

Alloy 825

Alloy 825 is a nickel-iron-chromium alloy for use in extremely corrosive environments. The nickel content of this alloy makes it resistant to chloride-ion stress-corrosion cracking. Additions of molybdenum and copper give alloy 825 resistance to pitting and to corrosion in reducing acid environments such as sulphuric or phosphoric acid solutions.

The alloys chromium content gives it resistance to various oxidizing environments, such as nitrates, nitric acid solutions and oxidizing salts.

The many corrosion-resistant properties of Alloy 825 make the alloy a suitable choice for a variety of difficult applications.

Uses include fabricated equipment found in chemical and petro-chemical processing, pulp and paper manufacturing, flue gas desulphurization systems and metal pickling operations.

National Specifications

ASTM	UNS	SAE AMS	British Standard	Werkstoff
B425	N08825	-	3076 NA16	2.4858

Material may also be released to Customer Specifications, subject to enquiry.

Technical Data

Nominal Composition by Percent

	C	Mn	Si	S	Cr	Ni	Cu	Ti	Al	Mo	Fe	-
Min	-	-	-	-	19.5	38.0	1.5	0.6	-	2.5	22.0	%
Max	0.05	1.0	0.5	0.03	23.5	46.0	3.0	1.2	0.2	3.5	-	%

Typical Mechanical Properties (Oil patch)

Annealed Condition	PSI	MPa	%
Tensile Strength, min	85,000	586	-
Yield Strength (0.2% offset), min	35,000	241	-
Elongation on 4D, min	-	-	30
Reduction of Area	-	-	-
Hardness	-	-	-