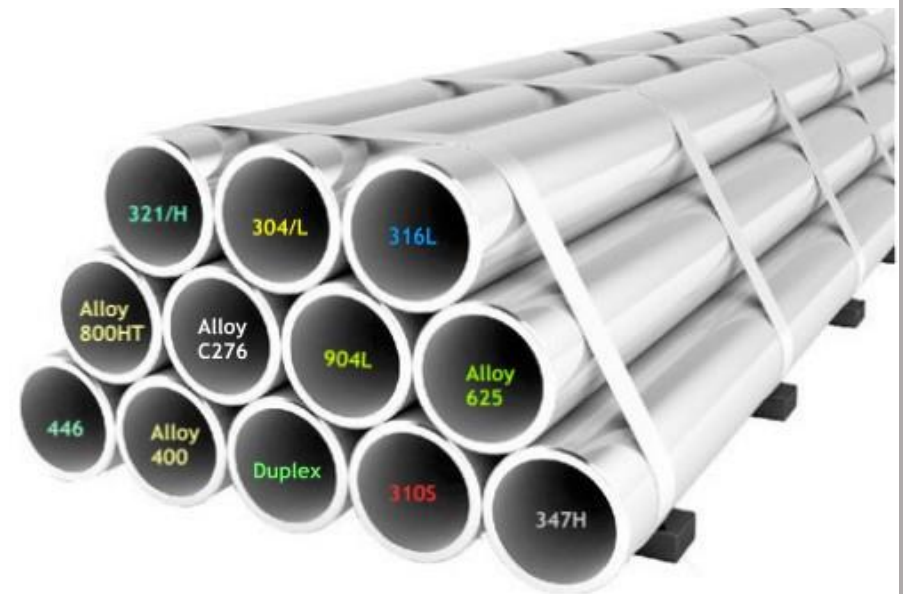


INCONEL 625

Datasheet for Inconel 625

- Pipes & Tubes
- Sheets & Plates
- Bars & Rods, Forgings
- Fittings & Flanges
- Nuts & Bolts
- Valves



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Datasheet for Inconel 625

UNS N06625, W.Nr. 2.4856

What is Inconel 625?

- Inconel 625 (UNS N06625 or DIN W.Nr. 2.4856), also known as Alloy 625, is a nickel-chromium-molybdenum alloy with an addition of niobium that reacts with the molybdenum to stiffen the alloy's matrix and thereby provide high strength without a strengthening heat treatment. Alloy 625 is capable of resisting a wide range of corrosive environments and is especially resistant to pitting and crevice corrosion. The alloy also has excellent fatigue strength and stress-corrosion cracking resistance to chloride ions. Usually, Inconel Alloy 625 can be used at the temperature up to 980°C (1800°F) in oxidation service.
- **Inconel 625** is basically a corrosion and oxidation resistant nickel alloy that is used both for its high power and exceptional aqueous erosion conflict. Alloy 625 has excellent fatigue strength and stress-corrosion cracking resistance to chloride ions. The metal is best worked under a combination of hot and cold practices, as it work-hardens rapidly.

Fabrication

- Alloy 625 has excellent forming and welding characteristics. It may be forged or hot worked providing temperature is maintained in the range of about 1800-2150° F. Ideally, to control grain size, finish hot working operations should be performed at the lower end of the temperature range.
- Because of its good ductility, alloy 625 is also readily formed by cold working. However, the alloy does work-harden rapidly so intermediate annealing treatments may be needed for complex component forming operations.
- In order to restore the best balance of properties, all hot or cold worked parts should be annealed and rapidly cooled. This nickel alloy can be welded by both manual and automatic welding methods, including gas tungsten arc, gas metal arc, electron beam and resistance welding. It exhibits good restraint welding characteristics.

