

304 stainless steel is the most common austenitic stainless steel grade. 304 stainless contains a higher chromium and lower carbon content than other variations of type 302. It can be used in an "as welded" condition, while 302 must be annealed. 304 is used in a variety of household and industrial applications, especially fasteners and food processing equipment.

### 304 Chemical Composition

<b>C</b>	Carbon - 0.08% maximum
<b>Mn</b>	Manganese - 2.00% maximum
<b>P</b>	Phosphorus - 0.045% maximum
<b>S</b>	Sulfur - 0.03% maximum
<b>Si</b>	Silicon - 0.75% maximum
<b>Cr</b>	Chromium - 18.000 - 20.000%
<b>Ni</b>	Nickel - 8.000 - 12.000%
<b>N</b>	Nitrogen - 0.10% maximum
<b>Fe</b>	Iron - Balance

Percent by weight, maximum unless a range is listed.

### Other industry standards we comply with

- W.NR 1.4307
- PWA-LCS
- GE Aircraft Engine (GT193)
- GE Aviation S-SPEC-35 AeDMS S-400
- RR SABRe Edition 2
- DFARS Compliant

### Standard Inventory Specifications

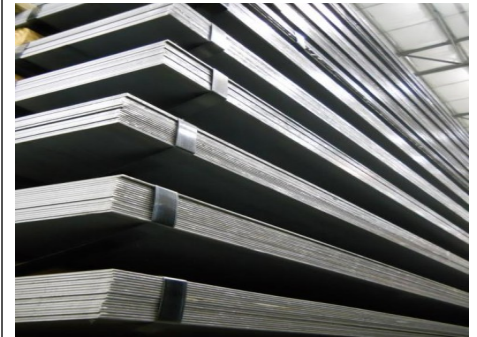
- UNS S30400
- AMS 5511
- AMS 5513
- ASTM A 240
- ASTM A 666
- ASME SA 240
- W.NR 1.4307
- PWA-LCS
- GE Aircraft Engine (GT193)
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### Forms Stocked

- Coil - 0.020" - 0.125" thick
- Sheet - 0.020" - 0.125" thick
- Plate - 0.1875" - 2.000" thick
- Rolled Strip - 0.0008" - 0.015"

### Applications

- Aerospace structures
- Base plates and fasteners
- Food and beverage industry
- Pressure containing applications
- Sanitary or cryogenic applications
- Chemical industry processing equipment



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### Features

- Excellent corrosion resistance
- Good fabrication qualities
- Good strength and toughness at cryogenic temperatures
- Excellent formability

The technical data provided is for information only and not for design purposes. It is not warranted or guaranteed.

**Resistance to Corrosion:** Type 304 austenitic stainless steel provides useful resistance to corrosion on a wide range of moderately oxidizing to moderately reducing environments. This alloy is widely used in equipment and utensils for processing and handling of food, beverages and dairy products.

### Physical Properties

- Density: 0.29 lb/in<sup>3</sup> (8.03 g/cm<sup>3</sup>)
- Modulus of Elasticity in Tension: 29 x 10<sup>6</sup> psi (200 GPa)

### Linear Coefficient of Thermal Expansion

Temperature Range		Mean Coefficient of thermal Expansion	
°C	°F	cm/cm°C	in/in/°F
20-100	68-212	16.6·10 <sup>-6</sup>	9.2·10 <sup>-6</sup>
20-870	68-1600	19.8·10 <sup>-6</sup>	11·10 <sup>-6</sup>

### Thermal Conductivity

Temperature Range		Coefficients	
°C	°F	W/m·K	Btu/(hr/ft <sup>2</sup> /hr/°F/ft)
100	212	16.3	9.4
500	932	21.4	12.4

### Specific Heat

Temperature Range		J/kg°K	Btu/lb/°F
°C	°F		
0-100	32-212	500	0.12

### Magnetic Permeability

H/m annealed  
1.02 Max @ 200 H

### Electrical resistivity (Annealed Condition)

Temperature Range		microhm-cm	microhm-in
°C	°F		
20	68	72	28.3
100	212	78	30.7
200	392	86	33.8
400	752	100	39.4
600	1112	111	43.7
800	1472	121	47.6
900	1652	126	49.6

### Mechanical Properties

Grade	Ultimate Tensile Strength		0.2% Yield Strength, Min.		Elong. In 2" (50.8mm)	Hardness
	psi	MPa	psi	MPa	%, Min.	Rockwell
304	42	290	90	621	55	B82