

## Material Information



### Nylon PA 11 Gray Black

#### Introduction

Nylon PA 11 Gray Black is compatible with Multi Jet Fusion. 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

MJF 3D printed nylon PA 11 gray 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

$\pm 300\mu\text{m}$  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	ASTM D792	1.05 g/cm <sup>3</sup>
Tensile Strength	ASTM D638	54MPa
Tensile Modulus	ASTM D638	1750MPa
Elongation at Break	ASTM D638	33%
Elongation at Yield	ASTM D638	22%
Impact Strength	ASTM D256	6 kJ/m <sup>2</sup>

#### 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 gray 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.