

### Chemical Designation

PBT (Polybutylene terephthalate)

### Colour

grey-white opaque

### Density

1.46 g/cm<sup>3</sup>

### Fillers

glass fibres

### Main features

- high dimensional stability
- very high strength
- good chemical resistance
- very high stiffness
- good weldable and bondable
- not hot water resistant over 60°C

### Target Industries

- electronics
- mechanical engineering
- automotive industry

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	46	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	3400	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	46	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	5	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	6	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	78	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	3400	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	20/38/76	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2800	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7.5J	37	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU	5)
Shore hardness	D	77		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Melting temperature		224	°C	DIN EN ISO 11357	(1) Found in public sources.
Service temperature	short term	200	°C		(1) Individual testing regarding application conditions is mandatory.
Service temperature	long term	110	°C		
Thermal expansion (CLTE)	23-60°C, long.	8	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	10	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Specific heat		1.2	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.33	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 <sup>14</sup>	Ω	-	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.02 / 0.04	%	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) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	3)

