

# TECACOMP PEEK 450 ELS nano black 1014992 - Compounds

## Chemical Designation

PEEK (Polyetheretherketone)

## Colour

black

## Density

1.33 g/cm<sup>3</sup>

| <i>Mechanical properties</i>         | <i>parameter</i> | <i>value</i>          | <i>unit</i>       | <i>norm</i>        | <i>comment</i> |
|--------------------------------------|------------------|-----------------------|-------------------|--------------------|----------------|
| Tensile strength                     |                  | 95                    | MPa               | DIN EN ISO 527-1   |                |
| Modulus of elasticity (tensile test) |                  | 4500                  | MPa               | DIN EN ISO 527-1   |                |
| Elongation at break (tensile test)   |                  | 3                     | %                 | DIN EN ISO 527-1   |                |
| Impact strength (Charpy)             |                  | 80                    | kJ/m <sup>2</sup> | 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                | DIN 53765          |                |
| Melting temperature                  |                  | 343                   | °C                | DIN 53765          |                |
| Service temperature                  | long term        | 260                   | °C                | -                  |                |
| Service temperature                  | short term       | 300                   | °C                | -                  |                |
| <i>Electrical properties</i>         | <i>parameter</i> | <i>value</i>          | <i>unit</i>       | <i>norm</i>        | <i>comment</i> |
| surface resistivity                  |                  | 4,2 x 10 <sup>6</sup> | Ω                 | DIN EN 61340-2-3   |                |
| volume resistivity                   |                  | 4,2 x 10 <sup>6</sup> | Ω*m               | DIN EN 61340-2-3   |                |
| <i>Processing parameter</i>          | <i>parameter</i> | <i>value</i>          | <i>unit</i>       | <i>norm</i>        | <i>comment</i> |
| Cylinder/processing temperature      |                  | 360 - 400             | °C                | -                  |                |
| Mould temperature                    |                  | 160 - 210             | °C                | -                  |                |
| Material temperature                 |                  | 390 - 400             | °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.

→ 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 |                  | < 0,1        | %           | -           |                |
| Drying temperature                    |                  | 140 - 160    | °C          | -           |                |
| Drying time                           |                  | 4 - 6        | 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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