

## TECACOMP PEEK TRM PVX SIC grey 1047410 - Compounds

### Chemical Designation

PEEK (Polyetheretherketone)

### Colour

grey

### Density

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

### Fillers

carbon fibres, graphite, PTFE

### Main features

- very good bearing and wear properties
- high creep resistance
- high heat deflection temperature
- very good chemical resistance
- hydrolysis and superheated steam resistant
- high dimensional stability
- low moisture absorption
- inherent flame retardant

### Target Industries

- mechanical engineering

| Mechanical properties                | parameter                                    | value     | unit              | norm               | comment  |
|--------------------------------------|--|-----------|-------------------|--------------------|----------|
| Tensile strength                     |  | 115       | MPa               | DIN EN ISO 527-1   |          |
| Modulus of elasticity (tensile test) |  | 10500     | MPa               | DIN EN ISO 527-1   |          |
| Elongation at break (tensile test)   |  | 2,1       | %                 | DIN EN ISO 527-1   |          |
| Impact strength (Charpy)             |  | 23        | kJ/m <sup>2</sup> | DIN EN ISO 179-1eU |          |
| Thermal properties                   | parameter                                    | value     | unit              | norm               | comment  |
| Glass transition temperature         |  | 143       | °C                | -                  | 1)       |
| Melting temperature                  |  | 343       | °C                | -                  | 2)       |
| Heat distortion temperature          |  | 293       | °C                | ISO-R 75 Method A  | 3)<br>4) |
| Service temperature                  | short term                                   | 300       | °C                | -                  | 3)       |
| Service temperature                  | long term                                    | 260       | °C                | -                  | 4)       |
| Other properties                     | parameter                                    | value     | unit              | norm               | comment  |
| Water absorption                     | 23 °C / 50 % relative humidity to saturation | < 0,1     | %                 | DIN EN ISO 62      |          |
| Molding shrinkage                    | longitudinal                                 | 0,4       | %                 | DIN EN ISO 294-4   |          |
| Molding shrinkage                    | transverse                                   | 1,2       | %                 | DIN EN ISO 294-4   |          |
| Processing parameter                 | parameter                                    | value     | unit              | norm               | comment  |
| 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.

| Pre-drying                            | parameter | value     | unit | norm | comment |
|---------------------------------------|-----------|-----------|------|------|---------|
| 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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