

TECACOMP PEEK XT TRM XS black 1061170 - Compounds

Chemical Designation

PEEK (Polyetheretherketone)

Colour

black

Density

1.42 g/cm³

Fillers

carbon fibres, graphite

Main features

- very good mechanical strength
- very good bearing and wear properties
- high thermal and mechanical capacity
- high creep resistance
- very high heat deflection temperature
- very good chemical resistance
- hydrolysis and superheated steam resistant
- high dimensional stability

Target Industries

- automotive industry
- mechanical engineering

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Tensile strength		177	MPa	DIN EN ISO 527-1	
Modulus of elasticity (tensile test)		18100	MPa	DIN EN ISO 527-1	
Elongation at break (tensile test)		1,8	%	DIN EN ISO 527-1	
Impact strength (Charpy)		35	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		170	°C	-	1) (1) literature value
Melting temperature		385	°C	-	2) (2) literature value
Heat distortion temperature		345	°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>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
surface resistivity		10 ⁷	Ω	DIN EN ISO 3915	
volume resistivity		10 ⁹	Ω*m	DIN EN ISO 3915	
<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 up to saturation	< 0,1	%	DIN EN ISO 62	
Molding shrinkage	longitudinal	0,2	%	DIN EN ISO 294-4	
Molding shrinkage	transverse	1,2	%	DIN EN ISO 294-4	
<i>Processing parameter</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
processing temperatures		390 - 425	°C	-	
Mould temperature		190 - 230	°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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