



Stainless Steel 303 Tubing



Stainless Steel 303 Tubing is a crucial material used in alternative fuel vehicles because it comprises sulfur, chromium, iron, nickel, and carbon. This intricate alloy combines impact, strength, and corrosion resistance for superior performance. Additionally, the tubings are resistant to oxidation in heat up to **1700 degrees** Fahrenheit - perfect for withstanding extreme temperature changes. Unsurprisingly, SS 303 tube is one of the most reliable materials in the automotive industry today!

303 Stainless steel tubing is a versatile and corrosion-resistant material used for countless applications. It is made of high-quality stainless steel with superior strength and durability, excellent machinability and formability. Some of its primary uses include tubing for gas and water pipes, chemical containers, automotive parts, food processing equipment, and medical instruments. This type of [stainless steel](#) also displays great resistance to oxidation and scaling when exposed to high temperatures. Its high ductility makes it an ideal material for forming complex shapes or sizes unavailable in many metals. The main characteristic of **303 SS tubing** is the addition of sulfur which improves machinability but limits other properties, such as welding attributes, making it mainly suitable for mechanical operations, including threaded components and [fasteners](#).

Specification of 303 Stainless Steel Tubing

Specification	Description
Product Name	Stainless Steel 303 Tube
Outer Diameter	1/8" - 6"
Wall Thickness	0.010" - 0.500"
Length	Up to 48 ft
Surface Finish	Mill finish, polished finish

Application of 303 Stainless Steel Tube

Application	Industries
Machining	Manufacturing, automotive, aerospace, medical
Processing equipment	Chemical and food processing industries
Fasteners	Construction, marine
Pump shafts	Water treatment, oil and gas

Chemical Composition of 303 Stainless Tubing

Element	Composition (in %)
Chromium	17 - 19
Nickel	8 - 10
Carbon	0.15
Manganese	2
Phosphorus	0.20
Sulfur	0.15 - 0.35
Silicon	1
Iron	Balance

Physical Properties Of 303 Stainless Steel Tubing

Property	Value
Density	8.03 g/cm ³
Melting point	1398 - 1420°C
Thermal conductivity	16.3 W/m°C
Coefficient of thermal expansion	17.3 µm/m°C
Specific heat capacity	500 J/kg°C

Mechanical Properties of 303 Stainless Tubing

Property	Value
Tensile strength	500 MPa
Yield strength	190 MPa
Elongation	35%
Hardness (Brinell)	230 max
Modulus of elasticity	193 GPa

Standards Of 303 Stainless Steel Tube

Standard	Description
ASTM A269	Standard specification for seamless and welded austenitic stainless steel tubing for general service
ASTM A312	Standard specification for seamless, welded, and heavily cold-worked austenitic stainless steel pipes
ASTM A358	Standard specification for electric-fusion-welded austenitic chromium-nickel stainless steel pipe for high-temperature service and general applications