

Alloy 925

Grade: Alloy 925 (UNS N09925, API 6A CRA 1st Edition Addendum 3)

Type: Solution annealed age hardened Nickel-Chromium-Iron based alloy.

Nominal Composition	
Element	Weight %
Carbon	0.025 max
Silicon	0.35
Manganese	1.0
Phosphorus	0.02 max
Sulphur	0.003 max
Molybdenum	2.5 – 3.5
Chromium	19.5 – 22.5
Nickel	42.0 – 46.0
Aluminium	0.1 – 0.5
Titanium	1.9 – 2.4
Niobium	0.08 – 0.50
Copper	1.5 – 3.0
Iron	22 max

Mechanical Properties Condition: Solution annealed followed by age hardening

Property	Values
Ultimate Tensile Strength	140 min Ksi (965Mpa)
0.2 % Yield Strength	110 min Ksi (758Mpa)
Elongation	18 % min
Reduction of Area	≤10" 25% min / >10" 20%
CVN @ -60°C * see notes	< 3" 47J ave / 43J single / 0.38mm lats (L) ≥3" - 10" 47J ave / 43J single / 0.38mm lats (T) >10" 47J ave / 43J single / 0.38mm lats (T)
Hardness	NACE (38HRC max)

Notes:

Grade has very high strength and excellent corrosion resistance and so is used in a range of severe corrosive environments for applications such as hangers, gates and stems.

Can be used as a direct alternative to Nickel 718 in some applications.

Maximum hardness shown is based on compliance with NACE MR0175 / ISO 15156.