



Hamilton Precision Metals  
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## TECHNICAL DATA SHEET

### SS 304L

SS 304L is an austenitic Chromium-Nickel stainless steel offering the optimum combination of corrosion resistance, strength, and ductility. These attributes make it a favorite for many mechanical switch components. The low carbon content reduces susceptibility to carbide precipitation during welding.

#### NOMINAL COMPOSITION:

Chromium	18.2%	Silicon	.5%
Nickel	8.5%	Carbon	.015%
Manganese	1.6%	Iron	Balance

#### TYPICAL MECHANICAL PROPERTIES:<sup>1</sup>

	<u>ANNEALED</u>	<u>COLD ROLLED</u>
Ultimate Tensile Strength	100,000 PSI	210,000 PSI
Yield Strength (.2% Offset)	40,000 PSI	190,000 PSI
Elongation in 2" *	40%	2%
Modulus of Elasticity (Tension)	28 x 10 <sup>6</sup> PSI	25 x 10 <sup>6</sup> PSI
Poisson's Ratio	0.29	

\*The measured elongation will be less as thickness decreases to .002" and less.

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<sup>1</sup> These values may be adjusted by control of specific melt chemistry and process variables to obtain discrete ranges of strength and ductility. Consult Hamilton Precision Metals for desired limits to meet application need.

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### PHYSICAL PROPERTIES:<sup>2</sup>

Density	-	0.284 lbs./cu.in.
Melting Point (Approx.)	-	1400° C
Electrical Resistivity @ R.T.	-	72 Microhm· cm
Thermal Expansion Coefficient (0° to 100° C)	-	17.3 x 10 <sup>-6</sup> / °C
Thermal Conductivity @ 100° C	-	16.3 W/m· K
Magnetic Attraction	-	
Annealed	-	None
Cold Rolled	-	Slight
Magnetic Permeability (Annealed: H = 200 oersteds)	-	1.02 Max.

### GENERAL INFORMATION:

The alloy is readily formed in the annealed temper. SS 304L may be joined by all commonly used brazing and welding methods including oxyacetylene. The corrosive resistance to acids is generally very good with the exception of halogen acids.

### AVAILABILITY:

SS 304L is available from Hamilton Precision Metals as strip product in thicknesses from .0005" to .050" in widths up to 12.0". It is also available in foil as thin as .000200" in widths of 4.0" maximum. The material conforms to ASTM A240, ASTM A666, FED QQ-S-766, MIL-S-4043, UNS S30403.

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