Stainless Steel 316L

DIRECT METAL LASER MELTING MATERIAL SPECIFICATIONS

Highlights

- Good strength and creep resistance
- Excellent weldability due to low-carbon
- Molybdenum gives improved corrosion resistance

Applications

- Parts requiring post-production processing
- Consumer/Automotive/Aerospace
- Parts requiring ductility and high strength
- Parts requiring high corrosion resistance

Heat Treatment Options

- Solution annealing not necessary
- Cannot be hardened by heat treat

TYPICAL PHYSICAL PROPERTIES

MECHANICAL PROPERTIES	TYPICAL WROUGHT AMS5507G	DMLM (AS BUILT)	
		XY AXIS	Z AXIS
0.02% Yield	172.4 MPa	530 ± 60 MPa	470 ± 90MPa
Ultimate Tensile	482-689 MPa	93 ± 8ksi	78 ± 8ksi
Elongation	45%	40 ± 15%	50 ± 20%
Hardness	79 HRB	typ 85 HRB	

STAINLESS STEEL 316L COMPOSITION

ELEMENT	TYPICAL PERCENTAGE
Iron (Fe)	balance
Carbon (C)	0.030 max
Manganese (Mn)	2.00 max
Phosphorus (P)	0.025 max
Sulfur (S)	0.010 max
Silicon (Si)	0.750 max
Chromium (Cr)	17.50 - 18.00
Nickel (Ni)	12.500 - 13.00
Copper (Cu)	0.50 max
Molybdenum (Mo)	2.25 – 2.50

*The information presented represents typical values intended for reference and comparison purposes only. It should not be used for design specifications or quality control purposes. End-use material performance can be impacted (+/-) by, but not limited to, part design, end-use conditions, test conditions, color etc. Actual values will vary with build conditions. Product specifications are subject to change without notice. *Chemical analysis for specific lots available upon request.*

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INFO@STRATASYSDIRECT.COM / STRATASYSDIRECT.COM