



# ALLOY WASPALOY® 5706

AMS 5704 (Capable of) / AMS 5706 / AMS 5707 (Capable of) /  
UNS N07001

## Products & Sizes

### Bar

0.375" - 2.000"

### Waspaloy® 5706 Chemical Composition

	Element	Min	Max
Ni	Nickel	-	58.00
Cr	Chromium	-	19.00
Co	Cobalt	-	13.00
Mo	Molybdenum	-	4.0
Ti	Titanium	-	3.00
Al	Aluminum	-	1.50

### Industry Standards

- PWA LCS
- GE Aircraft Engine (GT193)
- GE Aviation S-SPEC-35 AeDMS S-400
- RR SABRe Edition 2
- DFARS Compliant
- EN 2.4654
- Line marked >.500 inch diameter
- Predominantly produced by VIM-VAR melt method. Solution treated, centerless ground or rough turned

### Industry Applications

- Aerospace Fasteners
- Compressor Discs
- Shafts
- Spacers
- Turbine Cases

## Physical Properties

Property	Value
Density	0.296 lb/in <sup>3</sup> , (8.19 g/cm <sup>3</sup> )

### Non-magnetic

Maintains high strength, toughness, and excellent rupture properties to 1400°F (760°C). This alloy has good resistance to oxidation and sulfidation to 1600°F (871°C) due to its high chromium content. Waspaloy® Bar - AMS 5706 displays excellent resistance to corrosion by combustion products encountered in gas turbines and aircraft jet engines at temperatures up to 1600°F (871°C). Intergranular oxidation occurs at temperatures above 1600°F (871°C). This alloy has excellent resistance to stress corrosion cracking and adequate hot corrosion resistance.

## Mechanical Properties

Waspaloy® AMS 5706 bar is difficult to machine, even in the solution treated condition. Rigid set-up, plenty of power, sharp tools and positive cuts are important. Use of carbide or ceramic tools is required.

### Hardness

Hardness of stock is typically 230 BHN. Supplied in the solution treated condition - 1825-1900°F (996-1038°C) for 1 hour. Waspaloy® Bar - AMS 5706 exhibits best machinability in this condition. After machining, parts are normally stabilized at 1550°F (843°C) for 4 hours, air cooled, followed by precipitation aging at 1400°F (760°C) for 16 hours, air cooled. The hardness of this alloy in the fully heat-treated condition ranges from 34 to 44 Rockwell C.

### Machinability

Rating: 12% of B-1112

Typical stock removal rate: 30-50 surface feet/minute with carbide tooling.