

## TECAPEEK GF30 natural - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PEEK (Polyetheretherketone)

### Colour

beige opaque

### Density

1.53 g/cm<sup>3</sup>

### Fillers

glass fibres

### Main features

- inherent flame retardant
- improved toughness
- very high creep resistant
- good chemical resistance
- hydrolysis and superheated steam resistant
- very high stiffness
- high dimensional stability
- resistance against high energy radiation

### Target Industries

- automotive industry
- chemical technology
- electronics
- oil and gas industry
- vacuum technology
- mechanical engineering
- aircraft and aerospace technology

| Mechanical properties                | parameter                     | value            | unit                             | norm                 | comment                                                |
|--------------------------------------|-------------------------------|------------------|----------------------------------|----------------------|--------------------------------------------------------|
| Tensile strength                     | 5mm/min                       | 113              | MPa                              | DIN EN ISO 527-2     | (1) For tensile test: specimen type 1b                 |
| Modulus of elasticity (tensile test) | 1mm/min                       | 6300             | MPa                              | DIN EN ISO 527-2     | (2) Specimen 10x10x10mm                                |
| Elongation at break (tensile test)   | 5mm/min                       | 5                | %                                | DIN EN ISO 527-2     | (3) For Charpy test: support span 64mm, norm specimen. |
| Compression strength                 | 1% / 2% / 5%<br>5mm/min, 10 N | 29/52/120        | MPa                              | EN ISO 604           | (2)                                                    |
| Impact strength (Charpy)             | max. 7,5J                     | 52               | kJ/m <sup>2</sup>                | DIN EN ISO 179-1eU   | (3)                                                    |
| Shore hardness                       | D                             | 90               |                                  | DIN EN ISO 868       |                                                        |
| Thermal properties                   | parameter                     | value            | unit                             | norm                 | comment                                                |
| Glass transition temperature         |                               | 147              | °C                               | DIN EN ISO 11357     | (1)                                                    |
| Melting temperature                  |                               | 341              | °C                               | DIN EN ISO 11357     |                                                        |
| Service temperature                  | short term                    | 300              | °C                               |                      | (2)                                                    |
| Service temperature                  | long term                     | 260              | °C                               |                      |                                                        |
| Thermal expansion (CLTE)             | 23-60°C, long.                | 4                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |                                                        |
| Thermal expansion (CLTE)             | 23-100°C, long.               | 4                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |                                                        |
| Thermal expansion (CLTE)             | 100-150°C, long.              | 5                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |                                                        |
| Specific heat                        |                               | 1.0              | J/(g*K)                          | ISO 22007-4:2008     |                                                        |
| Thermal conductivity                 |                               | 0.35             | W/(K*m)                          | ISO 22007-4:2008     |                                                        |
| Electrical properties                | parameter                     | value            | unit                             | norm                 | comment                                                |
| surface resistivity                  |                               | 10 <sup>14</sup> | Ω                                | -                    | (1) Specimen in 1mm thickness                          |
| volume resistivity                   |                               | 10 <sup>14</sup> | Ω*cm                             | -                    |                                                        |
| Dielectric strength                  | 23°C, 50% r.h.                | 36               | kV/mm                            | ISO 60243-1          | (1)                                                    |
| Other properties                     | parameter                     | value            | unit                             | norm                 | comment                                                |
| Water absorption                     | 24h / 96h (23°C)              | 0.02 / 0.03      | %                                | DIN EN ISO 62        | (1)                                                    |
| Resistance to hot water/ bases       |                               | +                |                                  | -                    | (2)                                                    |
| Resistance to weathering             |                               | -                |                                  | -                    | (3)                                                    |
| Flammability (UL94)                  | corresponding to              | V0               |                                  | DIN IEC 60695-11-10; | (4)                                                    |

→ TECAPEEK products may be based on Victrex® PEEK or Solvay KetaSpire® polymer

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