



316L

Description: **Stainless Steel 316L is a pre-alloyed stainless steel in fine powder form. The 316L material is the extra low carbon analysis of the 316 material. The advantage of the reduced carbon content is that it precludes any harmful precipitation in the 800-1500° F range.**

Applications:

- Parts that are subjected to the corrosive effects of salts and reducing acids.
- Parts requiring good corrosion resistance and low magnetic permeability.
- Parts used in the manufacture of pharmaceuticals in order to avoid excessive metallic contamination.

Composition:

Carbon (C) = max. 0.030%	Manganese (Mn) = 1.25—2.00%
Silicon (Si) = max. 1.00%	Phosphorus (P) = max. 0.040%
Sulfur (S) = max. 0.030%	Chromium (Cr) = 16.00—18.00%
Nickel (Ni) = 10.00—14.00%	Molybdenum (Mo) = 2.00—3.00%
Copper (Cu) = max. 1.00%	

Stress Relief: Stress Relieve at 730°F +/- 15°F for 4-6 hours.

Solution Heat Treatment: Solution heat treat at 2000°F +/- 25°F for 2 hours +/- 15 minutes in vacuum. Follow by 6 bar(or higher) argon gas quench.

	AMS 5653	Wrought	MTI DMLS As Built	MTI DMLS Stress Relief	MTI DMLS Solution HT
0.02% Yield (ksi)	25 min.	42	93	95	47
Ultimate Tensile (ksi)	70 - 125	81	108	110	93
Elongation (%)	40 min.	50	31	31	42
Hardness (HRB)	76.5 - 102.5	79	92	95	85

The data presented above has been collected by MTI, and is proprietary information of MTI. These properties are representative of hardware produced on MTI machines using proprietary processing practices. Materials produced on other machines are likely to differ.