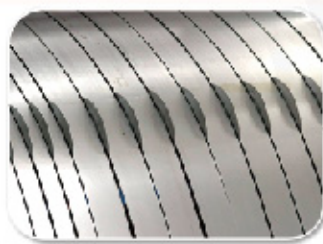


## ALLOY 825

Alloy 825 is a titanium-stabilized fully austenitic nickel-iron-chromium alloy with additions of copper and molybdenum. It is approved for pressure vessels. Alloy 825 (2.4858/N08825) is characterized by: High resistance to chloride-induced stress corrosion, Good resistance to chloride-induced pitting and crevice corrosion, Good resistance to oxidizing and non-oxidizing hot acids.



## QUKEN OFFERS ALLOY 825 IN FOLLOWING FORMS:

Product form	Standard	Size available mm
Strip	ASME SB409	0.05~2*2~540*C
Sheet/Plate	ASME SB409	2~25*1000~2000*2000~6000
Flanges	ASME SB366	Custom
Seamless pipe/tube	ASME SB407	φ5~219*0.5~8.18*9000 Max
Welded pipe/tube	ASME SB154	φ40~630*2~16*13000 Max
Bar	ASME SB408	φ3.5~200*100~6000
Wire	ASME SB408	φ1~3*C
Pipe fittings	ASME SB366	Custom
Forgings	ASME SB564	Custom

## DESIGNATIONS AND STANDARDS:

Standard	Material designation
EN	2.4858- NiCr21Mo
ISO	NiFe30Cr21Mo3
UNS	N08825

## CHEMICAL COMPOSITION %:

	Ni	Cr	Fe	C	Mn	Si	Co
MIN.	38	19.5	balance				
MAX.	46	23.5	balance	0.025	1	0.5	1
	Cu	Mo	Al	Ti	P	S	
MIN.	1.5	2.5		0.6			
MAX.	3	3.5	0.2	1.2	0.02	0.015	

## CORROSION RESISTANCE PERFORMANCE:

Alloy 825 is a versatile engineering alloy with resistance to corrosion in acids and alkalis under both oxidizing and reducing conditions. The high nickel content gives the alloy virtual immunity to stress corrosion cracking. The corrosion resistance in various media like sulfuric, phosphoric, nitric and organic acids is good, as well as the corrosion resistance in alkalis or ammoniac, sea water and caustic chloride. The versatility of Alloy 825 is illustrated by its use in nuclear fuel element dissolvers where a variety of corrosive media, e. g. sulfuric and nitric acids and sodium hydroxide, are handled in the same equipment.

## PHYSICAL CONSTANTS:

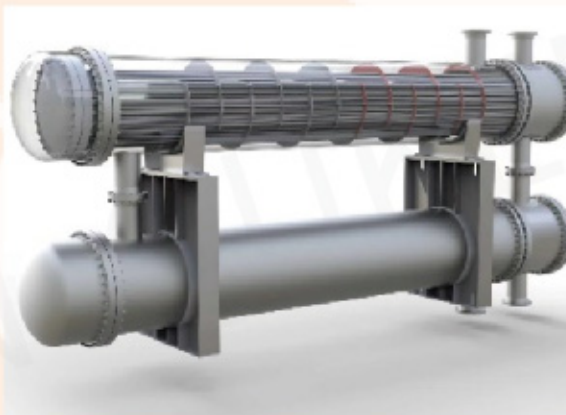
Density	8.14 g/cm <sup>3</sup> (0.294 lb/in <sup>3</sup> )
Melting Range (Approx.)	1,370-1,400 °C (2,500-2,550 °F)
Electrical Resistivity (20°C)	112 Microhm• cm
Thermal Expansion Coefficient (20°C to 100°C)	14.1 x 10 <sup>-6</sup> /°C
Thermal Conductivity(100°C)	12.4W/m•K

## MECHANICAL PROPERTIES :

Yield Strength 0.2% Offset		Tensile Strength		Elongation In 2inches
KSI	MPa	KSI	MPa	%
34.8 Min	240 Min	84.8 Min	585 Min	30 Min

## APPLICATIONS :

- Fuel element dissolvers
- Heat exchangers, evaporators, scrubbers, dip pipes etc. in phosphoric acid production
- Sea-water-cooled heat exchangers; offshore product piping systems; tubes and components in sour gas service
- Air-cooled heat exchangers in petroleum refineries
- Chemical and Food Processing



Heat exchangers



evaporators