

Inconel 718

DESCRIPTION

INCONEL 718, also known as UNS N07718 or AMS 5662, is a high-strength nickel-chromium-based superalloy that offers excellent mechanical properties at elevated temperatures. It is recognized under ASM B637, BS HR 329, and NCIFE, ensuring adherence to international standards.

TYPICAL PHYSICAL PROPERTIES

Density	lb/in ³	0.296
Mean Specific Heat	Btu/lb/°F	0.104
Thermal Conductivity	BTU-in/hr/ft ² /°F	79.1

Chemical Composition (% by weight)

Elements	Min	Max
C	-	0.08
Mn	-	0.35
Si	-	0.35
P	-	0.015
S	-	0.015
Ni	50	55
Mo	2.80	3.30
Cr	17.0	21.0
Ti	0.65	1.15
Al	0.20	0.80
Co	-	1.00
B	-	0.006
Cu	-	0.30
Fe	Balance	

APPLICATIONS

INCONEL 718 is extensively used in aerospace applications, including turbine engines, structural components, and exhaust systems due to its high strength.

TYPICAL MECHANICAL PROPERTIES

Tensile Strength	Mpa	1375
Yield Strength	Mpa	1034
Elongation	%	12
Hardness Brinell	B	331
Modulus of Elasticity	GPa	200
Thermal Conductivity	W/m·K	11.4

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

Coefficient of Thermal Expansion	200 (at 75°C)
Thermal Conductivity	9.94 W/m·K (at 300K)
Specific Heat Capacity	0.435 J/kg·K (at 20°C)
Melting Point	1260 - 1336°C
Electrical Resistivity	0.000125 $\mu\Omega\cdot\text{m}$ (at 20°C)

SPECIFICATIONS

- AMS 5662
- AMS 5663
- AMS 5664
- AMS 5596
- AMS 5597
- AMS 5441
- ASME SB-637
- B50T69
- B50TF15
- C50TF13

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.