

304 / 304L Stainless

Technical Datasheet



Service. Quality. Value.

Austenitic Stainless Steel

Typical Applications

- Pharmaceutical processing equipment
- Chemical processing equipment
- Architectural applications
- Sinks & splash backs
- Tubing
- Springs, nuts, bolts & screws

Product Description

Type 304 stainless steel is an austenitic alloy containing 18% chrome and 8% nickel. The alloy has a lower carbon content which minimizes chromium carbide precipitation due to welding and its susceptibility to intergranular corrosion. Weldability and forming properties of Type 304 are excellent whilst machinability is reasonable. The alloy also benefits from very good drawability. A combination of low yield strength and high elongation allows for the forming of complex shapes, although it should be noted that the material hardens rapidly. Type 304L is the low carbon version of 304, does not require post-weld annealing and so is extensively used in heavy gauge components (over about 6mm).

Key features

- Austenitic stainless steel
- Contains 18% chrome and 8% nickel
- Excellent welding and forming properties
- Machinability is reasonable

Machinability

Reasonable machinability.

Weldability

By common welding techniques.

Availability

Round Bar, plate, sheet, wire tube.

Corrosion resistance

Excellent resistance to a wide range of atmospheric, chemical, textile, petroleum and food industry exposures.

Chemical Composition (weight %)

	C	Cr	Mn	Si	P	S	Ni	Fe	
min		17.50					8.00		
max	0.07	19.50	2.00	1.00	0.05	0.02	10.50	Bal	

Mechanical Properties

Tensile strength	500 - 700	MPa
Proof Stress	210 min	MPa
Elongation A5	45 min	%

Physical Properties

Density	8.00	kg/m ³
Melting Point	1450	°C
Modulus of Elasticity	193	GPa
Electrical Resistivity	0.072	x10 ⁻⁶ Ω.m
Thermal Conductivity	16.2	W/m.K
Thermal Expansion	17.2	x10 ⁻⁶ /K

Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

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