



Hamilton Precision Metals
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TECHNICAL DATA SHEET

SS 302

SS 302 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.

NOMINAL COMPOSITION:

Chromium	18.2%	Silicon	.5%
Nickel	8.5%	Carbon	.06%
Manganese	1.6%	Iron	Balance

TYPICAL MECHANICAL PROPERTIES:¹

	<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 ⁶ PSI	
Poisson's Ratio	0.29	

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

¹ 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.

SS 302

PHYSICAL PROPERTIES:²

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 ⁻⁶ /° 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 302 may be joined by all commonly used brazing and welding methods including oxyacetylene. Caution should be used to avoid cooling slowly through the range of 900° to 1600°F where carbide network could form and reduce corrosion resistance. This characteristic is diminished due to the typically low carbon composition of Hamilton's SS 302. The corrosive resistance to acids is generally very good with the exception of halogen acids.

AVAILABILITY:

SS 302 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-763, MIL-S-5059, UNS S30200, and UNS S30400.

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