

## Material Information



### Nylon PA 11 Black

#### Introduction

Nylon PA 11 Black is compatible with selective laser sintering. It is an eco-friendly polyamide with great mechanical properties, making it ideal for functional parts such as gears, drone components and technical parts in high-stress environments.

#### Advantages

SLS 3D printed nylon PA 11 black has excellent mechanical strength, flexibility, and chemical resistance, making it ideal for durable and high-performance parts.

#### Disadvantages

Prone to shrinkage, warping, and requires extensive post-processing to achieve a smooth surface finish.

#### Tolerance

±300µm or 0.3%

#### Recommendation

It is recommended for manufacturing durable, flexible and chemical-resistant parts, making it suitable for automotive, aerospace and medical applications.

Material Specifications		
Density	DIN 53466	0.98 g/cm <sup>3</sup>
Heat Deformation (0.45 MPa)	ASTM D648	170.5°C
Heat Deformation (1.8 MPa)	ASTM D648	85.5°C
Tensile Strength	ASTM D638	45MPa
Tensile Modulus	ASTM D638	1600MPa
Elongation at Break	ASTM D638	48%
Flexural Strength	ASTM D790	49MPa
Flexural Modulus	ASTM D790	1500MPa
Notched Impact Strength	ASTM D256	7 J/m
Unnotched Impact Strength	ASTM D256	31 J/m

## 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 11 black to make functional parts and prototypes in the following industries and applications:

### *Automotive parts and supplies:*

Dashboard components, interior panels, trim parts, and lightweight structural elements.

### *Household appliances:*

Durable parts for washing machines, dishwashers, and other high-stress components.

### *Consumer electronic products:*

Housings and enclosures for laptops, tablets, mobile phones, and other electronic devices.

### *Electromechanical equipment:*

Connectors, mechanical components, and housings for industrial machinery and power tools.

### *Medical devices:*

Custom prosthetics, braces, and other biocompatible medical components.