



René41 Bar UNS N07041

AMS 5712

Nominal Composition

Nickel 49% Chromium 19% Cobalt 11%
Molybdenum 10% Iron 5% Titanium 3%
Aluminum 2%

- Predominantly produced by VIM-VAR melt method. Solution treated, centerless ground or rough turned.
- Lengths: 10-12 feet

Description

René 41 is a precipitation hardening, nickel base austenitic alloy possessing high strength in the 1200-1800°F (649-982°C) temperature range. Major applications are for highly stressed parts in the hot sections of jet engines and airframe components.

Properties

Non-magnetic. René 41 is highly corrosion and oxidation resistant and provides very good resistance to jet engine combustion gases up to 1800°F (982°C). Either strength or stress rupture properties can be optimized by heat treatment.

Hardness

Hardness of Aerodyne stock is typically 285 BHN. Supplied in the 1975°F (1079°C) solution treated condition. This treatment, followed by aging at 1400°F (760°C) for 16 hours, maximizes room and elevated temperature strength properties. The final heat treated hardness will be in the 40-45 Rockwell C range.

Machinability

RATING: 12% of B-1112

TYPICAL STOCK REMOVAL RATE: 30-60 surface feet/minute with carbide tools.

COMMENTS:

This alloy is difficult to machine. Low speeds, rigid set-up, plenty of power and moderate-to-heavy positive cuts must be used. The best machinability is in the solution treated condition. Carbide or ceramic tools are highly recommended.

Density: 0.298 lbs/in³, 8.24 g/cm³

Standard Inventory Specifications

- AMS 5712
- GE B50T59
- GE B50TF75
- Capable of AMS 5713
- Line marked over 0.5 inches in diameter

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