DIN-EN 1.4310, UNS S30100, 1/4H (AMS 5517), 1/2H (AMS 5518), 3/4H (AMS 5902), FH (AMS 5519), 301 Extra Hard, 301 Super Hard

301 stainless steel strip is a chromium-nickel austenitic stainless steel that is known for its high strength and good ductility as it can be cold worked. As a modification of the Type 304, the content of chromium and nickel in the steel has been decreased in order to increase the range of cold work-hardening temperatures. As a result, higher tensile strengths can be achieved by rolling without sacrificing as much ductility as might be the case when using Type 304.

301 Stainless Steel Strip Applications

- Constant Force Spring
- Clamps & Clips
- Stamping Parts
- Electronics

Cold Working Of 301 Stainless Steel Strip

301 stainless steel strip can be cold worked to achieve high strength and ductility. It cannot be hardened by heat treatment in any way. Its high strength and excellent corrosion resistance make Type 301 stainless steel strip an excellent choice for a wide range of applications. Structural parts for aircraft, trailers, and diaphragms are typical uses.

Corrosion Resistance

The corrosion resistance of Type 301 is comparable to that of Type 304 in milder service conditions. It has excellent resistance to atmospheric corrosion, food, juices, and road de-icing salts.

Heat Treatment

Type 301 stainless steel cannot be hardened by heat treatment in any way.

Formability Of 301 Stainless Steel Strip

It is easy to form and draw Type 301. In severe drawing and forming operations, intermediate annealing may be necessary because of its high work-hardening rate.

Available Sizes & Forms

- Thickness Range: 0.03-2 mm (.001″- .079″)
- Slitting Width: 2-300 mm (.08″ - 12)
- Materials can be delivered in forms of strip coils and cut-to-length.

Gauge Tolerance

Thickness Tolerance: +/- 0.005 mm

Width Tolerance: +/- 0.05 mm

Straightness

Maximum deviation is 1.25 mm per 1000 mm.

Surface Finish

- **2H** -work hardened and temper rolled for higher tensile strength
- **2R/BA** -cold rolled, bright annealed and skin passed. Smooth, bright surface.

Surface Roughness

Surface roughness values for materials in Full Hard is between Ra 0.20-0.40 µm.
Surface roughness values for materials in Super Hard is between Ra 0.10-0.20 µm.

Specifications

Our type 301 stainless steel strip is covered by the following specifications:

- ASTM A 666
- ASTM A 240

Edging Treatment

- **Mill Edge** – untreated edge, generally with a somewhat uneven contour.
- **Slit Edge** – edge with the shearing burr not removed.
- **Deburred Edge** – slit edge from which the burr has been removed.
- **Round Edge** – edge completely rounded.

Physical Properties

Melting Point	Density	Specific Gravity	Modulus of Elasticity in Tension
2550-2590° F 1399-1421° C	.29 lb/in^3 8.03g/cm^3	8.03	28 X 10^6 psi 193 Gpa

Chemical Composition

Element	% Present Max.
Carbon (C)	0.15
Chromium (Cr)	16.00 – 18.00
Manganese (Mn)	2.00
Silicon (Si)	1.00
Phosphorous (P)	0.04
Sulphur (S)	0.03
Nickel (Ni)	6.00 – 8.00
Iron (Fe)	Balance
Nitrogen (N)	0.10

Mechanical Properties

Type	Tensile Strength Rm (N/mm^2)	Yield Strength Rp 0.2 (N/mm^2)	Condition	Vickers Hardness (HV)	Elongation % Min.
301	≥520	≥205	ANN	220 Max.	40
	≥780	≥470	1/4 Hard	250-310	25
	≥930	≥510	1/2 Hard	310-370	18
	≥1130	≥745	3/4 Hard	370-430	5
	≥1320	≥1030	Full Hard	430-490	4
	≥1570	≥1275	Extra Hard	490-550	3
	≥1750	≥1550	Super Hard	550-620	1

Editor

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Important Note

Information given in this data sheet about the condition or usability of materials respectively products are no warranty for their properties, but act as a description. The information, we give on for advice, comply to the experiences of the manufacturer as well as our own. We cannot give warranty for the results of processing and application of the products.