Alloy 825 **High temperature alloy**

Trade name	UNS	DIN	EN
Incoloy 825	N08825	W2.4858	NiCr21Mo
Nickelvac 825			
Nicrofer 4241			

Chemical Composition %

Cr	Ni	Fe	Mo	C	Mn	Si	S	Al	Cu
19.5-23.5	38-46	22 min	2.5-3.5	0.05 max	1 max	0.5 max	0.03max	0.2 max	1.5-3

Recommended Welding Consumables

Wire ER NiCrMo-3
Rod E NiCrMo-3

Form	Smls Pipe/Tub	Weded Pipe	Welded Tube	Fittings	Plate	Bar	Forgings
Standard	ASTM B622	ASTM B 619	ASTM B 626	ASTM B 366	ASTM B333	ASTM B335	ASTM B564

Properties

Good resistance to chloride-ion stress-corrosion cracking.
High levels of corrosion resistance to both moderately oxidizing and moderately reducing environments
Resistance to pitting

Applications

Equipment for chemical processing industry
Nuclear fuel processing equipment.
Components for petrochemical industry

Physical Properties

Density: 0.294 lbs/in3, 8.14 g/cm3
Specific Heat, (32 - 212 ° F), Btu/lb•° F, (0 - 100 °C), J/kg•°C: 0.105 (440)
Mean Coefficient of Thermal Expansion: in/inl° F (mm/ml°C):
70 - 212 ° F (20 - 100 °C): 7.7 x 10-5 (13.9)
Thermal Conductivity: BTU/h-ft-° F (W/m-° K) 70 ° F (21 °C): 6.4 (11.1)
Modulus of Elasticity: ksi (MPa)
28.4 x 103 (196 x 103) in tension
Permeability at 70 ° F (21 °C) H = 200 Oersted :
Melting Point: 2500 - 2550 ° F (1370 - 1400 °C)
Ultimate Tensile Strength: 85 KSI min (586 MPa min)
Yield Strength: (0.2% offset) 35 KSI min (241 MPa min)
Elongation: 30% min