The short introduction of Inconel 625/2.4856/ UNS N06625

Inconel 625 is a density of 8.4 g / cm3 and a melting point of 1290-1350 ° C. Inconel 625 has excellent resistance to inorganic acid corrosion and excellent corrosion resistance.

Metallographic structure of Inconel 625

Inconel 625 is a face-centered cubic lattice structure. When held at about 650 ° C for a sufficient period of time, carbon particles and an unstable quaternary phase will precipitate and will be converted to a stable Ni 3 (antimony, titanium) orthorhombic phase. The molybdenum and niobium components in the nickel-chromium matrix after solid solution strengthening will improve the mechanical properties of the material, but the plasticity will be reduced.

Corrosion resistance of Inconel 625

Inconel 625 exhibits excellent corrosion resistance in many media. Excellent resistance to pitting, crevice corrosion, intergranular corrosion and erosion in chloride media. It has good resistance to inorganic acid corrosion, such as nitric acid, phosphoric acid, sulfuric acid, hydrochloric acid, etc., and also has alkali and organic acid corrosion resistance in the oxidation and reduction environment. Effective against chloride ion reductive stress corrosion cracking. It hardly corrodes in seawater and industrial gas environments, and has high corrosion resistance to seawater and salt solutions, as well as at high temperatures. No sensitivity during welding. It is resistant to carbonization and oxidation in static or cyclic environments and is resistant to chlorine-containing gases.

Chemical composition

C %	Si ≤%	Mn ≤%	P ≤%	S ≤%
0.03-0.10	0.50	0.50	0.02	0.015

Cr %	Mo %	Ni %	Ti ≤%	Cu %
20.0-23.0	8.00-10.0	≥58.0	0.40	≤0.50

Al %	Co %	Fe %	Nb %	
≤0.40	≤1.00	≤5.00	3.15-4.15	

Mechanical properties

Hardness HB 30 ≤HB	0.2% Yield strength Rp ≥N/mm^2	Tensile strength Rm N/mm^2	Elongation A_5 ≥%	Resistant on air up to °C
240	415	820-1050	30	1000

Products show and scope

