

PC 1003R

Suke

UV-resistant

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.

Product Specifications

MECHANICAL	Test Standard	Units	Typical Value
Tensile Stress, yld, Type I, 50 mm/min	ASTM D638	MPa	63
Tensile Strain, yld, Type I, 50 mm/min	ASTM D638	%	6
Tensile Strain, brk, Type I, 50 mm/min	ASTM D638	%	>70
Tensile Modulus, 50 mm/min	ASTM D638	MPa	2350
Flexural Stress, yld, 1.3 mm/min, 50 mm span	ASTM D790	MPa	90
Flexural Modulus, 1.3 mm/min, 50 mm span	ASTM D790	MPa	2300
Hardness, Rockwell R	ASTM D785	-	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 R	ISO 2039-2	-	120
IMPACT	Test Standard	Units	Typical Value
Izod Impact, unnotched, 23°C	ASTM D4812	J/m	NB
Izod Impact, notched, 23°C	ASTM D256	J/m	800
Instrumented Dart Impact Energy @ peak, 23°C	ASTM D3763	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 Standard	Units	Typical Value
Vicat Softening Temp, Rate B/50	ASTM D1525	°C	143
HDT, 0.45 MPa, 3.2 mm	ASTM D648	°C	138
HDT, 1.82 MPa, 3.2 mm	ASTM D648	°C	127
CTE, -40°C to 95°C, flow	ASTM E831	1/°C	7.E-05
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
PHYSICAL	Test Standard	Units	Typical Value
Specific Gravity	ASTM D792	-	1.2
Water Absorption, (23°C/Saturated)	ASTM D570	%	0.35
Mold Shrinkage on Tensile Bar, flow	SABIC method	%	0.5 - 0.7
Mold Shrinkage, flow, 3.2 mm	SABIC method	%	0.5 - 0.7
Melt Flow Rate, 300°C/1.2 kgf	ASTM D1238	g/10 min	10
Density	ISO 1183	g/cm ³	1.2
Water Absorption, (23°C/saturated)	ISO 62-1	%	0.35
Melt Volume Rate, MVR at 300°C/1.2 kg	ISO 1133	cm ³ /10 min	9
OPTICAL	Test Standard	Units	Typical Value
Light Transmission, 2.54 mm	ASTM D1003	%	88 - 90
Haze, 2.54 mm	ASTM D1003	%	<0.8
Refractive Index	ASTM D542	-	1.586
Refractive Index	ISO 489	-	1.586
ELECTRICAL	Test Standard	Units	Typical Value
Volume Resistivity	ASTM D257	Ω · cm	>1.E+15
Dielectric Strength, 1.6 mm	ASTM D149	kV/mm	27
Relative Permittivity, 60 Hz	ASTM D150	-	3

Relative Permittivity, 1 MHz	ASTM D150	-	3
Dissipation Factor, 60 Hz	ASTM D150	-	0.001
Dissipation Factor, 1 MHz	ASTM D150	-	0.01
Volume Resistivity	IEC 60093	$\Omega \cdot \text{cm}$	>1.E+15
Dielectric Strength, 1.6 mm	IEC 60243-1	kV/mm	27
Relative Permittivity, 60 Hz	IEC 60250	-	3
Relative Permittivity, 1 MHz	IEC 60250	-	3
Dissipation Factor, 60 Hz	IEC 60250	-	0.001
Dissipation Factor, 1 MHz	IEC 60250	-	0.01
FLAME CHARACTERISTICS	Test Standard	Units	Typical Value
UL Recognized, 94V-2 Flame Class Rating	UL 94	mm	1.6

INJECTION MOLDING	RANGE
Drying Temperature	120 °C
Drying Time	2 - 4 Hrs
Maximum Moisture Content	0.02 %
Melt Temperature	280 - 310 °C
Nozzle Temperature	270 - 290 °C
Front - Zone 3 Temperature	280 - 310 °C
Middle - Zone 2 Temperature	270 - 290 °C
Rear - Zone 1 Temperature	260 - 280 °C
Hopper Temperature	60 - 80 °C
Mold Temperature	80 - 110 °C

a. 以上数据为本色料的数据，染色料的性能数据可能与以上数据不一样。The above data is for the original color material, and the properties of the dyeing material may differ from the above data.

b. 典型值是指实验室的平均数据，仅用于使用时参考，不作为产品标准。Typical values refer to the average data of the laboratory, which are only used as reference and are not used as product standards.

以上数值仅供参考使用，可根据制品大小、厚度以及产品要求做出调整 The above values are only for reference, and can be adjusted according to the size, thickness and requirements of the product.

Note:

1. 生产及操作时避免树脂接触到灰尘及杂物。 The resin should not contact with dust and sundries in processing.
2. 在射出周期中勿将热融胶长期停留在加热管中。 Do not stay the resin in the heating tube for a long time during the injecting cycle.
3. 热浇道之系统温度不宜过高以免材料劣化。 The temperature of the hot runner should not be too high to avoid material degradation.
4. 加工的高温过程的水分控制是保证制品质量的关键之一。 The moisture control is one of the keys to ensure the quality of products in processing

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