

Inconel® 901 bar is a chromium-nickel-iron base, age hardenable superalloy designed for high strength and corrosion resistance at elevated temperatures. It is hardened by precipitation of nickel, titanium and aluminum compounds. Typical applications for 901 bar include gas turbine engines, and high temperature bolting.

### Nominal Composition %

<b>C</b>	Carbon - 0.10 max
<b>Mo</b>	Molybdenum < 6.0 max
<b>Si</b>	Silicon - 0.60 max
<b>Mn</b>	Manganese - 1.00 max
<b>Ni</b>	Nickel - 43.00
<b>Ti</b>	Titanium - 2.90%
<b>Cr</b>	Chromium - 12.50
<b>Co</b>	Cobalt - 1.0 max
<b>Al</b>	Aluminum – 0.35 max
<b>B</b>	Boron - 0.010 - 0.020%
<b>Fe</b>	Iron - Balance

Percent by weight, maximum unless a range is listed.

### Standard Inventory Specifications

- AMS:5560, 5661
- B50A305B S12 (GE Energy)

### Forms Stocked

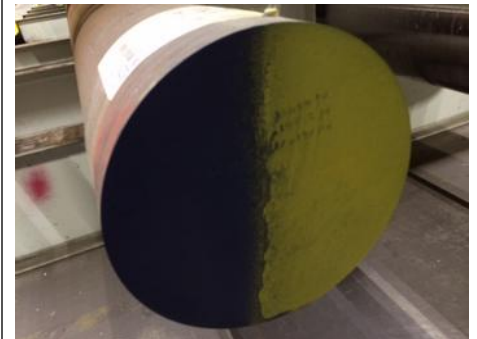
- Bar

### Thickness Stocked

- 0.875" - 2.500" thick

### Applications

- Power generation
- Discs
- Rings
- Shafts
- Casings
- Seals



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### Features

- Exhibits high strength at high temperatures
- Good corrosion resistance at high temperatures

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## Physical Properties

Nickel 901 is non-magnetic, and generally offers high strength up to 1400 F, and oxidation resistance up to 1600 F.

Properties	Value
Density	0.297 lb/in <sup>3</sup> (8.97 g/cm <sup>3</sup> )

## Mechanical Properties

901 bar is to ordered to AMS 5660 is supplied either solution annealed or solution annealed and aged, and may be machined in either condition. Good results are often obtained by rough machining in the solution annealed condition and finishing after heat treatment. Carbide tooling generally produces the highest cutting rates and is recommended for most turning operations involving uninterrupted cuts. High speed steel tools may be used for interrupted cuts, finishing to close tolerances and cutting with the least amount of cold work hardening. Care must be taken to ensure that a positive cutting action is achieved at all times, otherwise glazing (work hardening) will occur which will inhibit further machining.