

Nylon PA 6 Glass-filled Black Datasheet



Overview

Nylon PA 6 glass-filled black is designed for selective laser sintering (SLS) and provides outstanding rigidity, heat resistance, and corrosion resistance. These properties make it an ideal choice for testing functional parts and small-batch production.

As-printed Part's Tolerance: $\pm 300\mu\text{m}$ or 0.3%

Maximum Printing Size: 350*350*400mm

Properties

| Thermal Properties | Metric | Method |
|-----------------------------|------------|------------|
| Heat Deformation (0.46 MPa) | 214°C | ASTM D648M |
| Heat Deformation (1.82 MPa) | 210°C | ASTM D648M |
| Mechanical Properties | Metric | Method |
| Tensile Strength | 110MPa | ASTM D638M |
| Tensile Modulus | 10000MPa | ASTM D638M |
| Elongation at Break | 2.6% | ASTM D638M |
| Flexural Properties | Metric | Method |
| Flexural Modulus | 6000MPa | ASTM D790 |
| Flexural Strength | 135MPa | ASTM D790 |
| Impact Properties | Metric | Method |
| Notched Impact Strength | 7.8 J/m | ASTM D256 |
| Unnotched impact strength | 18.3 J/m | ASTM D256 |
| Density Properties | Metric | Method |
| Density | 1.04 g/cm³ | DIN 53466 |

Pros

SLS 3D printed Nylon PA 6 glass-filled offers improved strength, stiffness, and thermal stability, making it well-suited for manufacturing robust, high-performance components that require superior mechanical properties and thermal resistance, particularly in industries like automotive and aerospace.

Cons

Powdered material prints tend to be more brittle and can incur higher costs, as well as cause increased tool wear. These parts often have a grainy surface texture.

Applications

Automotive Components

Structural and High-stress Parts

Gears

Electrical Connectors

Enclosures and Housings

Jigs and Fixtures

Sensor Components

Surgical Tools

Brackets and Gaskets