

TECASON P MT XRO black - Stock Shapes (rods, plates, tubes)

Chemical Designation

PPSU (Polyphenylsulfone)

Colour

black opaque

Density

1.34 g/cm³

Fillers

barium sulfate

Main features

- x-ray opaque
- high thermal and mechanical capacity
- hydrolysis and superheated steam resistant
- good impact strength
- high stiffness
- high strength
- good chemical resistance
- high gamma radiation resistance

Target Industries

- medical technology

| Mechanical properties | parameter | value | unit | norm | comment |
|---------------------------------------|------------------|-----------|-------------------|----------------------|--|
| Tensile strength | 50mm/min | 77 | MPa | DIN EN ISO 527-2 | (1) For tensile test: specimen type 1b |
| Modulus of elasticity (tensile test) | 1mm/min | 2600 | MPa | DIN EN ISO 527-2 | 1) (2) For flexural test: support span 64mm, norm specimen. |
| Tensile strength at yield | 50mm/min | 77 | MPa | DIN EN ISO 527-2 | (3) For Charpy test: support span 64mm, norm specimen. |
| Elongation at yield (tensile test) | 50mm/min | 6 | % | DIN EN ISO 527-2 | n.b. = not broken |
| Elongation at break (tensile test) | 50mm/min | > 50 | % | DIN EN ISO 527-2 | (4) Specimen in 4mm thickness |
| Flexural strength | 2mm/min, 10 N | 107 | MPa | DIN EN ISO 178 | 2) |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N | 2400 | MPa | DIN EN ISO 178 | |
| Impact strength (Charpy) | max. 7.5J | n.b. | kJ/m ² | DIN EN ISO 179-1eU | 3) |
| Notched impact strength (Charpy) | max. 7.5J | 7 | kJ/m ² | DIN EN ISO 179-1eA | |
| Ball indentation hardness | | 139 | MPa | ISO 2039-1 | 4) |
| Thermal properties | parameter | value | unit | norm | comment |
| Glass transition temperature | | 218 | °C | DIN EN ISO 11357 | 1) (1) Found in public sources. |
| Service temperature | short term | 190 | °C | | 2) (2) Found in public sources. |
| Service temperature | long term | 170 | °C | | Individual testing regarding application conditions is mandatory. |
| Other properties | parameter | value | unit | norm | comment |
| Water absorption | 24h / 96h (23°C) | 0.1 / 0.2 | % | DIN EN ISO 62 | 1) (1) Ø ca. 50mm, h=13mm |
| Resistance to hot water/ bases | | + | - | | 2) (2) + good resistance |
| Resistance to weathering | | - | - | | 3) (3) - poor resistance |
| Flammability (UL94) | corresponding to | V0 | | DIN IEC 60695-11-10; | 4) (4) 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. |

Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values that can be used primarily for comparison purposes for material selection. These values are within the normal tolerance range of product properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. As the properties depend on the dimensions of the semi-finished products and the orientation in the component (esp. in reinforced grades), the material may not be used without a separate testing under individual circumstances. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. Data sheet values are subject to periodic review, the most recent update can be found at www.ensingerplastics.com. Technical changes reserved.