

### Chemical Designation

PBT (Polybutylene terephthalate)

### Colour

blue opaque

### Density

1.56 g/cm<sup>3</sup>

### Fillers

detectable filler

### Main features

- resistant to cleaning agents
- good chemical resistance
- food grade blue
- good dimensional stability
- good impact strength
- metal detectable
- x-ray opaque

### Target Industries

- food engineering
- food processing
- conveyor technology
- packaging and paper machinery

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	62	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
Modulus of elasticity (tensile test)	1mm/min	3500	MPa	DIN EN ISO 527-2	1) (2) For flexural test: support span 64mm, norm specimen.
Tensile strength at yield	50mm/min	62	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
Elongation at yield (tensile test)	50mm/min	7	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
Elongation at break (tensile test)	50mm/min	9	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
Flexural strength	2mm/min, 10 N	98	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	22/41/77	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	1600	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	37	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	4	kJ/m <sup>2</sup>	DIN EN ISO 179-1eA	
Shore hardness	D	83		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature	DSC	39	°C	DIN EN ISO 11357	(1) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		224	°C	DIN EN ISO 11357	
Service temperature	short term	200	°C		1)
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	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.03 / 0.05	%	DIN EN ISO 62	1) (1) Ø ca. 50mm, h=13mm (2) - poor resistance (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.
Resistance to hot water/ bases		-			2)
Resistance to weathering		-			
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	3)

