



## Stainless Steel 310/310S

Henan Sheng He Pipe Industry Co., Ltd., have an experience spanning for over ten years, producing and supplying best-in-class products, minimize cost by getting manufacturing processes under one roof and delivering consignments on a daily basis only because of a diligent and dedicated team. We are manufacturers, suppliers and exporters of Stainless Steel 310/310S material.

### **UNS - S31000 / S31008**

Stainless steel 310 is an austenitic heat resistant alloy with phenomenal resistance to oxidation under mildly cyclic conditions through 2000°F. Its nickel and high chromium contents provide similar corrosion resistance, superior resistance to oxidation and the retention of a larger fraction of room temperature strength than the common austenitic alloys like Type 304.

Stainless 310 is frequently utilized at cryogenic temperatures, with excellent toughness to -450°F. temperatures, with excellent toughness to -450°F, and low magnetic permeability.

Stainless steel 310S is austenitic chromium, nickel stainless steel (.08% max carbon) with good oxidation resistance and strength at high temperatures. It resists oxidation in continuous service up to 2000°F. If decreasing sulphur gasses are not present. It is additionally utilized for intermittent service at temperatures up to 1900°F due to it resists rescaling and has a low coefficient of expansion. This factor reduces the tendency of the steel to warp in heat service. 310s are same as 310 aside from lower carbon content to minimize carbide precipitation during welding.

### **Characteristics**

- Oxidation resistance to 2000°F
- Moderate strength at high temperature
- Resistance to hot corrosion
- Strength and toughness at cryogenic temperatures

### **Applications**

- Kilns
- Heat Exchangers
- Radiant Tubes
- Muffles, retorts, annealing covers



- Tube hangers for petroleum refiing adn steam boilers
- Coal gasifier internal components
- Saggers
- Furnace parts, conveyor belts, rollers, oven linings, fans
- Food processing equipment
- Cryogenic structures

**Sheng He Pipe Industry offers Stainless Steel 310/310S in a variety of forms, including:**

- Pipe & Welded pipe
- Pipe fittings
- Seamless tube & Welded tube
- Flanges
- Bar
- Sheet
- Wire
- Plate
- Forgings
- Weld Rod

**Chemical Composition %**

Grade	C	Si	P	S	Cr	Mn	Ni	Fe
310	0.025 max	1.50 max	0.045 max	0.03 max	24.0 - 26.0	2.0 max	19.0-22.0	Remainder
310S	0.08 max	1.50 max	0.045 max	0.03 max	24.0 - 26.0	2.0 max	19.0-22.0	Remainder

**Mechanical Properties**

Tensile Strength (ksi)	0.2% Yield Strength (ksi)	Elongation% in 2 inches
75	30	40



## Physical Properties

	310	310S	Temperature in °C
<b>Density</b>	8.0 g/cm <sup>3</sup>	9.01 g/cm <sup>3</sup>	Room
<b>Specific Heat</b>	0.12 Kcal/kg.C	0.12 Kcal/kg.C	22°
<b>Melting Range</b>	1400 - 1455 °C	1399 - 1454 °C	-
<b>Modulus of Elasticity</b>	193 - 200 KN/mm <sup>2</sup>	200 KN/mm <sup>2</sup>	22°
<b>Electrical Resistivity</b>	77 µΩ.cm	94 µΩ.cm	Room
<b>Coefficient of Expansion</b>	15.8 µm/m °C	14.4 µm/m °C	20 - 100°
<b>Thermal Conductivity</b>	16.2 W/m -°K	13.8 W/m -°K	20°

## ASTM Specifications

Pipe / Tube (SMLS)	Sheet / Plate	Bar	Forging	Fitting
A 213, A 249	A 167, A 240	A 276	A 182	A 403