

Chemical Designation

PEEK (Polyetheretherketone)

Colour

natural

Density

1.43 g/cm³

Fillers

glass fibres

Main features

- moderate stiffness
- high strength
- good heat deflection temperature
- high creep resistance
- very good chemical resistance
- hydrolysis and superheated steam resistant
- for injection moulding

Target Industries

- mechanical engineering
- chemical technology
- automotive industry
- vacuum technology

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Tensile strength		160	MPa	DIN EN ISO 527-1	
Modulus of elasticity (tensile test)		8200	MPa	DIN EN ISO 527-1	
Elongation at break (tensile test)		3,6	%	DIN EN ISO 527-1	
Impact strength (Charpy)		62	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
Deflection temperature		309	°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 ¹³	Ω	DIN EN 61340-2-3	
volume resistivity		10 ¹⁴	Ω*cm	DIN EN 61340-2-3	

<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Molding shrinkage	longitudinal	0,8	%	DIN EN ISO 294-4	
Molding shrinkage	transverse	1,3	%	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		360 - 400	°C	-	
Mould temperature		160 - 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		< 0,1	%	-	
Drying temperature		120 - 140	°C	-	
Drying time		4	h	-	

