TECAPEEK TF 10

Chemical Designation:	Polyetheretherketone
DIN Abbreviation:	PEEK
Colour, Filler:	natural 10% PTFE

TECAPEEK TF is a semi-crystalline high performance thermoplastic with PTFE for good sliding and friction properties for demanding applications.

Main characteristics:

- Very good sliding and friction characteristic properties High thermal mechanical bearing strength
- Hydrolysis resistant, even against superheated steam
- High thermal – mechanical properties
- Good machinability
- Flame retardant UL94 V-0
- Good chemical resistance
- Electrically insulating

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Preferred fields: Mechanical and automotive engineering, transport and conveyor technology, textile, packaging and paper processing machinery, precision and chemical engineering, aircraft and aerospace industry, plant construction.

Applications:

- Friction bearings
- Static / dynamic high bearing strength parts
- Slide shoes
- Chain bearings
- Sealing rings
- Wear strips
- Gears
- Thrust washers
- Ball valve seats
- Slide rings
- Piston rings

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The following information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of certain properties or the suitability for a specific application. Existing commercial patents must be observed. A definitive quality guarantee is given in our general conditions of sales. Unless otherwise stated, these values represent averages taken from injection moulding samples. We reserve the right of technical alterations.

Properties	Unit	Test method DIN EN ISO / ASTM	
Mechanical			
Density	g/cm³	527 / D 792	1.35
Tensile strength at yield	MPa	527 / D 638	
Tensile strength at break	MPa	527 / D 638	80
Elongation at break	%	527 / D 638	15
Modulus of elasticity in tension	MPa	527 / D 638	3000
Modulus of elasticity in flexure	MPa	178 / D 790	
Ball indentation hardness	MPa	2039 /1	
Impact strength	kJ/m^2	179 / D 256	
Creep rupture strength after 1000 hrs with static load	MPa		
Time yield limit for 1% elongation after 1000 hrs.	MPa		
Coefficient of friction against hardened and ground steel p = 0,05 N/mm², v = 0,6 m/s	–		0.08
Wear conditions as above	µm/km		
Thermal			
Crystalline melting point	°C	DIN 53 736	343
Glass transition temperature	°C	DIN 53 736	143
Heat distortion temperature Method A Method B	 °C °C	 R 75 R 75	

Properties	Unit	Test method DIN EN 1S0 / ASTM	
Thermal			
Max. service temperature short term long term	 °C °C		 300 260
Coefficient of thermal conductivity	W/(m · K)		
Specific heat	J/(g · K)		
Coefficient of thermal expansion	10^{-5}/K	DIN 53 483 / D 696	
Electrical			
Dielectric constant at 10^5 Hz		DIN 53 483	
Dielectric loss factor at 10^5 Hz		DIN 53 483	
Specific volume resistance	Ω · cm	DIN 60093	
Surface resistance	Ω	DIN 60093	
Dielectric strength 1 mm	kV/mm	ASTM 149	
Tracking resistance		53 480	
Miscellaneous			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % relative humidity)	%	62	0.1
Water absorption at saturation at 23 °C	%	62	0.1
Resistance to hot water, washing soda			resistant
Flammability according to UL standard 94			VO
Resistance to weathering			

ENSINGER: Production and stock programme

- Semi-finished product, finished parts, injection moulded parts and profiles in more than 500 materials and modifications.
- Engineering plastics: PA extruded or cast, POM, PC, PET, PBT, PPE, PP, PE
- High temperature plastics: PI, TPI, PEEK, PPS, PES, PPSU, PEI, PSU, PVDF, PCTFE, PTFE
- Stock length: Standard 3 metres. Cast rod and sheet 2 mts . Tube up to 3.5 mts. PE, PP, PVC, and PTFE 2 mts
- Pressed/sintered semi-finished product: PI, PEEK, PPS, PTFE/PI and modifications, as well as PCTFE in special sizes ie, large discs, tubes and rings with diameters up to about 1400 mm
- Material modifications: eg glass, carbon and aramid fibre, talc, MoS_2, graphite, PTFE, PE, silicone oil, internal lubrication