



Canada  
SPECIAL STEEL INC



# Alloy 625

PIPE AND TUBE



## Applications

### INDUSTRIAL

Offshore Industry, Furnace Linings, Geothermal Power Plants, ect.

## Features

### GRADE 1

- Exceptional resistance to pitting, crevice corrosion, erosion and intergranular corrosion
- Immunity to chloride-induced stress corrosion cracking
- Good resistance to mineral acids such as nitric, phosphoric, sulfuric and hydrochloric acid
- Good resistance to alkalis and organic acid
- Good mechanical properties

### GRADE 2

- Excellent creep strength above about 600°C
- Good resistance to many types of hot gas corrosion, particularly chlorination

## Standard

ASTM B444 for seamless pipe and tube

## Material

Alloy 625 / UNS N06625 / 2.4856

## Surface

Bright annealed / annealed

## Package

Wooden case

## Chemical composition (Nominal) %

Grade	C	Mn	Si	P	S	Cr	Cb+Ta	Co
Alloy 625	0.10 max	0.50 max	0.50 max	0.015 max	0.015 max	20.0-23.0	3.15-4.15	1.0 max
	Mo	Fe	Al	Ti	Ni			
	8.0-10.0	5.0 max	0.40 max	0.40 max	58.0 min			

## Physical properties

Density 8.47 g/cm<sup>3</sup> (0.306 lb/in<sup>3</sup>)

## Mechanical properties

Heat Treatment	Tensile Strength, min, ksi (MPa)	Yield Strength, min. (0.2% offset), min, ksi (MPa)	Elongation in 2 in. or 50.8 mm (or 4 D), min, %
Grade 1 (annealed)	120 (827)	60 (414)	30
Grade 2 (solution annealed)	100 (690)	40 (276)	30

## Heat treatment

### Soft Annealing

Alloy 625 is used in applications where the operating temperatures are below 600°C (1,112°F) in the soft annealed condition (grade 1). The soft annealing is carried out at temperatures of 950 to 1,050°C (1,742 to 1,922°F); a temperature of 980°C (1,796°F) is preferred.

### Solution Annealing

For applications above 600°C (1,112°F), the solution annealed variant of Alloy 625 (grade 2), which provides optimized creep strength, is used. The solution heat treatment should be carried out in the temperature range between 1,080°C and 1,160°C (1,976 and 2,120°F), preferably at 1,120°C (2,048°F).