Inconel 625 Product Specification

Product	Inconel 625
Equivalents	Alloy 625, UNS N06625, 2.4856
Items	Pipe, Tubes, Tubing, Fittings, Flanges, Valves, Fasteners, Sheet, Square Bar, Threaded Bar, Plate, Hexagon Bar, Fasteners and Fixings, Round Bar, Flat Bar, Rebar, Angle, Tube & Pipe, Wire
Size	1/4" - 60"
Pipe Type	Seamless, Welded, ERW, Fabricated, Custom Size Pipes

Specifications	ASTM, ASME, DIN, GOST, JIS
Certification	EN 10204 3.1
Fittings Type	Butt Weld, Screwed & Socket Weld, Flanges, Instrumentation
Other Fittings	Elbows, Tees, Reducers, Caps, Stub Ends, Flanges (ANSI, Table E, D and H), Nuts, Bolts, Screws, Threaded Bars

Inconel 625 (UNS N06625, 2.4856) Product Forms & Standards

Products Form	Standard
Inconel Alloy 625 Rod and Bar	ASTM B446
Inconel Alloy 625 Plate, Sheet and Strip	ASTM B443, B906
Inconel Alloy 625 Seamless Pipe and Tube	ASTM B444, B829
Inconel Alloy 625 Welded Pipe	ASTM B705, B775
Inconel Alloy 625 Welded Tube	ASTM B704, B751
Inconel Alloy 625 Buttweld Fitting	ASTM B366
Inconel Alloy 625 Billet and Bar for Reforging	ASTM B472
Inconel Alloy 625 Forgings	ASTM B564

Chemical Composition, Mechanical & Physical Properties of Alloy 625

Chemical Composition of Inconel 625

Element	Value %
Ni	58.0 min
Al	0.40 max

Fe	5.0 max
Mn	0.50 max
C	0.10 max
Si	0.50 max
S	0.015 max
P	0.015 max
Cr	20.0 – 23.0
NB + Ta	3.15 – 4.15
CO (IF DETERMINED)	1.0 max
Mo	8.0 – 10.0
Ti	0.40 max

Mechanical & Physical Properties of Inconel 625

Density, g/c m ³	8.44
Melting range, °C	1290-1350
Tensile strength, min, Mpa	760
Yield strength, 0.2% offset, min, Mpa	345
Elongation, %	25
Hardness, HB, min	220

What are the Properties of Inconel 625 or Alloy 625?

Inconel 625's properties are often utilized for marine and aerospace engineering, along with welding. Its unique composition and properties make Inconel 625 excellent in both acidic and alkaline environments, along with those that are caustic and aqueous. Sea water environments are a common application as well, along with those that experience high stress. Some of the key properties of Alloy 625 are as below:

- High creep-rupture strength
- Oxidation resistant to 1800° F
- Seawater pitting and crevice corrosion resistant
- Immune to chloride ion stress corrosion cracking
- Non-magnetic

What are the Applications of Inconel Alloy 600?

Inconel 625 typically finds application in a wide range of temperatures and environments. Products manufactured from Alloy 625 are widely used for chemical processing and electronics, containers and piping, processing equipment, particularly to maintain product purity in handling foods, synthetic fibers and alkalies. Inconel 625 alloy is used in various applications as below:

- Aerospace
- Heat treating industry
- Heat treating muffles and retorts
- Radiant tubes
- Catalyst support grids in nitric acid production
- Steam superheater tube supports
- Off-Shore Oil Drilling Companies
- Power Generation
- Petrochemicals
- Gas Processing
- Specialty Chemicals
- Pharmaceuticals
- Pharmaceutical Equipment
- Chemical Equipment
- Sea Water Equipment

