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AN ONI COMPANY

718 BAR CR DATASHEET

AMS 5662 / 5663 / UNS N07718

Alloy 718 cold reduced bar is a precipitation-hardening nickel-chromium alloy containing significant amounts of iron, columbium, and molybdenum, along with lesser amounts of aluminum and titanium. This alloy maintains high strength and good ductility up to 1300°F (704°C). Common trade names include Nickel 718CR, Alloy 718CR, Inconel® 718CR, Inco®718CR.

Nominal Composition

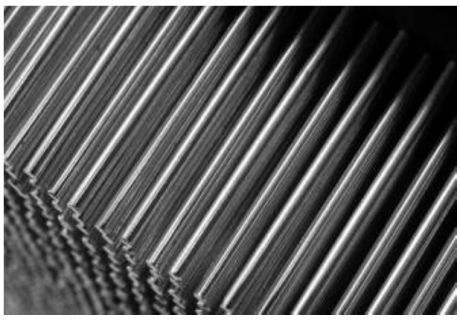
- Ni Nickel – 52%
- Cr Chromium – 19%
- Fe Iron – 18%
- Nb Columbium – 5%
- Mo Molybdenum – 3%
- Ti Titanium – 1%

Industry Applications

- Aerospace
- Power Generation
- Oil & Gas
- Fasteners

Standard Inventory Specifications

- AMS 5662
- AMS 5663 (Capable of)
- B50TF15
- EN 2.4668
- PWA LCS
- GE S400/S1000
- Rolls Royce Sabre 9000
- ASME SB 637
- ASTM B 637
- Line marked > .500 inch diameter
- Predominantly produced by VIM-VAR melt method. Hot worked, solution treated (annealed), then centerless ground or rough turned



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Or click here to view our product page and request a quote on 718 CR Bar

Properties: Non-magnetic. Good corrosion resistance and oxidation resistance in jet engine and gas turbine applications. Our round bar is used for parts requiring high resistance to creep and stress rupture up to 1300°F (704°C) and oxidation resistance up to 1800°F (982°C). This alloy is nickel based and exhibits excellent tensile and impact properties even at cryogenic temperatures. Alloy 718 round bar requires a minimum yield strength of 150,000 psi at room temperature.

Hardness: Hardness of stock is typically 225 BHN and a maximum of 277 BHN by specification. Classified as a precipitation-hardening alloy that can be age hardened by heat treatment. Grain structure remains austenitic at all temperatures. Various solution and aging treatments are used during heat treatment of this grade to optimize either short or long time elevated temperature mechanical properties.

Machinability: Rating: 12% of B-1112
Typical stock removal rate: 20 surface feet/minute with high-speed tools, 80 surface feet/minute with carbide.

COMMENTS: Carbide tooling preferred for turning operations, but high speed steel preferred for milling (to avoid tooth chipping). Use relatively heavy cuts and low speeds to minimize surface work hardening. Roughing cuts are usually made before hardening, finishing cuts after hardening. Allow a contraction due to hardening of about 0.001 inch per inch of the workpiece dimensions.

Density: 0.297 lbs/in3, 8.22 g/cm3

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