

TECAPEEK ELS CF30 black - Stock Shapes (rods, plates, tubes)

Chemical Designation

PEEK (Polyetheretherketone)

Colour

black opaque

Density

1.38 g/cm³

Fillers

carbon fibres

Main features

- good heat deflection temperature
- good chemical resistance
- inherent flame retardant
- hydrolysis and superheated steam resistant
- very high stiffness
- very high creep resistant
- high dimensional stability
- resistance against high energy radiation

Target Industries

- conveyor technology
- semiconductor technology
- mechanical engineering
- aircraft and aerospace technology
- chemical technology
- textile industry
- automotive industry
- vacuum technology

Mechanical properties

	parameter	value	unit	norm	comment
Tensile strength	50mm/min	122	MPa	DIN EN ISO 527-2	
Modulus of elasticity (tensile test)	1mm/min	6800	MPa	DIN EN ISO 527-2	1)
Tensile strength at yield	50mm/min	122	MPa	DIN EN ISO 527-2	
Elongation at yield (tensile test)	50mm/min	7	%	DIN EN ISO 527-2	
Elongation at break (tensile test)	50mm/min	7	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	193	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	6800	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	25 / 47	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	5000	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	62	kJ/m ²	DIN EN ISO 179-1eU	5)
Shore hardness	D	91		DIN EN ISO 868	

Thermal properties

	parameter	value	unit	norm	comment
Glass transition temperature		147	°C	DIN EN ISO 11357	1)
Melting temperature		341	°C	DIN EN ISO 11357	
Service temperature	short term	300	°C		2)
Service temperature	long term	260	°C		
Thermal expansion (CLTE)	23-60°C, long.	4	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	4	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150°C, long.	6	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.2	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.66	W/(K*m)	ISO 22007-4:2008	

Electrical properties

	parameter	value	unit	norm	comment
surface resistivity		10 ² - 10 ⁴	Ω	DIN EN 61340-2-3	

Other properties

	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.02 / 0.03	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+	-		2)
Resistance to weathering		-	-		3)
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)

→ TECAPEEK products are based on Victrex® PEEK polymer.

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