

# TECASON P MT ivory - Stock Shapes (rods, plates, tubes)

## Chemical Designation

PPSU (Polyphenylsulfone)

## Colour

ivory opaque

## Density

1.31 g/cm<sup>3</sup>

## Main features

- high thermal and mechanical capacity
- good heat deflection temperature
- hydrolysis and superheated steam resistant
- good impact strength
- high stiffness
- high strength
- good chemical resistance
- high gamma radiation resistance

## Target Industries

- medical technology
- chemical technology
- electronics
- food technology
- mechanical engineering
- automotive industry

| Mechanical properties                 | parameter                     | value            | unit                             | norm                 | comment  |
|---------------------------------------|-------------------------------|------------------|----------------------------------|----------------------|--|
| Tensile strength                      | 50mm/min                      | 81               | MPa                              | DIN EN ISO 527-2     | (1) For tensile test: specimen type 1b                                   |
| Modulus of elasticity (tensile test)  | 1mm/min                       | 2300             | MPa                              | DIN EN ISO 527-2     | 1) (2) For flexural test: support span 64mm, norm specimen.              |
| Tensile strength at yield             | 50mm/min                      | 81               | 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                      | > 50             | %                                | DIN EN ISO 527-2     | (5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken |
| Flexural strength                     | 2mm/min, 10 N                 | 107              | MPa                              | DIN EN ISO 178       | 2)   |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N                 | 2300             | MPa                              | DIN EN ISO 178       |  |
| Compression strength                  | 1% / 2% / 5%<br>5mm/min, 10 N | 18/30/66         | MPa                              | EN ISO 604           | 3)   |
| Compression modulus                   | 5mm/min, 10 N                 | 2000             | MPa                              | EN ISO 604           | 4)   |
| Impact strength (Charpy)              | max. 7,5J                     | n.b.             | kJ/m <sup>2</sup>                | DIN EN ISO 179-1eU   | 5)   |
| Notched impact strength (Charpy)      | max. 7,5J                     | 13               | 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          |                               | 218              | °C                               | DIN EN ISO 11357     | 1) (1) Found in public sources.  |
| Melting temperature                   |                               | n.a.             | °C                               | DIN EN ISO 11357     | 2) (2) n.a. = not applicable   |
| Service temperature                   | short term                    | 190              | °C                               |                      | 3) (3) Found in public sources.  |
| Service temperature                   | long term                     | 170              | °C                               |                      | Individual testing regarding application conditions is mandatory.        |
| Thermal expansion (CLTE)              | 23-60°C, long.                | 6                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |  |
| Thermal expansion (CLTE)              | 23-100°C, long.               | 6                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |  |
| Specific heat                         |                               | 1.1              | J/(g*K)                          | ISO 22007-4:2008     |  |
| Thermal conductivity                  |                               | 0.25             | W/(K*m)                          | ISO 22007-4:2008     |  |
| Electrical properties                 | parameter                     | value            | unit                             | norm                 | comment  |
| surface resistivity                   |                               | 10 <sup>14</sup> | Ω                                | -                    |  |
| volume resistivity                    |                               | 10 <sup>14</sup> | Ω*cm                             | -                    |  |
| 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)                   | listed (value at 0.75mm)      | V0               |                                  | DIN IEC 60695-11-10; |  |

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