E STEEL SDN BHD (891338-A)

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Alloy 625 (UNS N06625), 2.4856

INCONEL 625 is a nickel-chromium-molybdenum alloy with an addition of niobium. The addition of molybdenum acts with the niobium to stiffen the alloy matrix, providing a high strength without a strengthening heat treatment. The alloy resists a wide range of corrosive environments and has a good resistance to pitting and crevice corrosion. Alloy 625 is used in chemical processing, aerospace and marine engineering oil & gas, pollution control equipment and nuclear reactors.

Chemical Composition, %

Ni	Fe	C	S	Co	Nb + Ta	Cr	Mn
58.0 min	5.0 max	0.1 max	0.15 max	1.0 max	3.15 - 4.15	20 - 23.0	0.5 max

Si	Mo	Ti	Al
0.5 max	8 - 10.0	0.4 max	0.4 max

Characteristics of Alloy 625, 2.4856

- Excellent mechanical properties at both extremely low and extremely high temperatures.
- Outstanding resistance to pitting, crevice corrosion and intercrystalline corrosion.
- Almost complete freedom from chloride induced stress corrosion cracking.
- High resistance to oxidation at elevated temperatures up to 1050C.
- Good resistance to acids, such as nitric, phosphoric, sulfuric and hydrochloric, as well as to alkalis makes possible the construction of thin structural parts of high heat transfer.

Applications of Inconel 625 , N06625

- Components where exposure to sea water and high mechanical stresses are required.
- Oil and gas production where hydrogen sulfide and elementary sulfur exist at temperature in excess of 150C.
- Components exposed to flue gas or in flue gas desulfurization plants.
- Flare stacks on offshore oil platforms.
- Hydrocarbon processing from tar-sand and oil-shale recovery projects.

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Mechanical Properties

Condition	Solution Annealed	Hot Worked
Tensile Strength (Mpa)	931	980
0.2% Yield Strength (Mpa)	539	588
Elongation (%)	45	45
Hardness (HB)	180	210