

TECACOMP PEEK 450 XR brown 1014826 - Compounds

Chemical Designation

PEEK (Polyetheretherketone)

Colour

brown

Density

1.42 g/cm³

Fillers

carbon fibres

Main features

- very 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

Target Industries

- automotive industry

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Tensile strength		207	MPa	DIN EN ISO 527-1	
Modulus of elasticity (tensile test)		16000	MPa	DIN EN ISO 527-1	
Elongation at break (tensile test)		2,2	%	DIN EN ISO 527-1	
Impact strength (Charpy)		47	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		321	°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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