



Grade	Code	UNS	Nickel Alloys
Incoloy 825	Alloy 825 (2.4858)	N08825	

Nickel Alloy Properties

Alloy 825 is a nickel iron chromium alloy which has been developed to provide exceptional resistance to numerous corrosive environments including both oxidating and reducing. These environments include sulphuric, sulphurous, phosphoric, nitric, hydrofluoric and organic acids and alkalis such as sodium or potassium hydroxide, and acidic chloride solutions. Alloy 825 also offers outstanding performance in subsea applications.

Chemical Composition (Incoloy 825)

Ni %	Cr %	C %	Mo %	Mn %	Si %	Al %	Ti %	Cu %	Fe %
38,00 – 46,00	19,50 – 23,50	0,05 max.	2,50 – 3,50	1,00 max.	0,50 max.	0,20 max.	0,60 – 1,20	1,50 – 3,00	Balance

Mechanical Properties (Annealed)

Condition	Rp0.2, Mpa	Rm, Mpa	Elongation [%]	Hardness[HB]	Density [g/cm ³]
Bar & Rod	≥ 220	≥ 590	≥ 30	<327	8,14

Suitable For

Alloy 825 (UNS N08825) is used in the oil and gas industry and in a wide variety of chemical processes. Typical application fields include: Pipes, tubes and fittings in the oil and gas extraction, e. g. in heat exchangers, evaporators, washers, immersion pipes in sea water cooled heat exchangers, offshore piping. Components in sulfuric acid pickling plants like heating coils, vessels, boilers, baskets and chains. Heat exchangers, evaporators, washers, immersion pipes in phosphoric acid production

Remarks

The fabrication of Alloy 825 is typical of nickel-base alloys, with material readily formable and weldable by a variety of techniques.

Specification

Incoloy 825, Alloy 825, 2.4858, N08825

Norm

ASTM A424, A425, B564 - NACE MR0175, MR0103