



ZHEHENG STEEL

Wenzhou Zheheng Steel Industry Co.,Ltd  
stainless-steelseamlesspipe.com

## AISI 631/1.4568 8 Inch SS Round Pipe UNS S17700 Heat Resistant

### Our Product Introduction

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#### Basic Information

- Place of Origin: Wenzhou,China
- Brand Name: Zheheng
- Certification: ISO9001
- Model Number: AISI 631
- Minimum Order Quantity: MOQ500kg
- Packaging Details: Seaworthy Standard Package
- Delivery Time: 7-15 working days after receiving payment
- Payment Terms: L/C, D/P, T/T, Western Union
- Supply Ability: 5000 Ton/Tons per Month



#### Product Specification

- NPS: 1/8"-24"
- Grade: 631 Stainless Steel
- Wall Thickness: SCH10S, SCH40, SCH XS, SCH 60, SCH80S, SCH12020, SCH1160, SCH
- Delivery Time: 15-21 Days
- Application: Valves And Gears, Engine Components, High Strength And Boat Propeller Shafts, Plastic Moulding Dies
- Section Shape: Round
- Finished: Annealing Pickling, Bright Annealing
- Price Term: FOB CIF CFR EXW Etc.
- Highlight: **AISI 631 Stainless Steel Seamless Pip,  
8inch SS round pipe,  
Heat Resistant Stainless Steel Seamless Pipe**



## Product Description

### Overview

631 stainless steel, also known as 17-7 PH stainless steel, is a versatile corrosion-resistant alloy with a unique chemical composition. The main components are iron, chromium and nickel, but also contain small amounts of aluminum and copper. 631 stainless steel is unique in its unique precipitation hardening ability achieved through heat treatment. This stainless steel alloy is widely used in various industries, including aerospace, automotive and medical. Its superior strength combined with good formability makes it suitable for the manufacture of complex components such as springs, washers and high-strength structural parts. In addition, its corrosion resistance and biocompatibility make it an excellent choice for surgical instruments, orthodontic devices, and implantable medical devices. With its combination of mechanical properties and resistance to environmental factors, 631 stainless steel remains a popular material in a variety of demanding applications.

### Chemical composition

C	Mn	Si	P	S	Cr	Ni	Al
0.09	1	0.5	0.025	0.025	16.00 – 17.25	6.50 – 7.75	0.75 – 1.25

### Mechanical Properties

	AISI 63
Ultimate Tensile Strength	1170Mpa, 170000psi
Yield Strength	965Mpa, 140000ps
Elongation %	6 min

### Physical properties

**Tensile strength  $\sigma_b$  (MPa)** : solid solution,  $\leq 1030$ ; Aging at  $565^\circ\text{C}$ ,  $\geq 1140$ ; Aging at  $510^\circ\text{C}$   $\geq 1230$

**Conditional yield strength  $\sigma_{0.2}$  (MPa)** : solid solution,  $\leq 380$ ; Aging at  $565^\circ\text{C}$ ,  $\geq 960$ ; Aging at  $510^\circ\text{C}$   $\geq 1030$

**Elongation  $\delta_5$  (%)** : solid solution,  $\geq 20$ ; Aging at  $565^\circ\text{C}$ ,  $\geq 5$ ; Aging at  $510^\circ\text{C}$   $\geq 4$

**Section shrinkage ratio  $\psi$  (%)** :  $565^\circ\text{C}$  aging,  $\geq 25$ ; Aging at  $510^\circ\text{C}$ ,  $\geq 10$

**Hardness** : solid solution,  $\leq 229\text{HB}$ ; Aging at  $565^\circ\text{C}$ ,  $\geq 363\text{HB}$ ; Aging at  $510^\circ\text{C}$ ,  $\geq 388\text{HB}$

### Heat treatment

1. Solid solution,  $1000 \sim 1100^\circ\text{C}$  fast cooling;
2. Aged at  $565^\circ\text{C}$ , after solution treatment,  $760 \pm 15^\circ\text{C}$  for 90min, cooled to below  $15^\circ\text{C}$  within 1h, kept for 30min, then heated to  $565 \pm 10^\circ\text{C}$  for 90min, air cooling;
3.  $510^\circ\text{C}$  aging, after solid solution treatment,  $955 \pm 10^\circ\text{C}$  for 10min, air cooling to room temperature within 24h cooling to  $-73 \pm 6^\circ\text{C}$ , maintained for 8h, then heated to  $510 \pm 10^\circ\text{C}$  for 60min, air cooling.

### Corrosion Resistance

The 631 stainless steel is highly corrosion-resistant in seawater, acids, and alkalis environments. It offers better corrosion resistance than 304 and 316 stainless steel due to its higher chromium content. However, the alloy is susceptible to pitting and crevice corrosion in chloride-containing solutions.

### Why choose us

1. Size control
2. Chemical composition control
4. ultrasonic testing of steel tube
3. hydraulic testing machine

### Package detail



## Shipping



1. Packing type: Carton and wooden case, also be packaged according to customer requirements.
2. Modes of transportation: by sea, by air or land transportation, of course, a small amount can also be by Express.



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