# TECATEC PEI CF50 T200 CP/IP/OS V01 natural - Composite Materials

**Chemical Designation**
PEI (Polyetherimide)

**Colour**
natural

**Density**
1.52 g/cm$^3$

**Fillers**
carbon fibres

**Main features**
- inherent flame resistance
- good surface appearance
- excellent mechanical properties
- continuous service temperature up to 150 °C

**Target Industries**
- automotive industry
- aircraft and aerospace technology
- mechanical engineering
- oil and gas industry
- safety engineering
- sporting goods

The material is in the phase of further development. The characteristic values of this product may change.

| General material information | condition | value | unit | test method | | comment |
|---|---|---|---|---|---|---|
| Fibre type | | Carbon HT 3k | | - | | |
| Fibre architecture | | Twill 2/2 | | - | | |
| Fibre areal weight | | 200 | g/m² | - | | |
| Fibre volume content | | 50 | % | - | | |
| Resin weight content | | 42.7 | % | - | | |
| Areal weight finished product | | 345 | g/m² | - | | |
| Material widths | | 1270 | mm | - | | |
| ply thickness (consolidated) | | 0.22 | mm | - | | |

| Mechanical properties | condition | value | unit | test method | | comment |
|---|---|---|---|---|---|---|
| Tensile strength | | 650 | MPa | ISO 527-4 | 1) | (1) measured on pressed plate<br>(2) measured on pressed plate<br>(3) measured on pressed plate<br>(4) measured on pressed plate<br>(5) measured on pressed plate<br>(6) measured on pressed plate |
| Modulus of elasticity (tensile test) | | 56000 | MPa | ISO 527-4 | 2) | |
| Flexural strength | | 770 | MPa | ISO 14125 | 3) | |
| Modulus of elasticity (flexural test) | | 46000 | MPa | ISO 14125 | 4) | |
| Compression strength | | 630 | MPa | ISO 14126 | 5) | |
| Compression modulus | | 52000 | MPa | ISO 14126 | 6) | |

| Thermal properties | condition | value | unit | test method | | comment |
|---|---|---|---|---|---|---|
| Glass transition temperature | | 217 | °C | - | | (1) approximate value |
| Service temperature | short term | 200 | °C | - | | |
| Service temperature | long term | 180 | °C | - | | |
| Thermal expansion (CLTE) | in 0° and 90° direction | 5 | $10^{-6}$ K$^{-1}$ | - | 1) | |

| Predrying | condition | value | unit | test method | comment |
|---|---|---|---|---|---|
| Drying temperature | | 120 | °C | - | |
| Drying time | | 2-3 | h | - | |

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