.2 mm	ASTM D 648	°C	127
CTE, -40°C to 95°C, flow	ASTM E 831	1/°C	7.E-05
Properties	Test Method	Units	Values
Thermal Conductivity	ASTM C177	W/m-°C	0.2
Thermal Conductivity	ISO 8302	W/m-°C	0.2
CTE, 23°C to 80°C, flow	ISO 11359-2	1/°C	7.E-05
Ball Pressure Test, 125°C +/- 2°C	IEC 60695-10-2	-	Passes
Vicat Softening Temp, Rate B/50	ISO 306	°C	143
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	ISO 75/Bf	°C	138
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	ISO 75/Af	°C	127
Optical			
Light Transmission, 2.54 mm	ASTM D 1003	%	88 – 90
Haze, 2.54 mm	ASTM D 1003	%	< 0.8
Refractive Index	ASTM D542	-	1.586
Refractive Index	ISO 489	-	1.586
Physical Properties			
Specific Gravity	ASTM D 792	-	1.2
Water Absorption, equilibrium, 23C	ASTM D 570	%	0.35
Mold Shrinkage on Tensile Bar, flow (2) (5)	SABIC method	%	0.5 - 0.7
Mold Shrinkage, flow, 3.2 mm (5)	SABIC method	%	0.5 – 0.7
Melt Flow Rate, 300°C/1.2 kgf	ASTM D 1238	g/10 min	10
Density	ISO 1183	g/cm ³	1.2
Water Absorption, (23°C/sat)	ISO 62	%	0.35
Melt Volume Rate, MVR at 300°C/1.2	ISO 1133	cm ³ /10 min	9
Electrical			
Volume Resistivity	ASTM D 257	Ohm-cm	> 1.E+15
Dielectric Strength, 1.6 mm	ASTM D 149	kV/mm	27
Flame Characteristic			
UL Recognized, 94V-2 Flame Class Rating ⁽³⁾	UL 94	mm	1.6
Injection Molding			
Drying Temperature	-	°C	120