

TECANYL GF 30

Chemical Designation: Polyphenylene ether (modified)

DIN Abbreviation: PPE GF 30 (PPO GF 30)

Colour, Filler: Ochre / beige
30% glass fibres

TECANYL GF 30 is a 30% glass fibre reinforced amorphous engineering thermoplastic with high rigidity, strength and electrical insulation properties for varied applications.

Main characteristics:

- Very strong and rigid
- Dimensionally stable
- Hot water resistant
- Easily welded and bonded
- Very good electrical insulation
- Care required when machining and bonding, sensitive to stress cracking

Preferred fields: Electrical engineering, energy technology, precision engineering, household appliances, mechanical engineering, automotive engineering, transport and conveyor technology

Applications:

- Motor housings
- Chassis parts
- Socket parts
- Equipment housings
- Switch parts
- Storage plates
- Plugs
- Insulators
- Catalyst supports
- Switch housings

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	1.29
Tensile strength at yield	MPa	527 / D 638	
Tensile strength at break	MPa	527 / D 638	105
Elongation at break	%	527 / D 638	2
Modulus of elasticity in tension	MPa	527 / D 638	8000
Modulus of elasticity in flexure	MPa	178 / D 790	
Ball indentation hardness	MPa	2039 / 1	
Impact strength	kJ/m ²	179 / D 256	30
Creep rupture strength after 1000 hrs with static load	MPa		
Time yield limit for 1% elongation after 1000 hrs.	MPa		47
Coefficient of friction against hardened and ground steel $p = 0,05 \text{ N/mm}^2$, $v = 0,6 \text{ m/s}$	–		
Wear conditions as above	µm/km		
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	135 143

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)		
Specific heat	J/(g · K)		134
Coefficient of thermal expansion	10 ⁻⁶ /K	DIN 53 483 / D 696	3
Electrical			
Dielectric constant at 10 ⁵ Hz		DIN 53 483	3.1
Dielectric loss factor at 10 ⁵ Hz		DIN 53 483	0.0021
Specific volume resistance	Ω · cm	DIN 60093	10 ¹⁵
Surface resistance	Ω	DIN 60093	10 ¹⁵
Dielectric strength 1 mm	kV/mm	ASTM 149	50
Tracking resistance		53 480	KB 250
Miscellaneous			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % relative humidity)	%	62	0.05
Water absorption at saturation at 23 °C	%	62	0.18
Resistance to hot water, washing soda			limited 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