

## TECACOMP PEEK 450 GF30 natural 1053920 - Compounds

### Chemical Designation

PEEK (Polyetheretherketone)

### Colour

natural

### Density

1.52 g/cm<sup>3</sup>

### Fillers

glass fibres

### Main features

- high stiffness
- good chemical resistance
- high creep resistance
- hydrolysis and superheated steam resistant
- high dimensional stability
- low moisture absorption
- inherent flame retardant
- high viscosity

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Tensile strength		190	MPa	DIN EN ISO 527-1	
Modulus of elasticity (tensile test)		10800	MPa	DIN EN ISO 527-1	
Elongation at break (tensile test)		3,9	%	DIN EN ISO 527-1	
Impact strength (Charpy)		78	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	-	1)
Melting temperature		343	°C	-	2)
Heat distortion temperature		320	°C	ISO-R 75 Method A	3) 4)
Service temperature	short term	300	°C	-	3)
Service temperature	long term	260	°C	-	4)
<i>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
surface resistivity		10 <sup>14</sup>	Ω	DIN IEC 60093	
volume resistivity		10 <sup>12</sup>	Ω*cm	DIN IEC 60093	
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Water absorption	23 °C / 50 % relative humidity to saturation	< 0,1	%	DIN EN ISO 62	
Molding shrinkage	longitudinal	0,5	%	DIN EN ISO 294-4	
Molding shrinkage	transverse	1,1	%	DIN EN ISO 294-4	
<i>Processing parameter</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Cylinder/processing temperature		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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