

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

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

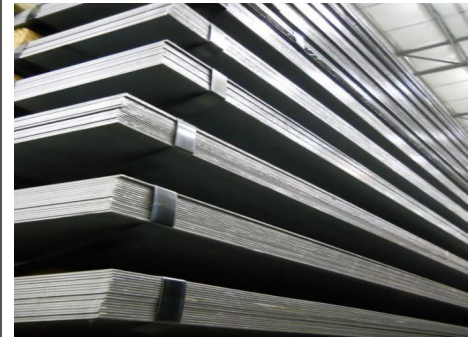
- UNS S30400
- AMS 5511
- AMS 5513
- ASTM A 240
- ASTM A 666
- ASME SA 240
- W.NR 1.4307
- PWA-LCS
- GE Aircraft Engine (GT193)
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Forms Stocked

- Coil - 0.016" - 0.125" thick
- Sheet - 0.016" - 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/in³ (8.03 g/cm³)
- Modulus of Elasticity in Tension: 29 x 10⁶ 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 ⁻⁶	9.2·10 ⁻⁶
20-870	68-1600	19.8·10 ⁻⁶	11·10 ⁻⁶

Thermal Conductivity

Temperature Range		Coefficients	
°C	°F	W/m·K	Btu/(hr/ft ² /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