

TECAFLON PTFE

Chemical Designation:	Polytetrafluoroethylene
DIN Abbreviation:	PTFE
Colour, Filler:	Opaque
Stock Availability:	Standard length 1 or 2 metres, also cut to size <ul style="list-style-type: none">▪ Rod 4 - 200 mm dia▪ Plate 1 - 100 mm thick▪ Tube 20 - 300 mm OD▪ Profile▪ Finished parts, machined

TECAFLON PTFE is a semi-crystalline high performance thermoplastic with excellent chemical resistance, very good non-stick characteristics as well as good machinability.

Main characteristics:	<ul style="list-style-type: none">▪ Extremely good chemical resistance against virtually all media▪ Hot water resistant▪ Very good sliding properties▪ Anti-adhesive▪ Very tough	<ul style="list-style-type: none">▪ Very good UV resistance▪ Very good electrical insulation▪ Soft▪ Difficult to bond▪ Gamma radiation sensitive▪ Self-extinguishing V-0▪ Non-melting
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Preferred fields:	Chemical engineering, machine parts, transport and conveyor technology, pump and instrument construction, electrical industry, electronics, laser technology, fume purification, pure water production, cryogenics, filter technology, food and medical technology
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Applications:	<ul style="list-style-type: none">▪ Pump housings▪ Valve seats▪ Tank linings▪ Pipe linings▪ Roller coverings▪ Slide bearings	<ul style="list-style-type: none">▪ Filter housings▪ Etching plates▪ High frequency insulation▪ Pump parts▪ Seals▪ Slide runners
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TECAFLON PTFE

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 ASTM	
Mechanical			
Density	g/cm ³	53 479	2.18
Tensile strength at yield	MPa	53 455	25
Tensile strength at break	MPa	53 455	
Elongation at break	%	53 455	500
Modulus of elasticity in tension	MPa	53 457	700
Modulus of elasticity in flexure	MPa	53 457	
Ball indentation hardness	MPa	53 456	30
Impact strength (Charpy)	kJ/m ²	53 453	no br.
Creep rupture strength after 1000 hrs with static load	MPa		5
Time yield limit for 1% elongation after 1000 hrs.	MPa		1.5
Coefficient of friction against hardened and ground steel p = 0,05 N/mm ² , v = 0,6 m/s	–		0.08 - 0.1
Wear as above	conditions µm/km		21
Thermal			
Crystalline melting point	°C	53 736	327
Glass transition temperature	°C	53 736	-20
Heat distortion temperature Method A Method B	°C °C	ISO 75 ISO 75	5.5 121

Properties	Unit	Test method DIN ASTM	
Thermal			
Max. service temperature short term long term	°C °C		260 260
Coefficient of thermal conductivity	W/(m · K)		0.25
Specific heat	J/(g · K)		1
Coefficient of thermal expansion	10 ⁻⁵ /K		12
Electrical			
Dielectric constant at 10 ⁵ Hz		53 483	2.1
Dielectric loss factor at 10 ⁵ Hz		53 483	0.0002
Specific volume resistance	Ω · cm	53 482	10 ¹⁸
Surface resistance	Ω	53 482	
Dielectric strength 1 mm	kV/mm	53 481	48
Tracking resistance		53 480	KA 3c/KB > 600
Miscellaneous			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % relative humidity)	%	53 714	0
Water absorption at saturation at 23 °C	%	53 495	
Resistance to hot water, washing soda			resistant
Flammability		UL 94	V0
Resistance to weathering			resistant

* after storage in a standard 23/50 atmosphere (DIN 50 014) to equilibrium

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
- ! 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, MoS₂, graphite, PTFE, PE, silicone oil, internal lubrication
- ! Pultruded stock shapes: matrix polyester, vinylester and epoxy resin with glass or carbon continuous fibre

TECAFLON PTFE

Denominación química:	politetrafluoretileno
Abreviatura-DIN:	PTFE
Color, aditivos:	blanco/opaco
Formas disponibles:	consultar largo en almacén, cortes
/// barras redondas	de 4 - 200 mm de diámetro
/// planchas	de 1 - 100 mm de grosor
/// tubos	de 20 - 300 mm de diámetro exterior
/// piezas prefabricadas, mecanizadas	

TECAFLON PTFE es un material termoplástico de gran capacidad, semicristalino, de excelente resistencia química, muy buen deslizamiento, así como buena maquinabilidad.

Características principales:

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/// muy buen aislante eléctrico	/// sensible a los rayos gama
/// blando	/// capacidad de autoextinción V-0
/// muy buena maquinabilidad	/// no fundible
/// resistente al agua caliente	/// muy viscoso
/// muy buen deslizamiento	
/// antiadhesivo	
/// difícil de pegar	
/// resistencia química extrema contra prácticamente todos los agentes	

Ámbitos de aplicación preferenciales:

plantas de procesamiento químico, ingeniería mecánica, técnicas del transporte, bombas y accesorios, construcción eléctrica y electrónica, aplicaciones de láser, depuración de gases, plantas de tratamiento de aguas extremadamente puras, criogenia, filtros, tecnología alimentaria e ingeniería médica

Ejemplos de aplicación:

- ~~///~~ carcasas de filtros
- ~~///~~ asientos de válvula
- ~~///~~ revestimientos de depósitos
- ~~///~~ tuberías
- ~~///~~ revestimientos de rulos
- ~~///~~ cojinetes de deslizamiento con cámara
- ~~///~~ carcasas de bombas
- ~~///~~ rotores de bombas
- ~~///~~ juntas
- ~~///~~ correderas
- ~~///~~ aisladores de alta frecuencia
- ~~///~~ recipientes para procesos caústicos