

Material Information



Nylon PA 12 Glass-filled White

Introduction

Nylon PA 12 Glass-filled White is compatible with selective laser sintering. Due to the addition of glass beads, it has enhanced mechanical properties such as increased strength, stiffness and dimensional stability while improving wear resistance and reducing warping.

Advantages

Offer enhanced rigidity, mechanical strength, and thermal stability, making it ideal for high-load and high-temperature applications.

Disadvantages

Grainy surface, relatively lower tensile strength compared with other Nylon materials, may have powder residue inside hollow structure.

Tolerance

±300µm or 0.3%

Recommendation

Ideal for manufacturing robust components such as armatures, mounting plates, housings and fixtures.

Material Specifications		
Heat Deformation (0.45 MPa)	GB/T 1634.2-2004	153.1°C
Heat Deformation (1.8 MPa)	GB/T 1634.2-2004	69°C
Melting Point	GB/T 19466.1-2004	184.5°C
Tensile Strength	GB/T 1040.2-2006	45MPa
Tensile Modulus	GB/T 1040.2-2006	2600MPa
Elongation at Break	GB/T 1040.2-2006	6.7%
Flexural Strength	GB/T 9341-2008	60MPa
Flexural Modulus	GB/T 9341-2008	2100MPa
Notched Impact Strength	GB/T 1843-2008	6.1 kJ/m ²
Unnotched Impact Strength	GB/T 1843-2008	31.2 kJ/m ²

Attention

Products printed with powdered material come with grainy surfaces. If you have a specific requirement for surface finishing, we offer 3D Plus™ service, which includes a variety of post-processing services, including vibratory smoothing and vapor smoothing, to achieve a smooth surface finish.

Applications

3DSPRO finds people using nylon PA 12 glass-filled white to make functional parts and prototypes in the following industries and applications.

Automotive:

Ideal for producing engine components such as mounts, gears, and covers, as well as parts for the fuel system and electric motors. The material's high rigidity and thermal resistance make it suitable for these high-stress environments.

Aerospace:

Used for structural components, ducting, and housings that require high strength and thermal stability. These parts benefit from the material's ability to withstand significant mechanical loads and temperature variations.

Robotics:

Employed in the manufacture of grippers for robotic manipulators and positioning equipment. The high stiffness and durability of PA 12 glass-filled parts ensure reliable performance in automated environments.

Consumer Goods:

Suitable for producing durable and high-precision parts such as protective casings, appliance components, and connectors. The material's excellent surface finish and mechanical properties make it ideal for consumer products.

Electronics:

Used for housings for electrical equipment, connectors, and switches. The material's electrical insulation properties and mechanical strength are advantageous in electronic applications.