Stainless Steel 316L Datasheet

Overview

Stainless Steel 316L is a highly favored material across various industries due to its exceptional resistance to corrosion and high temperatures. Known for its impressive mechanical strength, it is an ideal choice a wide range of functional end products and prototypes.

As-printed Part's Tolerance: ±300μm or 0.3%

Maximum Printing Size: 420*420*450mm

Properties

Dense Properties	Metric	Method
Density	7.95 g/cm^3	WGE-Prod-067EN
Relative Density	99.5%	WGE-Prod-067EN
Mechanical Properties	**Metric**	**Method**
Tensile Strength	530MPa	DIN EN ISO 6892-1:2009
Yield Strength	340MPa	DIN EN ISO 6892-1:2009
Elongation at Break	50%	DIN EN ISO 6892-1:2009
Elastic Modulus	180GPa	DIN EN ISO 6892-1:2009
Hardness	200 HV	ISO 6597-1:03-2006
Surface Properties	**Metric**	**Method**
Roughness Ra	15 μm	ISO 4287 / AITM 1-00070
Roughness Rz	70 μm	ISO 4287 / AITM 1-00070

Pros

Stainless Steel 316L is renowned for its resistance to corrosion, high strength, durability, wear resistance, and food-grade quality. It is widely used across various industries for producing kitchenware, tableware, pipelines, and even underwater robotics.

Cons

It tends to be more expensive, less machinable, and heavier compared to other metal 3D printing materials. Products made from powdered metal materials may have a grainy or pitted surface.

Applications

Surgical Instruments and Implants Art and Design Propellers

Consumer Electronic Products Valves Underwater Drones and Robots

Jigs and Fixtures Enclosures and Housings Kitchenware and Tableware