

**TECHNICAL DATA SHEET****PC0703R –(POLYCARBONATE RESIN)****Product Description**

- PC0703R resin is a low flow (MFR = 7 at 300°C/1.2kg), heat and UV stabilized, polycarbonate product with mold release designed for use in the extrusion market.

Origin: SAUDI

- SABIC

Properties	Typical Values	Units	Test Methods
<u>Mechanical</u>			
Tensile Stress, yld, Type I, 50 mm/min	63	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	>70	%	ASTM D 638
Tensile Modulus, 50 mm/min	2350	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	90	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2300	MPa	ASTM D 790
Hardness, Rockwell R	120	-	ASTM D 785
Tensile Stress, yld, Type I, 50 mm/min	63	MPa	ISO 527
Tensile Strain, yld, Type I, 50 mm/min	6	%	ISO 527
Tensile Strain, brk, Type I, 50 mm/min	>70	%	ISO 527
Tensile Modulus, 50 mm/min	2350	MPa	ISO 527
Flexural Stress, yld, 1.3 mm/min, 50 mm span	90	MPa	ISO 178
Flexural Modulus, 1.3 mm/min, 50 mm span	2300	MPa	ISO 178
Hardness, Rockwell R	120	-	ISO 2039-2
<u>Impact</u>			
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D 4812
Izod Impact, notched, 23°C	900	J/m	ASTM D 256
Instrumented Impact Energy @ peak, 23°C	65	J	ASTM D 3763
Izod Impact, unnotched, 80*10*3+23°C	NB	Kj/m ²	ISO 180/1U
Izod Impact, unnotched, 80*10*3 -30°C	NB	Kj/m ²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	70	Kj/m ²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	12	Kj/m ²	ISO 180/1A

**Thermal**

Vicat Softening Temp, Rate B/50	144	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm	138	°C	ASTM D 648
HDT, 1.82 MPa, 3.2 mm	127	°C	ASTM D 648
CTE, -40°C to 95°C, flow	7.E-05	1/°C	ASTM E 831
Thermal Conductivity	0.2	W/m-°C	ASTM C 177

Properties	Typical Values	Units	Test Methods
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, 23°C to 80°C, flow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C, by VDE	Passes	-	IEC 60695-10-2

Properties	Typical Values	Units	Test Methods
Vicat Softening Temp, Rate B/50	144	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	138	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	127	°C	ISO 75/Af

Physical

Specific Gravity	1.2	-	ASTM D 792
Water Absorption, equilibrium, 23C	0.35	%	
Mold Shrinkage on Tensile Bar, flow	0.5 – 0.7	%	
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	
Melt Flow Rate, 300°C/1.2 kgf	7		
Density	1.2		
Water Absorption, (23°C/sat)	0.35		
Melt Volume Rate, MVR at 300°C/1.2 kg	6		

Optical

Light Transmission, 2.54 mm	88 – 90	%	ASTM D 1003
Haze, 2.54 mm	<0.8	%	ASTM D 1003
Refractive Index	1.586	-	ASTM D 542
Refractive Index	1.586	-	ISO 489

Electrical

Volume Resistivity	>1.E+15	Ohm-cm	ASTM D 257
Dielectric Strength, 1.6 mm	27	kV/mm	ASTM D 149
Relative Permittivity, 60 Hz	3	-	ASTM D 150
Relative Permittivity, 1 MHz	3	-	ASTM D 150
Dissipation Factor, 60 Hz	0.001	-	ASTM D 150
Dissipation Factor, 1 MHz	0.01	-	ASTM D 150
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Dielectric Strength, 1.6 mm	27	kV/mm	IEC 60243-1



Relative Permittivity, 60 Hz	3	-	IEC 60250
Relative Permittivity, 1 MHz	3	-	IEC 60250
Dissipation Factor, 60 Hz	0.001	-	IEC 60250
Dissipation Factor, 1 MHz	0.01	-	IEC 60250
<u>Flame Characteristic</u>			
UL Recognized, 94V-2 Flame Class Rating	1.6	mm	UL 94
<u>Injection Molding</u>			
Drying Temperature	120	°C	
Drying Time	2 – 4	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	290 – 320	°C	
Nozzle Temperature	280 – 310	°C	
Front - Zone 3 Temperature	290 – 320	°C	
Middle - Zone 2 Temperature	280 – 310	°C	
Rear - Zone 1 Temperature	270 – 300	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 120	°C	
<u>Profile Extrusion</u>			
Drying Temperature	120	°C	
Drying Time	2 – 4	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	270 – 280	°C	
<u>Properties</u>			
Barrel - Zone 1 Temperature	260 – 280	°C	
Barrel - Zone 2 Temperature	260 – 280	°C	
Barrel - Zone 3 Temperature	260 – 280	°C	
Barrel - Zone 4 Temperature	260 – 280	°C	
Hopper Temperature	40 – 60	°C	
Adapter Temperature	260 – 280	°C	
Die Temperature	250 – 260	°C	
Calibrator Temperature	70 – 90	°C	