

# 316L Stainless Steel

## Typical Material Properties

Material Properties	Test Method	316L
Tensile Strength		
Ultimate Strength	ASTM E8	X & Y: 582 MPa Z: 526 MPa
Yield Strength (0.2% offset)		X & Y: 224 MPa Z: 226 MPa
Elongation		X & Y: 55% Z: 52 %
Elastic Modulus		X & Y: 220 GPa Z: 186 GPa
Hardness	ASTM E18	71 HRB
Impact	ASTM E23	63 J
Poisson's Ratio		0.27
Relative Density		98%
Density		7.9 g/cc
Surface Roughness		3.0 $\mu\text{m}$ Ra

Note: Typical expected properties.

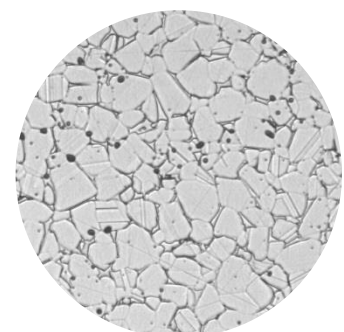
Material Composition			
Iron	bal	Molybdenum	2-3%
Nickel	10-14%	Manganese	2.0% max
Chromium	16-18%	Silicon	1.0% max
Carbon	0.03% max		

Geometric Capability	
Corner Radius	Max. as design allows, .254 mm. (0.010 in.) min.
Chamfer	> .1 mm. (0.039 in.)
Wall Thickness	> 1.5 mm. (0.059 in.)
Holes	> .38 mm. (0.014 in.) depending on hole length
Accepted file formats	STL, STEP

Note: Preferred part size <50 x 50 x 25mm. Parts up to 150 x 150 x 150mm are subject to engineering review.



316L Printed Part



Microstructure

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