

TECADUR PBT GF30 natural - Stock Shapes

Chemical Designation

PBT (Polybutylene terephthalate)

Colour

grey-white opaque

Density

1.46 g/cm³

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

- conveyor technology
- mechanical engineering
- automotive industry
- precision engineering
- electrical engineering

| Mechanical properties | parameter | value | unit | norm | comment |
|---------------------------------------|--------------------------|------------------|----------------------------------|----------------------|---|
| Modulus of elasticity (tensile test) | 1mm/min | 3400 | MPa | DIN EN ISO 527-2 | 1) (1) For tensile test: specimen type 1b |
| Tensile strength | 50mm/min | 46 | 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 | 50mm/min | 5 | % | DIN EN ISO 527-2 | (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. |
| Elongation at break | 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) (6) Specimen in 4mm thickness |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N | 3400 | MPa | DIN EN ISO 178 | |
| Compression strength | 1% / 2% 5mm/min, 10 N | 20 / 38 | 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 ² | DIN EN ISO 179-1eU | 5) |
| Ball indentation hardness | | 190 | MPa | ISO 2039-1 | 6) |
| Thermal properties | parameter | value | unit | norm | comment |
| Melting temperature | | 224 | °C | DIN 53765 | (1) Found in public sources. Individual testing regarding application conditions is mandatory. |
| Service temperature | short term | 200 | °C | | 1) |
| Service temperature | long term | 110 | °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. | 10 | 10 ⁻⁵ K ⁻¹ | 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 |
| Specific surface resistance | | 10 ¹⁴ | Ω | DIN IEC 60093 | |
| 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 (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) |

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