

Grade: Alloy718 (UNS N07718, ASTM B637, API 6A CRA 1 st Edition Addendum 3)

Type: Solution annealed and age hardened Nickel alloy.

Nominal Composition	
Element	Weight %
Carbon	0.045 max
Silicon	0.35 max
Manganese	0.35 max
Phosphorus	0.010 max
Sulphur	0.010 max
Molybdenum	2.8 – 3.3
Chromium	17.0 – 21.0
Nickel	50 – 55.0 max
Aluminium	0.4 – 0.6
Titanium	0.80 – 1.15
Niobium + Tantalum	4.87 – 5.20
Copper	0.23 max
Cobalt	1.0 max
Iron	Balance

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" 68J ave / 61J single / 0.38mm lats (L) ≥3" - 10" 47J ave / 41J single / 0.38mm lats (T) >10" 41J ave / 37J single / 0.38mm lats (T)
Hardness	NACE (40 HRC max)





Notes

Notes:

L = Longitudinal direction, T = Transverse direction