

# TECAFLON PI 6

(Sintimid 8000)

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Chemical Designation: Polytetrafluoroethylene + Polyimide

DIN Abbreviation: PTFE + PI

Colour, Filler: Light brown  
Polyimide P84

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TECAFLON PI 6 is a frictionally optimised high performance plastic with good chemical resistance, improved compression and creep resistance as well as good machinability for numerous applications.

Main characteristics:

- Very low friction particularly against aluminium and soft high grade steels
- Non stick
- Tougher and higher compressive strength than unfilled PTFE
- Very good UV and weather resistance
- Very good electrical insulation
- Easily machined
- Sensitive to gamma radiation
- Flame retardant UL 94 V-0
- Non meltable

Preferred fields: Mechanical engineering, transport and conveyor technology , plant construction, electrical and electronic engineering, vacuum technology, cryogenics

Applications:

- Piston guides
- Piston rings
- Valve seats
- Skid rails
- Slide bearings
- High frequency insulation
- Seals
- Roller covers

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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	
<b>Mechanical</b>			
Density	g/cm <sup>3</sup>	527 / D 792	1.85
Tensile strength at yield	MPa	527 / D 638	
Tensile strength at break	MPa	527 / D 638	15
Elongation at break	%	527 / D 638	200
Modulus of elasticity in tension	MPa	527 / D 638	
Modulus of elasticity in flexure	MPa	178 / D 790	
Hardness Shore D	MPa	2039 / 1	65
Impact strength	kJ/m <sup>2</sup>	179	No br.
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/mm <sup>2</sup> , v = 0,6 m/s	-		0.15-0.2
Wear conditions as above	µm/km		
<b>Thermal</b>			
Crystalline melting point	°C	DIN 53 736	327
Glass transition temperature	°C	DIN 53 736	-20
Heat distortion temperature Method A Method B	°C °C	R 75 R 75	

Properties	Unit	Test method DIN EN ISO / ASTM	
<b>Thermal</b>			
Max. service temperature short term long term	°C °C		260 250
Coefficient of thermal conductivity	W/(m · K)		0.25
Specific heat	J/(g · K)		1
Coefficient of thermal expansion	10 <sup>-5</sup> /K	DIN 53 483 / D 696	6
<b>Electrical</b>			
Dielectric constant at 10 <sup>5</sup> Hz		DIN 53 483	2.3
Dielectric loss factor at 10 <sup>5</sup> Hz		DIN 53 483	
Specific volume resistance	Ω · cm	DIN 60093	10 <sup>16</sup>
Surface resistance	Ω	DIN 60093	
Dielectric strength 1 mm	kV/mm	ASTM 149	
Tracking resistance		53 480	
<b>Miscellaneous</b>			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % relative humidity)	%	62	0.5
Water absorption at saturation at 23 °C	%	62	0.7
Resistance to hot water, washing soda			Limited resistant
Flammability according to UL standard 94			V0
Resistance to weathering			resistant

## 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<sub>2</sub>, graphite, PTFE, PE, silicone oil, internal lubrication