TECACOMP PEEK GF20 natural 1077742 - Compounds

Chemical Designation
PEEK (Polyetheretherketone)

Colour
natural

Density
1.43 g/cm^3

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

Mechanical properties	condition	value	unit	test method	comment
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	

Thermal properties	condition	value	unit	test method		comment
Glass transition temperature		143	°C	-	1)	(1) literature value (2) literature value (3) literature value (4) literature value
Melting temperature		343	°C	-	2)	
Deflection temperature		309	°C	ISO-R 75 Method A		
Service temperature	short term	300	°C	-	3)	
Service temperature	long term	260	°C	-	4)	

Electrical properties	condition	value	unit	test method	comment
surface resistivity		10^{13}	Ω	DIN EN 61340-2-3	
volume resistivity		10^{14}	Ω*cm	DIN EN 61340-2-3	

Other properties	condition	value	unit	test method	comment
Molding shrinkage	longitudinal	0,8	%	DIN EN ISO 294-4	
Molding shrinkage	transverse	1,3	%	DIN EN ISO 294-4	

Processing parameter	condition	value	unit	test method	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	condition	value	unit	test method	comment
Permissible residual moisture content		< 0,1	%	-	
Drying temperature		120 - 140	°C	-	
Drying time		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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