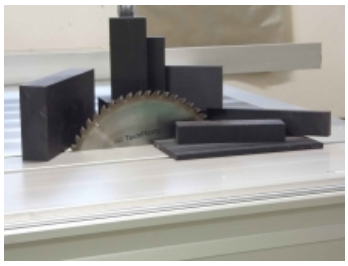
PA66+GF30 - polyamide 66 glass fiber reinforced

Other material names PA66+GF30: Nylon 6/6 glass fiber reinforced
Material group: Polyamide



PA66+GF30 is a 30 % glass fibre reinforced PA66. It demonstrates outstanding mechanical properties such as higher strength, rigidity, creep strength and dimensional stability. Compared to unreinforced PA66, the properties of this glass filled modification GF30 make this material suitable for use in parts that are exposed to high static loads over long periods in high temperature conditions. As glass fibres tend in some cases to have a marked abrasive effect on mating surfaces, PA66+GF30 is less suitable for sliding applications.

Processing of glass-filled plastics - composites.

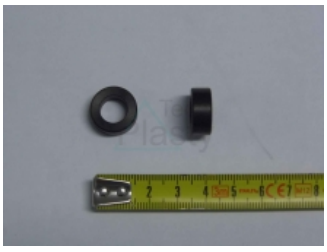
Such composites are known for their excellent properties, but their machining is extremely difficult. However, the other benefits of these materials are worth the effort. When machining by milling, turning or just cutting, internal stress is created more than in ordinary plastics, and the stresses occur unevenly, which can have undesirable results. Composites also cause rapid tool wear. Improper machining can generate excessive heat, which leads to cracks and delamination, making the material unusable. Coolants present additional problems. Sharp tools, their correct geometry, annealing, heating before machining, etc. can help. It is always advisable to consider the processing of composites by a professional company with experience, such as TechPlasty.

Color of material:

Black

Typical applications:

- Highly loaded structural elements
- Abrasion-resistant and dimensionally stable machine components
- Pulleys



The material is used in:

Electrotechnical industry
Automobile industry
Engineering industry
Paper industry
Production of single-purpose machines

Features:

- very high stiffness
- resistant to many oils, greases and fuels
- good wear properties

- very high strength
- high dimensional stability
- good weldable and bondable

Material availability: Some sizes are in stock

Material properties table

Specific weight	1.29 g/cm³
Yield strength	160 N/mm²
Allowable mean pressure deformation 1%	28.00 N/mm²
Allowable mean pressure deformation 2%	55.00 N/mm²
Allowable mean pressure deformation 5%	90.00 N/mm²
Flexural strength	250 N/mm²
Tensibility	5 %
Tensile modulus	11 000 N/mm²
Impact toughness	50
Notched toughness	>6 kJ/m²
Ball hardness	240 N/mm²
Friction coefficient	0.45
Antistatic material	No
Permittivity	3.90
Electrical strength	30 kV/mm
Specific internal resistance	10^(14) Ω
Specific surface resistance	10^(13) Ω.cm
Melting point	255 °C
Thermal expansion	3 10^(-5)/K
Thermal conductivity	0.30 W/(K.m)
Permanent use temperature	-30 ; 120 °C
Transient temperature of use	-30 ; 180 °C
Absorbability	1,7 %
Water absorption	5,5 %
Resistance - oils	resistant
Acid resistance	conditionally resistant
Durability - alcali	resistant
Food contact	No

Engineering plastics are supplied in the form of bars, plates, strips, tubes and sheets. From the semi-finished products the company TechPlasty has regularly in stock, we also supply blanks.

All standard and special materials are designed to meet your specific requirements. Their mechanical, thermal, and electrical properties and chemical resistance satisfy the most demanding requirements and this allows them to work even in the most difficult conditions. If you need advice when choosing the appropriate material for your application, please contact us. We'll gladly advise you. You can utilize the long-term experience of our technical advisors free-of- charge, who can visit you right in your operation and solve your requirements for engineering plastics directly at the site of their usage.

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