

TECANYL

Chemical Designation: Polyphenylene ether (modified)

DIN Abbreviation: PPE (PPO)

Colour, Filler: Grey

TECANYL (Noryl®) is an amorphous engineering thermoplastic with good strength and electrical insulation properties for varied applications

Main characteristics:

- Strong and rigid
- Tough
- Hot water resistant
- Very good electrical insulation
- Light
- Care required with machining and bonding, sensitive to stress cracking.
- Easily bonded

Preferred fields: Mechanical engineering, automotive engineering, electrical engineering, precision engineering, household appliances, food technology, medical technology.

Applications

- Pump parts
- Fan impellers
- Catalyst supports
- Housing parts
- Contact rails
- Switch parts
- Plugs
- Insulators
- Household articles
- Automotive parts

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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	1.06
Tensile strength at yield	MPa	527 / D 638	55
Tensile strength at break	MPa	527 / D 638	
Elongation at break	%	527 / D 638	
Modulus of elasticity in tension	MPa	527 / D 638	2300
Modulus of elasticity in flexure	MPa	178 / D 790	
Ball indentation hardness	MPa	2039 / 1	125
Impact strength	kJ/m ²	179 / D 256	no br.
Creep rupture strength after 1000 hrs with static load	MPa		
Time yield limit for 1% elongation after 1000 hrs.	MPa		21
Coefficient of friction against hardened and ground steel $p = 0,05 \text{ N/mm}^2$, $v = 0,6 \text{ m/s}$	–		0.4
Wear conditions as above	$\mu\text{m/km}$		90
Thermal			
Crystalline melting point	°C	DIN 53 736	
Glass transition temperature	°C	DIN 53 736	150
Heat distortion temperature Method A Method B	°C °C	R 75 R 75	130 138

Properties	Unit	Test method DIN EN 150 / ASTM	
Thermal			
Max. service temperature short term long term	°C °C		110 85
Coefficient of thermal conductivity	W/(m · K)		0.22
Specific heat	J/(g · K)		1.2
Coefficient of thermal expansion	10 ⁻⁵ /K	DIN 53 483 / D 696	7
Electrical			
Dielectric constant at 10 ⁵ Hz		DIN 53 483	2.6
Dielectric loss factor at 10 ⁵ Hz		DIN 53 483	0.001
Specific volume resistance	$\Omega \cdot \text{cm}$	DIN 60093	10 ¹³
Surface resistance	Ω	DIN 60093	10 ¹⁵
Dielectric strength 1 mm	kV/mm	ASTM 149	50
Tracking resistance		53 480	KA 1
Miscellaneous			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % relative humidity)	%	62	0.1
Water absorption at saturation at 23 °C	%	62	0.2
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