

TECANAT natural - Stock Shapes

Chemical Designation

PC (Polycarbonate)

Colour

white 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
- medical technology
- automotive industry

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	2200	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	69	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	69	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	6	%	DIN EN ISO 527-2	
Elongation at break	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% 5mm/min, 10 N	16 / 29	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	
Ball indentation hardness		128	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		149	°C	DIN 53765	1)
Melting temperature		n.a.	°C	DIN 53765	2)
Service temperature	short term	140	°C		3)
Service temperature	long term	120	°C		
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
Specific surface resistance		10 ¹⁴	Ω	DIN IEC 60093	
Specific volume resistance		10 ¹⁴	Ω*cm	DIN IEC 60093	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.03 / 0.06	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		-	-		2)
Resistance to weathering		(+)	-		3)
Flammability (UL94)	listed (value at 0.4 and 1.5 mm)	HB		DIN IEC 60695-11-10;	

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