

Key Features

- Good corrosion resistance
- High tensile strength and durability
- Easy to process
- Recyclability

Common Applications

- Rail car structural components
- Airframe sections
- Highway trailer components
- Automotive wheel covers
- Wiper blade holders and clips
- Screen frames
- Curtain walls

Material Description

Stainless steel used in 3D printing, often in powder form, is a popular material due to its excellent mechanical properties, including high strength, durability, and resistance to corrosion and heat. Common stainless steel alloys for 3D printing include 316L, 17-4 PH, and 304. These alloys are known for their ability to produce complex and precise parts with good surface finishes. Stainless steel in additive manufacturing is widely used in various industries such as aerospace, automotive, medical, and consumer goods. Applications range from intricate aerospace components and custom medical implants to robust tooling and prototypes. The 3D printing process enables the creation of highly detailed and functional stainless steel parts with reduced waste and production times compared to traditional manufacturing methods.

Chemical Composition (%)

	Ai	Cr	Co	Cu	Fe	Mn	Mo	Na + Ta	Ni	N	Si
Min.	0.0100	0.250	0.0500	0.0500	5.50	0.0350	0.0270	0.100	0.200	0.0050	0.500
Max.	89.0	57.0	21.0	14.0	99.0	16.0	10.0	12.0	68.0	11.0	13.0

Mechanical Properties

Flexural Modulus	400 MPa
Tensile Modulus	600 MPa
Hardness	Rockwell B93
Elongation at Break	30%

Physical Properties

Density	0.28 lb/in ³ (7.79 g/cm ³)
Modulus of Elasticity	180 GPa
Melting Point	2,250–2,790°F (1,230–1,530 °C)

Technical Assistance

Our knowledgeable staff, supported by our in-house team of expert metallurgists and engineers, is ready to assist you with any technical inquiries.

InstaVoxel™ - On-Demand Manufacturing Expert

859 Willard Street Suite 400, Quincy MA 02169 USA
 +1 (617) 302-1629 | info@instavoxel.com
 www.instavoxel.com



InstaVoxel's quality control system is ISO-9001 certified, and all our partners hold relevant certifications.



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