

Alloy 725 (UNS N07725) – API 6ACRA 1ST Edition Addendum 3

Grade: Alloy 725 (UNS N07725, ASTM B637, API 6A CRA 1st Edition Addendum 3)

Type: Solution annealed and age hardened Nickel alloy.

Nominal Composition	
Element	Weight %
Carbon	0.03 max
Silicon	0.20
Manganese	0.35
Phosphorus	0.015 max
Sulphur	0.010 max
Molybdenum	7.0 – 9.5
Chromium	19.0 – 22.5
Nickel	55.0 – 59.0 max
Aluminium	0.35
Titanium	1.0 – 1.7
Niobium	2.75 – 4.00
Iron	Balance

Notes

Mechanical Properties Condition: Solution annealed followed by age hardening

Property	Values
Ultimate Tensile Strength	150 min Ksi (1034Mpa)
0.2 % Yield Strength	120 min Ksi (827Mpa)
Elongation	20 % min
Reduction of Area	≤10" 35% min / >10" 25%
CVN @ -60°C * see notes	< 3" 54J ave / 47J single / 0.38mm lats (L) ≥3" - 10" 50J ave / 43J single / 0.38mm lats (T) >10" 43J ave / 37J single / 0.38mm lats (T)
Hardness	43 HRC max

Notes:

L = Longitudinal direction, T = Transverse direction

Notes:

Grade has very high strength and can be heat treated to varying strength levels by carefully modification of the age hardening cycle parameters.

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 625 Plus.

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