

TECAFINE PP

Chemical Designation:	Polypropylene
DIN Abbreviation:	PP
Colour, Filler:	Opaque / beige grey

TECAFINE PP is a semi-crystalline, thermoplastic engineering material with high toughness and good chemical resistance.

- Main characteristics:
- Tough
 - Very low water absorption
 - Resistant to dilute acids, cleaning agents, numerous solvents
 - Very good electrical insulation
 - Difficult to bond
 - Easily welded
 - Lightweight
 - Embrittles at low temperatures

Preferred fields: Mechanical engineering, transport and conveyor technology, electrical engineering, general engineering, household appliances, plant construction, food industry, and chemical industry.

- Applications:
- Chemical apparatus
 - Water treatment plants
 - Seals
 - Food processing industry
 - Insulators
 - Ventilation ducts
 - Pallets
 - Drip pans

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	0.91
Tensile strength at yield	MPa	527 / D 638	30
Tensile strength at break	MPa	527 / D 638	
Elongation at break	%	527 / D 638	>50
Modulus of elasticity in tension	MPa	527 / D 638	1600
Modulus of elasticity in flexure	MPa	178 / D 790	
Ball indentation hardness	MPa	2039 / 1	80
Impact strength	kJ/m ²	179 / D 256	no br.
Creep rupture strength after 1000 hrs with static load	MPa		22
Time yield limit for 1% elongation after 1000 hrs.	MPa		4
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		11
Thermal			
Crystalline melting point	°C	DIN 53 736	165
Glass transition temperature	°C	DIN 53 736	-18
Heat distortion temperature Method A Method B	°C °C	R 75 R 75	65 105

Properties	Unit	Test method DIN EN ISO / ASTM	
Thermal			
Max. service temperature short term long term	°C °C		130(nat) 140 (grey) 100
Coefficient of thermal conductivity	W/(m · K)		0.22
Specific heat	J/(g · K)		1.7
Coefficient of thermal expansion	10 ⁻⁵ /K	DIN 53 483 / D 696	17
Electrical			
Dielectric constant at 10 ⁵ Hz		DIN 53 483	2.25
Dielectric loss factor at 10 ⁵ Hz		DIN 53 483	0.0002
Specific volume resistance	Ω · cm	DIN 60093	>10 ¹⁴
Surface resistance	Ω	DIN 60093	>10 ¹³
Dielectric strength 1 mm	kV/mm	ASTM 149	>40
Tracking resistance		53 480	KA 3c
Miscellaneous			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % relative humidity)	%	62	< 0.1
Water absorption at saturation at 23 °C	%	62	0.03
Resistance to hot water, washing soda			resistant
Flammability according to UL standard 94			HB
Resistance to weathering			not 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