Data Sheet
Alloy 718 (NACE Compliant)

NACE 718 is a precipitation hardened nickel-chromium alloy. It combines high strength in the aged condition with good corrosion resistance and weldability. NACE 718 indicates material stocked in the heat treated condition and provides high strength while meeting the maximum hardness requirements of the NACE MR0175, MR0103 and ISO 15156-3 specifications for use in oil tools used for sour service.

NACE 718 is annealed between 1875-1925°F and water quenched. Subsequently it is aged in the range of 1425-1475°F for 6-8 hours and air cooled or faster to room temperature.

Specifications

UNS: N07718 **W. Nr./EN:** 2.4668 **NACE:** MR0175, MR0103 **ISO:** 15156-3 **API:** 6A, 6A718

Chemical Composition, %

	Ni	Cr	Mo	Mn	Cu	Si	C	S	P	Co	Cb+Ta	Pb	Se	Bi	Mg	Ti	Al	Fe
MIN	50	17	2.8	–	–	–	–	–	–	–	4.87	–	–	–	–	0.8	0.4	–
MAX	55	21	3.3	0.35	0.23	0.35	0.045	0.01	0.01	1.0	5.2	1000 ppm	0.0005 ppm	50 ppm	0.0006 ppm	1.15	0.6	balance

Features

- Highly resistant to chloride and sulfide stress corrosion cracking
- High strength
- Good corrosion resistance

Applications

- Valves
- Wellhead completion equipment
- Fasteners
- Blowout preventers (BOPs)
- Tubing hangers
- Mandrels

Physical Properties

Density: 0.297 lb/in^3 **Melting Range:** 2160-2440°F

Temperature, °F	70	200	400	600	1000	1200
Coefficient* of Thermal Expansion, in/in°F x 10^{-6}	–	7.3	7.5	7.7	8.1	8.4
Thermal Conductivity, Btu • ft/ft^2 • hr • °F	6.4	7.2	8.2	9.3	11.3	12.3
Modulus of Elasticity Dynamic, psi x 10^6	29.0	28.4	27.6	26.7	24.8	23.7

** 70°F to indicated temperature.*

Mechanical Properties

Minimum Specified Properties, API 6A 718 bar Solution Annealed And Aged Condition

	Minimum	Maximum
Ultimate tensile strength, ksi	150	–
0.2% yield strength, ksi	125	145
Elongation, %	20%	–
Reduction of area, %	35%	–
Impact Strength*Min average/ min single, ft-lbs	40/35	–
Hardness, Rockwell C	32	40

INTERNATIONAL TRADE WINDS LLC
Exclusive Representative of Rolled Alloys®, Inc.

CLAUDIO CZARNOBAI
COMMERCIAL MANAGER
ClaudioCzarnobai@intwinds.com
F +55 11 3825 2966
C +55 11 99112 2703