

TECAPET TF grey - Stock Shapes (rods, plates, tubes)

Chemical Designation

PET (Polyethylene terephthalate)

Colour

grey opaque

Density

1.43 g/cm³

Fillers

PTFE

Main features

- high strength
- good wear properties
- good chemical resistance
- high toughness
- good slide and wear properties
- high stiffness
- not hot water resistant over 60°C

Target Industries

- electronics
- food technology
- mechanical engineering
- automotive industry

| Mechanical properties | parameter | value | unit | norm | comment |
|---------------------------------------|-------------------------------|------------------|----------------------------------|----------------------|---|
| Tensile strength | 50mm/min | 78 | MPa | DIN EN ISO 527-2 | (1) For tensile test: specimen type 1b |
| Modulus of elasticity (tensile test) | 1mm/min | 3200 | MPa | DIN EN ISO 527-2 | (2) For flexural test: support span 64mm, norm specimen. |
| Tensile strength at yield | 50mm/min | 78 | MPa | DIN EN ISO 527-2 | (3) Specimen 10x10x10mm |
| Elongation at yield (tensile test) | 50mm/min | 4 | % | 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 | 119 | MPa | DIN EN ISO 178 | |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N | 3300 | MPa | DIN EN ISO 178 | |
| Compression strength | 1% / 2% / 5% 5mm/min, 10 N | 21/38/86 | MPa | EN ISO 604 | |
| Compression modulus | 5mm/min, 10 N | 2700 | MPa | EN ISO 604 | |
| Impact strength (Charpy) | max. 7,5J | 42 | kJ/m ² | DIN EN ISO 179-1eU | |
| Shore hardness | D | 82 | | DIN EN ISO 868 | |
| Thermal properties | parameter | value | unit | norm | comment |
| Glass transition temperature | | 82 | °C | DIN EN ISO 11357 | (1) Found in public sources. |
| Melting temperature | | 249 | °C | DIN EN ISO 11357 | (2) Found in public sources. |
| Service temperature | short term | 170 | °C | | (2) Individual testing regarding application conditions is mandatory. |
| 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 | | 1.1 | J/(g*K) | ISO 22007-4:2008 | |
| Thermal conductivity | | 0.30 | 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) | 0.02 / 0.03 | % | DIN EN ISO 62 | (1) Ø ca. 50mm, h=13mm |
| Resistance to hot water/ bases | | - | - | - | (2) - poor resistance |
| Resistance to weathering | | - | - | - | (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; | |

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