



Hamilton Precision Metals
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TECHNICAL DATA SHEET

SS 316LS

SS 316LS is a low carbon, high nickel and molybdenum version of type 316 stainless steel approved for medical implant applications. The alloy is manufactured with higher nickel, molybdenum and chromium content than standard type 316L stainless. This balanced chemistry combined with excellent microcleanliness provided by ARC-AOD + ESR melting practice maximizes corrosion resistance and provides a ferrite free microstructure.

NOMINAL COMPOSITION:

Chromium	18.0%	Manganese	1.6%
Nickel	14.0%	Carbon	.02%
Molybdenum	2.6%	Iron	Balance

TYPICAL MECHANICAL PROPERTIES:¹

	<u>ANNEALED</u>	<u>COLD ROLLED</u> <u>(approx 60%)</u>
Ultimate Tensile Strength	100,000 PSI	175,000 PSI
Yield Strength (.2% Offset)	55,000 PSI	160,000 PSI
Elongation in 2" *	40.0%	4.0%
Modulus of Elasticity (Tension)	28 x 10 ⁶ PSI	
Poisson's Ratio	0.25	

*The measured elongation will be less as thickness decreases to .004" and less.

¹ These values may be adjusted by control of process variables – consult HPM for desired values.

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PHYSICAL PROPERTIES:²

Density	-	0.287 lbs/cu.in
Melting Point (Approx.)	-	1370° C
Electrical Resistivity @ R.T.	-	74 Microhm·cm
Thermal Expansion Coefficient (0° to 100° C)	-	16.0 x 10 ⁻⁶ /°C
Thermal Conductivity @ 100° C	-	16.3 W/m· K
Magnetic Attraction		
Annealed	-	None
Cold Rolled	-	None
Magnetic Permeability (Annealed: H = 200 oersteds)	-	1.02 Max.

GENERAL INFORMATION:

The alloy can be formed from the annealed temper by stamping and deep drawing. This alloy cannot be hardened by heat treatment. It must be hardened by cold working. Joining is accomplished by brazing and welding.

AVAILABILITY:

SS 316LS is available from Hamilton Precision Metals as strip product from .0005" to .020" in widths up to 9.0". It is also available in foil as thin as .000200" in widths of 4.0" maximum. The material conforms to ASTM F139, ISO 5832-1 and UNS S31673.

² Typical values to guide alloy selection but are not a guarantee of minimum or maximum.