



PRODUCT DATASHEET

825

Grade

Alloy 825 (UNS N08825, ASTM B425)

Composition	
Element	Weight%
Carbon	0.05 max
Silicon	0.5 max
Manganese	1 max
Sulphur	0.03 max
Molybdenum	2.5 - 3.5
Chromium	19.5 - 23.5
Nickel	38 - 46
Aluminium	0.2 max
Titanium	0.6 - 1.2
Manganese	1 max
Copper	1.5 - 3

Notes: The grade is classed as Iron-Nickel-Chromium alloy

Mechanical Properties

Annealed and where lower hardness is required Solution Annealed. Typical properties below are in the Annealed condition.

Property	Values
0.2% Yield Strength	35 KSI min (241 MPA min)
Ultimate Tensile Strength	85 KSI min (586 MPA min)
Elongation	30
Reduction of area	35% min
Charpy Impact Toughness	27 min J at -60°C
Hardness	35 HRC max

Notes: Nickel-Chromium-Iron-Molybdenum-Copper Alloy.

Maximum hardness shown is based on compliance with NACE MRO175 (2003).

Grade has relatively low strength but very high corrosion resistance, excellent sub zero impact properties.

Used extensively for applications such as fittings, valves, gaskets, tubing. Also used for corrosion resistant weld

Excellent resistance to stress corrosion cracking and good pitting resistance in most environments.