

TECAPEEK CMF white - Stock Shapes (rods, plates, tubes)

| Chemical Designation | Main features | | | | Target Industries |
|---------------------------------------|---|------------------|----------------------------------|----------------------|---|
| PEEK (Polyetheretherketone) | → good machinability → high dimensional stability → high strength → high stiffness → low thermal expansion → low burring | | | | → semiconductor technology → electronics → mechanical engineering → vacuum technology |
| Colour | white opaque | | | | |
| Density | 1.65 g/cm ³ | | | | |
| Fillers | ceramic | | | | |
| Mechanical properties | parameter | value | unit | norm | comment |
| Tensile strength | 50mm/min | 105 | MPa | DIN EN ISO 527-2 | |
| Modulus of elasticity (tensile test) | 1mm/min | 5500 | MPa | DIN EN ISO 527-2 | 1) |
| Tensile strength at yield | 50mm/min | 102 | MPa | DIN EN ISO 527-2 | |
| Elongation at yield (tensile test) | 50mm/min | 3 | % | DIN EN ISO 527-2 | |
| Elongation at break (tensile test) | 50mm/min | 4 | % | DIN EN ISO 527-2 | |
| Flexural strength | 2mm/min, 10 N | 170 | MPa | DIN EN ISO 178 | 2) |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N | 5500 | MPa | DIN EN ISO 178 | |
| Compression strength | 1% / 2% / 5% 5mm/min, 10 N | 25/46/105 | MPa | EN ISO 604 | 3) |
| Compression modulus | 5mm/min, 10 N | 4300 | MPa | EN ISO 604 | 4) |
| Impact strength (Charpy) | max. 7,5J | 65 | kJ/m ² | DIN EN ISO 179-1eU | 5) |
| Shore hardness | D | 90 | | DIN EN ISO 868 | |
| Thermal properties | parameter | value | unit | norm | comment |
| Glass transition temperature | | 151 | °C | DIN EN ISO 11357 | 1) |
| Melting temperature | | 339 | °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. | 5 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Thermal expansion (CLTE) | 23-100°C, long. | 5 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Thermal expansion (CLTE) | 100-150°C, long. | 6 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Specific heat | | 1.0 | J/(g*K) | ISO 22007-4:2008 | |
| Thermal conductivity | | 0.38 | W/(K*m) | ISO 22007-4:2008 | |
| Electrical properties | parameter | value | unit | norm | comment |
| surface resistivity | Silver electrode, 23°C, 12% r.h. | 10 ¹⁴ | Ω | - | 1) |
| volume resistivity | Silver electrode, 23°C, 12% r.h. | 10 ¹⁴ | Ω*cm | - | (1) Specimen in 20mm thickness (2) Specimen in 1mm thickness |
| Dielectric strength | 23°C, 50% r.h. | 57 | kV/mm | ISO 60243-1 | 2) |
| Resistance to tracking (CTI) | Platin electrode, 23°C, 50% r.h., solvent A | 175 | V | DIN EN 60112 | |
| 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 (2) + good resistance (3) - poor resistance (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. |
| Resistance to hot water/ bases | | + | - | | 2) |
| Resistance to weathering | | - | - | | 3) |
| Flammability (UL94) | corresponding to | V0 | | DIN IEC 60695-11-10; | 4) |

→ TECAPEEK products are based on Victrex® PEEK polymer.

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