

# STAINLESS STEEL

# 304L HN



## SS 304L HN (UNS S30403)

SS 304L HN is an austenitic Chromium-Nickel stainless steel offering the optimum combination of corrosion resistance, strength and ductility. It has been remelted by ESR refining and conditioned to produce a minimum non-metallic impurity level. This will result in a surface that is most favorable for minimizing failures during severe forming operations. The high Nickel composition provides optimum ductility and formability from the annealed temper due to low work hardening rate. The low carbon content reduces susceptibility to carbide precipitation during welding.

### GENERAL INFORMATION

The alloy is readily formed in the annealed temper. SS 304L HN 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 to halogen acids.

### AVAILABILITY

SS 304L HN is available from Hamilton Precision Metals as strip product in thicknesses from 0.0005" to 0.050" (0.0127 mm to 1.27 mm) in widths up to 12.0" (304.8 mm). It is also available in foil as thin as 0.000200" (0.0508 mm) in widths of 4.0" (101.6 mm) maximum. The material conforms to ASTM A240, ASTM A666 and UNS S30403.



## Technical Data

TYPICAL MECHANICAL PROPERTIES <sup>1</sup>		
	ANNEALED	COLD ROLLED
Ultimate Tensile Strength	100,000 PSI	210,000 PSI
Yield Strength (0.2% Offset)	40,000 PSI	190,000 PSI
Elongation in 2" *	40%	2%
Modulus of Elasticity (Tension)	28 X 10 <sup>6</sup> PSI	28 X 10 <sup>6</sup> PSI
Poisson's Ratio	0.29	-

\*The measured elongation will be less as thickness decreases to 0.002" and less.

<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.

NOMINAL COMPOSITION	
Chromium	18.5%
Nickel	10.0%
Manganese	1.6%
Silicon	0.5%
Carbon	0.015%
Iron	Balance

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.

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

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