TG Steels

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/cm³ (*0.306 lb/in³*)

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	Solution 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.	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)*.