

Chemical Designation

PEEK (Polyetheretherketone)

Colour

grey

Density

1.65 g/cm³

Fillers

mineral filler

Main features

- developed for the LPKF-LDS® process
- high adhesive strength
- very good chemical resistance
- inherent flame retardant
- good heat deflection temperature
- low moisture absorption

Target Industries

- electrical engineering
- mechanical engineering
- automotive industry

Mechanical properties	parameter	value	unit	norm	comment
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Tensile strength		103	MPa	DIN EN ISO 527-1	
Modulus of elasticity (tensile test)		10700	MPa	DIN EN ISO 527-1	
Elongation at break (tensile test)		2,2	%	DIN EN ISO 527-1	
Impact strength (Charpy)		30	kJ/m ²	DIN EN ISO 179-1eU	

Thermal properties	parameter	value	unit	norm	comment
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Glass transition temperature		143	°C	-	1)
Melting temperature		343	°C	-	2)
Heat distortion temperature		207	°C	ISO-R 75 Method A	(3) literature value (4) literature value
Service temperature	short term	300	°C	-	3)
Service temperature	long term	260	°C	-	4)
Thermal expansion (CLTE)	longitudinal (at 23 - 100 °C)	18	10 ⁻⁶ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	transverse (at 23 - 100 °C)	31	10 ⁻⁶ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	longitudinal (at 200 - 260 °C)	47	10 ⁻⁶ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	transverse (at 200 - 260 °C)	87	10 ⁻⁶ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	longitudinal (at 260 - 300 °C)	63	10 ⁻⁶ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	transverse (at 260 - 300 °C)	110	10 ⁻⁶ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal conductivity	in-plane	1,2	W/(K*m)	ISO 22007-4:2008	
Thermal conductivity	through-plane	0,5	W/(K*m)	ISO 22007-4:2008	

Electrical properties	parameter	value	unit	norm	comment
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surface resistivity		10 ¹⁴	Ω	DIN EN 61340-2-3	
volume resistivity		10 ¹⁴	Ω*m	DIN EN 61340-2-3	
Dielectric loss factor	test frequency of 1 GHz	0,002		-	
Dielectric constant	test frequency of 1 GHz	3,6		-	

Other properties	parameter	value	unit	norm	comment
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Water absorption	23 °C / 50 % relative humidity up to saturation	0,04	%	DIN EN ISO 62	(1) No listing at UL (Yellow Card).
Molding shrinkage	longitudinal	0,6	%	DIN EN ISO 294-4	
Molding shrinkage	transverse	0,6	%	DIN EN ISO 294-4	
Flammability (UL94)	at 0,9 mm	V0		DIN IEC 60695-11-10;	1)

Processing parameter	parameter	value	unit	norm	comment
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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.

→ 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
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Permissible residual moisture content		< 0,02	%	-	
Drying temperature		160	°C	-	
Drying time		4	h	-	



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