

PA6-GF

INDUSTRIAL GRADE MATERIALS FOR FDM 3D PRINTING



MATERIAL NAME

PA6-GF

COLOR

White

PROCESS

FDM

PRODUCT DESCRIPTION

PA6-GF is a high-performance engineering plastic based on polyamide 6 (nylon 6) and reinforced with glass fibers (GF). Compared to unreinforced PA6, it exhibits significantly improved mechanical strength, heat resistance, and dimensional stability. It is suitable for applications in industrial, automotive, and household appliance fields demanding high strength, heat resistance, and structural stability.

TYPICAL APPLICATIONS

- The automotive industry
- Household appliances and consumer goods
- Industrial machinery and equipment

PRODUCT SAFETY

Most nylon products are biocompatible materials. There is no problem with normal skin contact. Only a small number of people will experience slight skin irritation.

PRODUCT DELIVERY & WAREHOUSING

- **MOISTURE CONTROL**

Nylon is highly hygroscopic. Store in a dry environment with humidity below 50% to prevent dimensional swelling and performance degradation.

Use sealed packaging with desiccants or vacuum storage.

- **TEMPERATURE CONTROL**

Keep storage temperature between 5°C and 35°C. Avoid high temperatures (>60°C) that may cause deformation and low temperatures (<0°C) that may induce brittleness.

- **UV PROTECTION**

Avoid exposure to UV light to prevent material aging, such as yellowing, brittleness, or loss of mechanical properties.

- **PHYSICAL PROTECTION**

Prevent heavy stacking or impacts to avoid deformation or cracking.

MATERIAL PROPERTIES

Properties	Test Method	Value
Hardness	/	/
Flexural modulus (Mpa)	ISO 178	XY: 4419.15 ± 138.02 MPa
Flexural strength (Mpa)	ISO 178	XY: 136.19 ± 7.77 MPa
Tensile modulus (Mpa)	ISO 527	XY: 5551.26 ± 416.57 MPa Z: 4049.24 ± 63.28 MPa
Tensile strength (Mpa)	ISO 527	XY: 86.83 ± 3.03 MPa Z: 44.21 ± 2.43 MPa
Elongation at break	ISO 527	XY: 2.05 ± 0.15 % Z: 1.24 ± 0.09 %
Poisson's Ratio	/	/
Impact strength notched Izod (J/m)	ISO 179-1	5.91 ± 0.42 KJ/m ²
Heat deflection temperature (°C)	ISO75	HDT @0.45 MPa: 83.4°C HDT @1.8 MPa: 78.5°C
Glass transition,Tg (°C)	/	/
Coefficient of thermal expansion(/°C)	/	/
Density (g/cm ³)	/	1.27 g/cm ³

Tips: Want to explore a wider range of materials? Check out <https://www.unionfab.com/materials>



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