ENSINGER
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Material Data Sheet, December 2007

TECAPEEK TF 10

Chemical Designation :	Polyetheretherketone
DIN-Abbreviation:	PEEK TF 10
Colours, fillers:	natural, 10% PTFE

Main features

- very good sliding properties
- resistant to hydrolysis and superheated steam
- high thermal and mechanical capacity
- easily machined

Preferred Fields

- mechanical engineering
- transport and conveyor technology
- automotive engineering
- packaging and paper processing machinery

Applications

Friction bearings, static/dynamic high loaded parts, gears, slide shoes, ball valve seats, chain bearings, pump housings, control pistons, pump impellers

Properties

Mechanical	dry / moist		standard
Tensile strength at yield	80	MPa	DIN EN ISO 527
Elongation at yield		%	
Tensile strength at break		MPa	
Elongation at break	15	%	DIN EN ISO 527
Modulus of elasticity in tension	3000	MPa	DIN EN ISO 527
Modulus of elasticity after flexural test		MPa	

Hardness			
Impact strength 23° C (Charpy)	n.b.	KJ/m²	DIN EN ISO 179 (Charpy)
Creep rupture strength after 1000 h with static load		MPa	
Time yield limit for 1% elongation after 1000 h		MPa	
Co−efficient of friction p = 0,05 N/mm²v=0,6 m/s on steel, hardened and ground	0,08		
Wear p = 0,05 N/mm²v=0,6 m/s on steel, hardened and ground		µm/km	

Thermal	**dry / moist**		**standard**
Crystalline melting point		°C	
Glass transition temperature	143	°C	DIN 53 765
Heat distortion temperature HDT, Method A		°C	
Heat distortion temperature HDT, Method B		°C	
Max. service temperature			
short term	300	°C	
long term	260	°C	
Thermal conductivity (23° C)		W/(K·m)	
Specific heat (23° C)		J/g.K	
Coefficient of thermal expansion (23−55°C)		10^{-5} 1/K	

Properties

Electrical	dry / moist		standard
Dielectric constant (10^6 Hz)			
Dielectric loss factor (10^6 Hz)			
Specific volume resistance		Ω*cm	
Surface resistance		Ω	
Dielectric strength		kV/mm	
Resistance to tracking			

Miscellaneous	dry / moist		standard
Density	1,35	g/cm^3	DIN 53 479
Moisture absorption (23°C/50RH)	0,1	%	DIN EN ISO 62
Water absorption to equilibrium	0,1	%	DIN EN ISO 62
Flammability acc. to UL standard 94	V0		

(1) Testing of semi−finished products

The above information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of chemical resistance, of certain properties and the suitability of our products and their applications. Our products are not destined for use in medical and dental implants. Existing commercial patents must be observed. Unless otherwise stated, these values represent averages taken from injection moulding samples, dry as moulded. We reserve the right to make technical alterations.