PRODUCT DATASHEET

716

Grade

Alloy 716 (UNS NO7716, API 6A CRA 1st Edition Addendum 3)

Type

Solution annealed and age hardened Nickel alloy

Overview

A precipitation hardenable Nickel-Chromium-Molybdenum based super alloy with high strength combined with excellent corrosion resistance. Offers resistance to stress corrosion cracking, general pitting and crevice corrosion.

Excellent corrosion resistance and so is used in a range of severe corrosive environments for applications such as fasteners, shafts and hangers. Also used in marine environments, refining and chemical processing.

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

Composition	
Element	**Weight%**
Carbon	0.03 max
Silicon	0.2 max
Manganese	0.2 max
Phosphorus	0.015 max
Sulphur	0.01 max
Molybdenum	7 - 9.5
Chromium	19 - 22
Nickel	59 - 63
Aluminium	0.35 max
Titanium	1 - 1.6
Manganese	0.2 max
Niobium	2.75 min
Copper	0.23 max

Mechanical Propeties

Solution annealed followed by age hardening

Property	Values
0.2% Yeild Strength	120 KSI min (827 MPA min)
Ultimate Tensile Strength	150 KSI min (1034 MPA min)
Elongation	20
Reduction of area	≤10" 35% min / >10" 25% min
Charpy Impact Toughness	< 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) all at -60°C
Hardness	43 HRC max

Notes: Also available in 140 min Ksi yield

L = Longitudinal direction, T = Transverse direction