

TECAFLON PVDF

Chemical Designation: Polyvinylidene fluoride

DIN Abbreviation: PVDF

Colour, Filler: Opaque

TECAFLON PVDF is a semi-crystalline engineering thermoplastic with very good chemical resistance, excellent machinability and versatility of application.

- Main characteristics:
- Very good resistance to many aggressive acids, numerous solvents and cleaning agents
 - Hot water resistant
 - Strong
 - Tough
 - Very good UV resistance
 - Very good electrical insulation
 - Good sliding properties
 - Very good machinability
 - Very good weldability
 - Difficult to bond
 - Flame retardant UL94 V-0

Preferred fields: Chemical plants, mechanical engineering, automotive engineering, transport and conveyor technology, pump and instrumentation manufacture, electrical engineering, laser technology, solar constructions, gas purification, pure water plants, electronics, filter technology, food and medical technology.

- Applications:
- Pump housings
 - Valve bodies
 - Tank linings
 - Flanges
 - Rollers
 - Slide parts
 - Filter packs
 - Plugs
 - Insulators
 - Agitators and kneading elements
 - Seals
 - Pipe linings

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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/cm ³	527 / D 792	1.77
Tensile strength at yield	MPa	527 / D 638	50
Tensile strength at break	MPa	527 / D 638	
Elongation at break	%	527 / D 638	>30
Modulus of elasticity in tension	MPa	527 / D 638	2000
Modulus of elasticity in flexure	MPa	178 / D 790	2000
Ball indentation hardness	MPa	2039 / 1	80
Impact strength	kJ/m ²	179 / D 256	o.Br.
Creep rupture strength after 1000 hrs with static load	MPa		34
Time yield limit for 1% elongation after 1000 hrs.	MPa		3
Coefficient of friction against hardened and ground steel p = 0,05 N/mm ² , v = 0,6 m/s	-		0.3
Wear conditions as above	µm/km		
Thermal			
Crystalline melting point	°C	DIN 53 736	172
Glass transition temperature	°C	DIN 53 736	-18
Heat distortion temperature Method A Method B	°C °C	R 75 R 75	95 140

Properties	Unit	Test method DIN EN ISO / ASTM	
Thermal			
Max. service temperature short term long term	°C °C		150 150
Coefficient of thermal conductivity	W/(m · K)		0.11
Specific heat	J/(g · K)		1.2
Coefficient of thermal expansion	10 ⁻⁵ /K	DIN 53 483 / D 696	13
Electrical			
Dielectric constant at 10 ⁵ Hz		DIN 53 483	8
*Dielectric loss factor at 10 ⁵ Hz		DIN 53 483	0.06
Specific volume resistance	Ω · cm	DIN 60093	10 ¹⁴
Surface resistance	Ω	DIN 60093	10 ¹³
Dielectric strength 1 mm	kV/mm	ASTM 149	17-150
Tracking resistance		53 480	KA1
Miscellaneous			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % relative humidity)	%	62	<0.05
Water absorption at saturation at 23 °C	%	62	<0.05
Resistance to hot water, washing soda			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, MoS₂, graphite, PTFE, PE, silicone oil, internal lubrication