

PC (POLYCARBONATE)

MATERIAL DATA SHEET

PC combines high impact and temperature resistance with optical clarity and can be utilized for secondary glazing behind existing glazing for economical protection against breakage or intrusion. PC is therefore an excellent candidate for fabricating a wide range of indoor applications such as machine guards etc.

PROPERTIES	Test methods	Units	VALUES
Color	-	-	Transparent
Density	ISO 1183-1	g/cm ³	1.2
Water absorption:			
- after 24 h immersion in water of 23°C	ISO 62	Mg	10
- saturation at 23°C	ISO 62	%	0.35
Thermal Properties			
Vicat B/120	Iso 306	° C	145
Thermal conductivity at 23°C	DIN 52612	W/m * °C	0.2
Coefficient of linear expansion	DIN53752	1/°C	7.00E-05
HDT/Ae, 1.8 MPa edgew. 120*1*04/s=100	ISO 75	°C	127
Thermal Index. Electrical Properties	UL746B	°C	100
Thermal Index. Mech. prop. with impact	UL746B	°C	100
Thermal Index. Mech. Prop. w/o impact	UL746B	°C	100
Mechanical Properties at 23°C			
Tension test			
- tensile stress at yield 50 mm/min	ISO 527	MPa	60
- tensile stress at break 50 mm/min	ISO 527	MPa	70
- tensile strain at yield 50 mm/min	ISO 527	%	6
- tensile strain at break 50 mm/min	ISO 527	%	120
- tensile modulus of elasticity	ISO 527	MPa	2350
Flexural stress at yield 2 mm/min	ISO 178	MPa	90
Flexural modulus 2 mm/min	ISO 178	MPa	2300
Hardness H358/30 95	ISO 2039/1	MPa	95
Charpy impact notched	ISO 179/2C	kJ/m ²	35
Izod impact unnotched 23°C	ISO 180/1U	kJ/m ²	NB
Izod impact notched 23°C	ISO 180/1A	kJ/m ²	65
Electrical Properties at 23 °C			
Relative permittivity	IEC250	-	3
Volume resistivity 50 Hz	IEC93	Ohm.cm	10 ¹⁵
Dissipation factor 1MHz	IEC250	-	2.9
Dissipation factor 5 MHz	IEC250	-	0.0009
Optical Properties at 23 °C			
Light transmittance (3 mm thick)	ASTM-D1003	%	89

Note: 1 g/cm³ = 1,000 kg/m³ ; 1 MPa = 1 N/mm² ; 1 kV/mm = 1 MV/m.

The information contained in this technical data sheet cannot be construed as a promise or guarantee of specific properties of our products. Any determination of the suitability of a particular material and part design for any use contemplated by the user is the sole responsibility of the user. The information contained in this technical data sheet is based on present knowledge and may be subject to change without further notice.