

**DIN-EN 1.4301, UNS S30400, ANN ( AMS 5513), 1/4H (AMS 5910), 1/2H (AMS 5911), 3/4H (AMS 5912), FH (AMS 5513)**

304 stainless steel contains a high nickel content and is one of the most versatile and widely used austenitic chromium-nickel stainless steels. Sometimes it is also referred to as 18/8, due to its composition of 18% chromium and 8% nickel. There are also nickel, manganese, silicon, nitrogen, carbon, phosphorus, and sulfur in the alloy. Aside from excellent drawing properties, this material is also highly corrosion-resistant and very formable.

**304 Stainless Steel Strip Applications**

- Flexible Hoses
- Clamps & Clips
- Surgical Instruments
- Electronics
- Fasteners
- Air Bag Sensors
- Needles

**Cold Working Of 304 Stainless Steel Strip**

It is readily possible to work harden 304 stainless steel strip. Through cold working, a high level of strength and hardness can be achieved. The type 304 stainless steels are very ductile when they have been annealed, and they can easily be cold worked by roll forming, deep drawing, and bending, as well as other common fabrication methods. As work hardening occurs rapidly in this material, annealing in the process may prove necessary to restore ductility and to reduce hardness.

**Corrosion Resistance**

Among stainless steels, type 304 is widely regarded as the most common austenitic stainless steel. The alloy contains approximately 18 to 20 percent chromium and between 8 and 10.5 percent nickel by weight. As 304 stainless steel is a material that contains a high amount of chromium and nickel, it is excellent when it comes to resistance to corrosion in a wide variety of environments and when being in contact with different types of hazardous substances

## Heat Treatment

A rapid cooling procedure is conducted after annealing at 1065 – 1120°C to prevent chromium carbides from precipitating. Type 304 stainless steel cannot be hardened by heat treatment in any way. This material can only be hardened by cold working.

## Formability Of 304 Stainless Steel Strip

In terms of forming and drawing, types 304 stainless steel are very easy to work with. In severe forming applications involving multi-draw operations or complex shapes, Type 304 with higher nickel content is well suited. The reason for this is that it has a lower hardening rate and a lower strength.

## 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 type 304 stainless steel in Full Hard tempered is between Ra 0.20-0.40 µm.

## Specifications

Our type 304 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.

## Chemical Composition

Element	% Present Max.
Carbon (C)	0.07
Chromium (Cr)	18.00 – 20.00
Manganese (Mn)	2.00
Silicon (Si)	0.75
Phosphorous (P)	0.04
Sulphur (S)	0.03
Nickel (Ni)	8.00 – 11.00
Iron (Fe)	Balance
Nitrogen (N)	0.10

## Physical Properties

Melting Point	Density	Specific Gravity	Modulus of Elasticity in Tension
2550-2590° F 1399-1421° C	.285 lb/in <sup>3</sup> 7.90g/cm <sup>3</sup>	7.90	29 X 10 <sup>6</sup> psi 200 Gpa

## Mechanical Properties

Type	Tensile Strength Rm (N/mm <sup>2</sup> )	Yield Strength Rp 0.2 (N/mm <sup>2</sup> )	Condition	Vickers Hardness (HV)	Elongation % Min.
304	≥480	≥205	ANN	200 Max.	40
	≥700	≥450	1/4 Hard	220-250	20
	≥850	≥700	1/2 Hard	250-310	8
	≥930	≥830	3/4 Hard	310-370	4
	≥1130	≥880	Full Hard	≥370	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.