ALLOY 901

AMS 5660 / AMS 5661

a { text-decoration: none; color: #464feb; } tr th, tr td { border: 1px solid #e6e6e6; } tr th { background-color: #f5f5f5; } Inconel® 901 bar is a high-strength, chromium-nickel-iron, age-hardenable superalloy engineered for excellent mechanical performance and corrosion resistance in elevated-temperature environments. The alloy is strengthened through the precipitation of nickel-titanium-aluminum compounds, giving it outstanding temperature-dependent strength and stability. It is widely used in demanding applications such as gas turbine engines, high-temperature bolting, rotating discs, casings, seals, rings, and power-generation components.

Formulated for service where both strength and oxidation resistance are required, Inconel® 901 maintains high strength up to 1400°F and offers oxidation resistance to 1600°F, making it a reliable solution for long-term high-temperature exposure.

Products & Sizes
Bar
0.875" - 2.500"

901 Chemical Composition

	Element	Min	Max
C	Carbon	-	0.10
Mo	Molybdenum	6.00	-
Si	Silicon	-	0.60
Mn	Manganese		1.00
Ni	Nickel	43.00	-
Ti	Titanium	2.90	-
Cr	Chromium	12.50	-
Co	Cobalt	-	1.0
Al	Aluminum	-	0.35
B	Boron	0.010	0.020
Fe	Iron	-	Balance

Industry Standards

- B50A305B S12 (GE Energy)

Industry Applications

- Power Generation
- Discs
- Rings
- Shafts
- Casings
- Seals

Physical Properties

Property	Value
Density	0.297 lb/in^3

Non-magnetic, and generally offers high strength up to 1400 F, and oxidation resistance up to 1600 F.

Mechanical Properties

901 bar is ordered to AMS 5660 and is supplied either in 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.