

## TECAPEEK ST black - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PEKEKK  
(Polyetherketoneetherketoneketone)

### Colour

black opaque

### Density

1.32 g/cm<sup>3</sup>

### Main features

- high thermal and mechanical capacity
- very good chemical resistance
- good machinability
- good heat deflection temperature
- high dimensional stability
- low moisture absorption

### Target Industries

- chemical technology
- mechanical engineering
- automotive industry

| Mechanical properties                 | parameter                     | value            | unit                             | norm                 | comment  |
|---------------------------------------|-------------------------------|------------------|----------------------------------|----------------------|--|
| Tensile strength                      | 50mm/min                      | 134              | MPa                              | DIN EN ISO 527-2     | (1) For tensile test: specimen type 1b   |
| Modulus of elasticity (tensile test)  | 1mm/min                       | 4600             | MPa                              | DIN EN ISO 527-2     | 1) (2) For flexural test: support span 64mm, norm specimen.  |
| Tensile strength at yield             | 50mm/min                      | 134              | MPa                              | DIN EN ISO 527-2     | (3) Specimen 10x10x10mm  |
| Elongation at yield (tensile test)    | 50mm/min                      | 5                | %                                | DIN EN ISO 527-2     | (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.   |
| Elongation at break (tensile test)    | 50mm/min                      | 13               | %                                | DIN EN ISO 527-2     | (5) For Charpy test: support span 64mm, norm specimen.   |
| Flexural strength                     | 2mm/min, 10 N                 | 193              | MPa                              | DIN EN ISO 178       | 2) n.b. = not broken   |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N                 | 4600             | MPa                              | DIN EN ISO 178       |  |
| Compression strength                  | 1% / 2% / 5%<br>5mm/min, 10 N | 24/42/98         | MPa                              | EN ISO 604           | 3)   |
| Compression modulus                   | 5mm/min, 10 N                 | 3500             | 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                     | 4                | kJ/m <sup>2</sup>                | DIN EN ISO 179-1eA   |  |
| Shore hardness                        | D                             | 90               |                                  | DIN EN ISO 868       |  |
| Thermal properties                    | parameter                     | value            | unit                             | norm                 | comment  |
| Glass transition temperature          |                               | 165              | °C                               | DIN EN ISO 11357     | 1) (1) Found in public sources.  |
| Melting temperature                   |                               | 384              | °C                               | DIN EN ISO 11357     | (2) Found in public sources.   |
| Service temperature                   | short term                    | 300              | °C                               |                      | 2) Individual testing regarding application conditions is mandatory.   |
| Service temperature                   | long term                     | 260              | °C                               |                      |  |
| Thermal expansion (CLTE)              | 23-60°C, long.                | 5                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |  |
| Thermal expansion (CLTE)              | 23-100°C, long.               | 5                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |  |
| Thermal expansion (CLTE)              | 100-150°C, long.              | 6                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |  |
| Electrical properties                 | parameter                     | value            | unit                             | norm                 | comment  |
| surface resistivity                   |                               | 10 <sup>14</sup> | Ω                                | -                    |  |
| Other properties                      | parameter                     | value            | unit                             | norm                 | comment  |
| Water absorption                      | 24h / 96h (23°C)              | 0.02 / 0.03      | %                                | 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) (+) limited 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. |

→ TECAPEEK products are based on Victrex® PEEK polymer.

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