

Alloy 75

A nickel-chromium grade, Alloy 75 has good mechanical properties and resistance to oxidation at high temperature.

Alloy 75 is an 80/20 nickel – chromium alloy. First introduced in the 1940's for turbine blades in Whittle Jet Engines, it is now widely used where oxidation and scaling resistance is required, coupled with medium strength at high temperatures.

PRODUCT FORMS

PRODUCT FORM	SIZE RANGE FROM	SIZE RANGE TO
Alloy 75 round bar	8 mm	160 mm
Alloy 75 sheet & plate	0.6 mm	3 mm

Can't find the size you need? **Please contact us at onlinesales@neonickel.com**

CHEMICAL ANALYSIS

%	NI	CR	FE	MN	C	SI	PH	TI	CU
Min	Balance	18	0	0	0.08	0	0	0.2	0
Max	Balance	21	5	1	0.15	1	0.03	0.6	0.50

APPLICATIONS

- Aerospace sheet metal fabrication
- Gas turbine engine components
- Industrial furnace components
- Heat-treating equipments and fixtures
- Nuclear engineering

ABOUT ALLOY 75

Alloy 75 is made up of nickel and chromium. The alloy is known for its outstanding performance at high temperature where creep stress-rupture properties are not critical. Titanium is added to increase the overall strength of the alloy. Alloy 75 is primarily used in low stress, elevated temperature applications which require some oxidation resistance. Alloy 75 is used for numerous fabricated components in both the aerospace and gas turbine industries. Alloy 75 is popular due to its ease of fabrication and the fact that it's readily formed. [Contact us](#) to learn more about Alloy 75!

PROPERTIES

Density:	8.37g/cm ³
Melting Range:	1340-1380°C
Specific Heat Capacity:	461 J/kg.°C
Electrical Resistivity:	1.09 μΩ.m

MECHANICAL & PHYSICAL PROPERTIES

MECHANICAL & PHYSICAL PROPERTIES	21.1°C	100°C	204.4°C	315.6°C	400°C	537.8°C	648.9°C	700°C	760°C	815°C	870°C	982°C
Ultimate Tensile Strength /MPa	792	-	-	-	-	726	473	-	286	-	139	66
0.2% Yield Strength /MPa	407	-	-	-	-	363	275	-	152	-	68	31
Elongation %	31	-	-	-	-	27	32	-	75	-	90	91
1,000 hr Rupture Strength	-	-	-	-	-	-	83	47	26	15	8.3	-
Coefficient of Thermal Expansion /μm/m°C **	-	11	12.7	13.4	13.9	14.3	15	15.4	-	16.5	17.1	18.2
Thermal Conductivity /kcal/(hr.m.°C) **	10.06	-	-	-	-	-	-	-	-	-	-	-
Modulus of Elasticity / GPa	221	216	210	203	197	190	181	173	-	165	153	140

SPECIFICATIONS

UNS Number: N06075

Werkstoff Number: 2.4951, 2.4630

Standards: ASTM B637, RRMS 33030/1 (MSRR 7004), 7022, 7063, 7070, 7162, 7193, 7952, BS: HR 203, 3HR1, HR3, HR4, BS4HR 601