

Nimonic 75

DESCRIPTION

NIMONIC 75, also known as UNS N06075 or AMS 5754, is a high-strength nickel-chromium-based superalloy that provides excellent oxidation resistance and mechanical properties at elevated temperatures. It is recognized under ASTM B435, DIN 2.4952, and BS HR 161, ensuring compliance with international quality standards.

TYPICAL PHYSICAL PROPERTIES

Density	lb/in ³	0.302
Mean Specific Heat	Btu/lb/°F	0.110
Thermal Conductivity	BTU-in/hr/ft ² /°F	81.1

Chemical Composition (% by weight)

Elements	Min	Max
C	0.08	0.15
Mn	-	1.00
Si	-	1.00
Cr	18	21
Ti	0.2	0.6
Cu	-	0.5
Fe	-	0.5
Ni	Remainder	

Welding

NIMONIC 75 can be welded using common techniques, using a matching filler metal. A prerequisite for welding is that the metal should be annealed. Manual metal arc welding, tungsten inert gas welding and metal inert gas welding suit the alloy.

APPLICATIONS

NIMONIC 75 is extensively used in aerospace for turbine blades, engine components, and exhaust systems, where its high-temperature resistance and strength.

TYPICAL MECHANICAL PROPERTIES

Tensile Strength	Mpa	750
Yield Strength	Mpa	275
Elongation	%	42
Modulus of Elasticity	GPa	206
Thermal Conductivity	W/m·°C	11.7

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

Coefficient of Thermal Expansion	11.0 (at 20–100°C)
Specific Heat Capacity	461 J/kg·K (at 20°C)
Melting Point	1330–1370°C
Electrical Resistivity	1.09 $\mu\Omega\cdot\text{m}$ (at 20°C)

SPECIFICATIONS

- BS HR5
- HR203
- HR403
- HR504
- DIN 17742
- DIN 17750-17752

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

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