Technical Specification Sheets

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Chemical Designation
PEEK (Polyetheretherketone)

Colour
black

Density
1.35 g/cm^3

Fillers
carbon fibres

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

Target Industries
- mechanical engineering
- oil and gas industry
- chemical technology
- automotive industry
- vacuum technology

Mechanical properties	parameter	value	unit	norm		comment
Tensile strength		211	MPa	DIN EN ISO 527-1		
Modulus of elasticity (tensile test)		17200	MPa	DIN EN ISO 527-1		
Elongation at break (tensile test)		2,1	%	DIN EN ISO 527-1		
Impact strength (Charpy)		40	kJ/m^2	DIN EN ISO 179-1eU		

Thermal properties	parameter	value	unit	norm		comment
Glass transition temperature		143	°C	-	1)	(1) literature value (2) literature value (3) literature value (4) literature value
Melting temperature		343	°C	-	2)	
Heat distortion temperature		329	°C	ISO-R 75 Method A		
Service temperature	long term	260	°C	-	3)	
Service temperature	short term	300	°C	-	4)	

Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10^5	Ω	DIN EN 61340-2-3	
volume resistivity		10^5	Ω*cm	DIN EN 61340-2-3	

Other properties	parameter	value	unit	norm	comment
Molding shrinkage	longitudinal	0,4	%	DIN EN ISO 294-4	
Molding shrinkage	transverse	1,0	%	DIN EN ISO 294-4	

Processing parameter	parameter	value	unit	norm	comment
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.

Predrying	parameter	value	unit	norm	comment
Permissible residual moisture content		< 0,1	%	-	
Drying temperature		120 - 140	°C	-	
Drying time		4	h	-	