

Chemical Designation

PC (Polycarbonate)

Colour

transparent transparent

Density

1.19 g/cm³

Main features

- high toughness
- electrically insulating
- good machinability
- easy to polish
- good heat deflection temperature
- sensitive to stress cracking
- good weldable and bondable

Target Industries

- mechanical engineering
- electronics
- food technology
- automotive industry

Mechanical properties

parameter	value	unit	norm	comment
Tensile strength	50mm/min	69	MPa	DIN EN ISO 527-2
Modulus of elasticity (tensile test)	1mm/min	2200	MPa	DIN EN ISO 527-2 1)
Tensile strength at yield	50mm/min	69	MPa	DIN EN ISO 527-2
Elongation at yield (tensile test)	50mm/min	6	%	DIN EN ISO 527-2
Elongation at break (tensile test)	50mm/min	90	%	DIN EN ISO 527-2
Flexural strength	2mm/min, 10 N	97	MPa	DIN EN ISO 178 2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2300	MPa	DIN EN ISO 178
Compression strength	1% / 2% / 5% 5mm/min, 10 N	16/29/64	MPa	EN ISO 604 3)
Compression modulus	5mm/min, 10 N	2000	MPa	EN ISO 604 4)
Impact strength (Charpy)	max. 7.5J	n.b.	kJ/m ²	DIN EN ISO 179-1eU 5)
Notched impact strength (Charpy)	max. 7.5J	14	kJ/m ²	DIN EN ISO 179-1eA
Shore hardness	D	82		DIN EN ISO 868

Thermal properties

parameter	value	unit	norm	comment
Glass transition temperature	149	°C	DIN EN ISO 11357	1) (1) Found in public sources.
Melting temperature	n.a.	°C	DIN EN ISO 11357	2) (2) n.a. = not applicable
Service temperature	short term	140	°C	3) (3) Found in public sources.
Service temperature	long term	120	°C	Individual testing regarding application conditions is mandatory.
Thermal expansion (CLTE)	23-60°C, long.	8	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2
Thermal expansion (CLTE)	23-100°C, long.	8	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2
Specific heat		1.3	J/(g*K)	ISO 22007-4:2008
Thermal conductivity		0.25	W/(K*m)	ISO 22007-4:2008

Electrical properties

parameter	value	unit	norm	comment
surface resistivity	10 ¹⁴	Ω	-	
volume resistivity	10 ¹⁴	Ω*cm	-	

Other properties

parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.03 / 0.06	%	DIN EN ISO 62 1) (1) Ø ca. 50mm, h=13mm
Resistance to hot water/ bases	-	-	-	2) (2) - poor resistance
Resistance to weathering	(+)	-	-	3) (3) (+) limited resistance
Flammability (UL94)	listed (value at 0.4 and 1.5 mm)	HB		DIN IEC 60695-11-10;