- Heat Exchangers
- Condensers
- Pulp and Paper Industry

Types of Nickel Alloys

ASTM/AISI	UNS No	EN	DIN	JIS
Incoloy 800	N08800	1.4558	X2NiCrAlTi3220	NCF2B
Incoloy 800H	N08810			
Incoloy 825	N08825	2.4858	NiCr21Mo	NCF825
Inconel 600	N06600	2.4816	LC-NiCr12Fe	NCF1B
Hastelloy B	N10001			N12MV
Hastelloy B2	N10665	2.4617	NiMo28	
Hastelloy C				
Hastelloy C276	N10276	2.4819	NiMo16Cr15W	NW 0276
Hastelloy C4	N06455	2.461		
Hastelloy C22	N06022	2.4602		
Inconel 625	N06625	2.4856	NiCr22Mo9Nb	
Inconel 718	N07718	2.4668		
Monel 400	N04400	2.4360		NW 4400
Nickel 200	N02200	2.4060		

- **Trademark Notice:** Some names are trade names and/or trademarks of specific manufacturers. We are not affiliated with any manufacturer(s). Orders will be filled to meet specifications from any available source(s). Names are listed solely for reference to help identify products consistent with listed specifications.

Manufacturing Inconel 625 Products

Inconel 625 Alloy Sheet	Inconel 625 Alloy Plate Cuttings/Profiles	Inconel 625 Alloy Nuts, Bolts and Fasteners
Inconel 625 Alloy Plate	Inconel 625 Alloy Foil, Coil	Inconel 625 Alloy Wire
Inconel 625 Alloy Blocks/Slabs	Inconel 625 Alloy Strip	Inconel 625 Alloy Ingot
Inconel 625 Alloy Rod/Bar	Inconel 625 Alloy Pipes and Tubes	Inconel 625 Alloy Forgings and Castings
Inconel 625 Alloy Flanges	Inconel 625 Alloy Forged Fittings	Inconel 625 Alloy Buttweld Fittings

About Metallica Metals – The Steel Pipes Factory

- Established in 1975, the Metallica Metals Group (The Steel Pipes Factory) has its operations spread across major cities in India. We are a pioneer in the stainless steel pipes, nickel alloy products, titanium products, carbon steel pipes and alloy steel pipes manufacturing and processing industry. Our products including pipe fittings, flanges, pipes, sheet plates and valves are exported to over 70 countries across the world, while in India we have supplied to even the remote areas. With over 250 tons of sale in stainless steel and carbon steel pipes every day, Metallica has emerged as a prominent vendor for many buyers in India and Overseas
- **More than 3000 tons ready from stock and new production ready in just a few weeks.**
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Our Key Products

STAINLESS STEEL & NICKEL ALLOYS

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[Monel Alloys \(Ni-Cu Alloys\)](#)
[Inconel \(Ni-Cr-Mo\) Alloys](#)
[Incoloy Alloys \(Ni-Cr-Fe\)](#)
[Hastelloy Alloys](#)
[Stainless Steel 304/304L](#)

INSTRUMENTATION TUBES & FITTINGS

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[Seamless Tubing](#)
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[Double Compression Tube Fittings](#)
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PRODUCTS

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[Electropolish Tube](#)
[Heat Exchanger Tubes](#)

Stainless Steel 309S/309H

Stainless Steel 310/310S

Stainless Steel 316/316L

Stainless Steel 316Ti

Stainless Steel 317/317L

Stainless Steel 321/321H

Stainless Steel 347/347H

Stainless Steel 904L

Duplex Steels (UNS S32205, UNS S31803)

Super Duplex Steels (UNS S32760 / UNS S32750)

Stainless Steel 254 SMO (UNS S31254 / 1.4547)

Needle & Gauge Valves

Manifold Valves

Steel Bars/Rods & Wire

Fasteners (Nut, Bolt, Washer)

Steel Angle Bars

Hex Steel Bars

Round Steel Bars & Rod

Flat Steel Bars

Forgings, Rings & Forged Blocks

Stainless Steel Pipe

Stainless Steel Seamless Pipe

Stainless Steel Welded Pipe

Stainless Steel Tubes

Stainless Steel Furnace Tubes

Stainless Steel Seamless Tubing

Stainless Steel Heat Exchanger Tubes

Large Diameter Pipe

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