

## Material Information



### Stainless Steel 316L

#### Introduction

Stainless Steel 316L is one of the most widely used metal materials in many industries. It is the superior choice for high corrosion and high temperature applications. It is also strong in terms of mechanical properties. It can be 3D printed into various functional end products and prototypes.

#### Advantages

Corrosion resistant, high strength and durability, wear resistant, food grade.

#### Disadvantages

More expensive. Less machinable. Relatively heavier compared to other metal 3D printing materials.

#### Tolerance

±500µm or 0.5%

#### Recommendation

Stainless Steel 316L, is widely used for prototypes, spare parts, and functional parts. From watches and jewelry to kitchenware and tableware, and even pipelines and underwater robots, Stainless Steel 316L is an essential material for many industries and applications.

Material Specifications		
Hardness	ISO 6597-1:03-2006	200 HV
Density	WGE-Prod-067EN	7.95 g/cm <sup>3</sup>
Relative density	WGE-Prod-067EN	99.5%
Tensile strength	DIN EN ISO 6892-1:2009	530MPa
Elongation at Break	DIN EN ISO 6892-1:2009	50%
Yield strength	DIN EN ISO 6892-1:2009	340MPa
Elastic modulus	DIN EN ISO 6892-1:2009	180GPa
Roughness Ra	ISO 4287 / AITM 1-00070	15 µm
Roughness Rz	ISO 4287 / AITM 1-00070	70 µm

## Attention

Products printed with powdered metal material come with grainy/pitted surface. All metal products supplied by 3DSPRO will be sandblasted for better result. If you have a specific requirement on surface finishing, you may need to add 3D Plus services such as polishing to reach a smooth surface. 3DSPRO offers anodizing and electroplating for coloring as well.

## Applications

3DSPRO find people using Stainless Steel 316L to make functional parts and prototypes in the following industries & applications.

### ***Automotive parts and supplies:***

Car bezels, rearview mirrors, dashboards, steering wheels, lights, seats, handles, etc.

### ***Consumer electronics products:***

Kitchenware, laptops, tablets, mobile phones, digital cameras, game consoles, MP3, mobile power bank.

### ***Underwater & marine equipment:***

Underwater drone, robots, shipbuilding, switches, sockets, power tools, electrical instruments, experimental instruments, measuring tools, etc.

### ***Consumer supplies:***

Golf clubs, tennis rackets, bicycles, wristwatches, glasses, tableware, jewelry, and sculptures.