

TECAPRO MT black - Stock Shapes

Chemical Designation

PP (Polypropylene)

Colour

black opaque

Density

0.92 g/cm³

Fillers

heat stabilized

Main features

- heat stabilized
- biocompatible
- good chemical resistance
- hydrolysis and superheated steam resistant
- low moisture absorption
- good slide and wear properties

Target Industries

- medical technology
- food technology
- pharmaceutical industry

| Mechanical properties | parameter | value | unit | norm | comment |
|---------------------------------------|-------------------------------|------------------|----------------------------------|----------------------|---|
| Modulus of elasticity (tensile test) | 1mm/min | 2000 | MPa | DIN EN ISO 527-2 | 1) (1) For tensile test: specimen type 1b |
| Tensile strength | 50mm/min | 37 | MPa | DIN EN ISO 527-2 | (2) For flexural test: support span 64mm, norm specimen. |
| Tensile strength at yield | 50mm/min | 37 | 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 | 34 | % | DIN EN ISO 527-2 | (5) For Charpy test: support span 64mm, norm specimen. |
| Flexural strength | 2mm/min, 10 N | 56 | MPa | DIN EN ISO 178 | (2) (6) Specimen in 4mm thickness |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N | 2000 | MPa | DIN EN ISO 178 | |
| Compression strength | 1% / 2% / 5% 5mm/min, 10 N | 16/26/49 | MPa | EN ISO 604 | 3) |
| Compression modulus | 5mm/min, 10 N | 1600 | MPa | EN ISO 604 | 4) |
| Impact strength (Charpy) | max. 7,5J | 160 | kJ/m ² | DIN EN ISO 179-1eU | 5) |
| Notched impact strength (Charpy) | max. 7,5J | 5 | kJ/m ² | DIN EN ISO 179-1eA | |
| Ball indentation hardness | | 100 | MPa | ISO 2039-1 | 6) |
| Thermal properties | parameter | value | unit | norm | comment |
| Glass transition temperature | | -10 | °C | DIN EN ISO 11357 | 1) (1) Found in public sources. |
| Melting temperature | | 161 | °C | DIN EN ISO 11357 | (2) Found in public sources. |
| Heat distortion temperature | HDT, Method A | 87 | °C | ISO-R 75 Method A | Individual testing regarding application conditions is mandatory. |
| Service temperature | short term | 140 | °C | | 2) |
| Service temperature | long term | 100 | °C | | |
| Thermal expansion (CLTE) | 23-60°C, long. | 13 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Thermal expansion (CLTE) | 23-100°C, long. | 14 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Electrical properties | parameter | value | unit | norm | comment |
| Specific surface resistance | | 10 ¹² | Ω | DIN IEC 60093 | (1) Due to the black colourant and moisture uptake of the material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise. |
| Specific volume resistance | | 10 ¹⁴ | Ω*cm | DIN IEC 60093 | 1) |
| Other properties | parameter | value | unit | norm | comment |
| Water absorption | 24h / 96h (23°C) | 0.01 / 0.02 | % | DIN EN ISO 62 | 1) (1) Ø ca. 50mm, h=13mm |
| Resistance to hot water/ bases | | (+) | - | | (2) (+) limited 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; | 3) |

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