

TECAFLON PVDF AS

Chemical Designation:	Polyvinylidene fluoride
DIN Abbreviation:	PVDF
Colour, Filler:	Black Conductive carbon black

TECAFLON PVDF AS is a semi-crystalline engineering thermoplastic with very good chemical resistance and electrical conductivity.

- Main characteristics:
- Electrically conductive
 - Very good resistance to many aggressive acids, numerous solvents and cleaning agents
 - Hot water resistant
 - Strong and rigid
 - Very good UV resistance
 - Abrasion resistant
 - Easily machined
 - Difficult to bond

Preferred fields: Chemical plants, mechanical engineering, automotive engineering, transport and conveyor technology, pump and instrumentation manufacture, laser technology, solar construction, gas purification, filter technology, galvanising, mining, explosion protection, electronic protection (ESD), paper technology, packaging machinery.

- Applications:
- Pump housings
 - Valve bodies
 - Tank parts
 - Flanges
 - Safety components
 - Filter packs
 - Impellers
 - Load deflectors
 - Agitators and kneading elements
 - Seals

Ensinger Ltd
Wilfried Way
Tonyrefail
Mid Glam CF39 8JQ

Tel: 01443 678400
Fax: 01443 675777
Web: www.ensinger.ltd.uk
Email: sales@ensinger.ltd.uk

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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	1.83
Tensile strength at yield	MPa	527 / D 638	55
Tensile strength at break	MPa	527 / D 638	43
Elongation at break	%	527 / D 638	25
Modulus of elasticity in tension	MPa	527 / D 638	4200
Modulus of elasticity in flexure	MPa	178 / D 790	4500
Ball indentation hardness	MPa	ASTM D 2240	82
Impact strength	kJ/m ²	ISO 180	60
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 ² , v = 0,6 m/s	-		0.23
Wear conditions as above	µm/km		
Thermal			
Crystalline melting point	°C	DIN 53 736	174
Glass transition temperature	°C	DIN 53 736	-30
Heat distortion temperature Method A Method B	°C °C	R 75 R 75	

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)		
Specific heat	J/(g · K)		
Coefficient of thermal expansion	10 ⁻⁵ /K	DIN 53 483 / D 696	1.2-1.4
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	10 ² - 10 ⁴
Surface resistance	Ω	DIN 60093	10 ² - 10 ⁴
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	0.07
Water absorption at saturation at 23 °C	%	62	
Resistance to hot water, washing soda			resistant
Flammability according to UL 94 standard			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