

# Inconel 909

## DESCRIPTION

INCONEL 909, also known as UNS N19909 or AMS 5759, is a high-strength nickel-chromium-based superalloy that provides excellent mechanical properties at elevated temperatures. It is recognized under ASTM B462 and BS HR 297, ensuring compliance with international standards.

### TYPICAL PHYSICAL PROPERTIES

Density	lb/in <sup>3</sup>	0.300
Young's Modulus	10 <sup>3</sup> ksi	23.0
Mean Specific Heat	Btu/lb/°F	0.102
Thermal Conductivity	BTU-in/hr/ft <sup>2</sup> /°F	102.9

### Chemical Composition (% by weight)

Elements	Min	Max
C	-	0.060
Ni	35.000	40.000
Si	0.250	0.500
Co	12.000	16.000
Nb	4.300	5.300
Ti	1.300	1.800
Fe	Balance	

## Welding

Incoloy 909 is welded using gas-tungsten arc welding, shielded metal-arc welding, gas metal-arc welding, and submerged-arc welding methods.

## APPLICATIONS

INCONEL 909 is used in aerospace applications for turbine blades, engine components, and exhaust systems due to its high-temperature strength and oxidation resistance.

### TYPICAL MECHANICAL PROPERTIES

Tensile Strength	Mpa	1276
Yield Strength	Mpa	1034
Elongation	%	15
Reduction of Area	%	30

### AVERAGE LINEAR COEFFICIENT OF THERMAL EXPANSION $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$

Melting Point	1422°C
Electrical Resistivity	438 ohm-circ mil/ft

## SPECIFICATIONS

- AMS 5884
- AMS 5892
- AMS 5893

## Machinability

Incoloy 90 can be machined using conventional machining methods which are usually used for iron-based alloys. Machining operations are performed using commercial coolants. High-speed operations such as grinding, milling or turning, are performed using water-base coolants.

## Special Purpose Alloys & Metals From Stock

### Controlled Expansion | Glass Sealing

#### Kovar ASTM F 15 Alloy

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### Alloy 32/42/48/49

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### VIM VAR CORE IRON

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### SUPRA 510 (Ni50FeCr10)

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

### TITANIUM ALLOYS

#### TITANIUM TI-6AL-4V GRADE 5

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### TITANIUM GRADE 2

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### TITANIUM 6-2-4-6

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### TITANIUM BT20

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

### PH ALLOYS

#### 17-7PH

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### 15-5PH

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### 17-4PH

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

### ALUMINIUM HARD ALLOYS

#### 7475 AA7475/7449 AA7449

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### 7075 UNS A97075

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### 7050 AMS 4050

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### 7175 UNS A97075

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### 2014 AMS 4121

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### 2024 UNS A92024

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### 2618 UNS A92618

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### 2017 AMS 4037

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### 2011 UNS A92011

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

### NICKEL BASED ALLOYS

#### WASPALLOY

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### INCONEL X750

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### INCONEL 945

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### INCONEL 945X

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### NIMONIC C263

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### NIMONIC 75

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### INCONEL 909

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### INCONEL 718

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### INCONEL 660

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

### HIGH TEMP ALLOYS

#### HAYNES 188

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### L605

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### MP35N

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### MP159

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### RENE41

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### HAYNES 230

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### ELGILOY

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

#### HAYNES 242

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

**JUST-IN-TIME DELIVERY:** All of our standard stock items can be delivery as per commitment. All materials are certified with shipment. For special orders and non-stock materials, contact our sales team for our competitive pricing and delivery.