

TECACOMP PEEK 450 CF30 black 1014836 - Compounds

Chemical Designation

PEEK (Polyetheretherketone)

Colour

black

Density

1.4 g/cm³

Fillers

carbon fibres

Main features

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

| <i>Mechanical properties</i> | | <i>parameter</i> | <i>value</i> | <i>unit</i> | <i>norm</i> | <i>comment</i> |
|--------------------------------------|--|------------------|--------------|-------------------|--------------------|-------------------------|
| Tensile strength | | | 235 | MPa | DIN EN ISO 527-1 | |
| Modulus of elasticity (tensile test) | | | 22600 | MPa | DIN EN ISO 527-1 | |
| Elongation at break (tensile test) | | | 1,8 | % | DIN EN ISO 527-1 | |
| Impact strength (Charpy) | | | 45 | kJ/m ² | DIN EN ISO 179-1eU | |
| <i>Thermal properties</i> | | <i>parameter</i> | <i>value</i> | <i>unit</i> | <i>norm</i> | <i>comment</i> |
| Glass transition temperature | | | 143 | °C | - | 1) (1) literature value |
| Melting temperature | | | 343 | °C | - | 2) (2) literature value |
| Heat distortion temperature | | | 328 | °C | ISO-R 75 Method A | 3) (3) literature value |
| Service temperature | | short term | 300 | °C | - | 4) (4) literature value |
| Service temperature | | long term | 260 | °C | - | |
| <i>Other properties</i> | | <i>parameter</i> | <i>value</i> | <i>unit</i> | <i>norm</i> | <i>comment</i> |
| <i>Processing parameter</i> | | <i>parameter</i> | <i>value</i> | <i>unit</i> | <i>norm</i> | <i>comment</i> |
| processing temperatures | | | 360 - 410 | °C | - | |
| Mould temperature | | | 170 - 210 | °C | - | |

→ This material can be processed as a thermoplastic taking the normal technical provisions into account. The above mentioned information refers exclusively to the injection moulding process.

→ Processing should be carried out as gently as possible, in order to maintain the maximum fibre length in the component. Back pressure and injection rate should be adjusted to the component geometry accordingly. The optimum processing temperature depends upon the respective geometry of the moulded part and can be different from machine to machine.

| <i>Predrying</i> | | <i>parameter</i> | <i>value</i> | <i>unit</i> | <i>norm</i> | <i>comment</i> |
|---------------------------------------|--|------------------|--------------|-------------|-------------|----------------|
| Permissible residual moisture content | | | < 0,02 | % | - | |
| Drying temperature | | | 150 - 160 | °C | - | |
| Drying time | | | 2 - 4 | h | - | |

→ To achieve optimum mechanical properties, it is recommended to pre-dry the material with the above mentioned parameters.

→ Information on storage and shelf life: The granules must be stored in dry, normally tempered rooms and in closed containers. For moisture-sensitive materials, the granules must be sealed airtight. Protection against direct sunlight must be guaranteed. The granules are usually subject to the requirements of no shelf life limitation. Shelf Life may be limited by some additives.

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