

Alloy 601

Alloy 601 is a nickel-chromium alloy that offers outstanding oxidation resistance up to 1204°C

Alloy 601 alloy develops a tightly adherent oxide scale which resists spalling even under severe thermal cycling. This alloy has good high temperature strength and retains its ductility after long service exposure, with good corrosion resistance under oxidizing conditions.

PRODUCT FORMS

PRODUCT FORM	SIZE RANGE FROM	SIZE RANGE TO
Alloy 601 sheet & plate	0.5 mm	76.2 mm
Alloy 601 coil	1 mm	3 mm

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

CHEMICAL ANALYSIS

%	NI	CR	CU	C	MN	SI	S	FE	AL
Min	58	21	0	0	0	0	0	Balance	1
Max	63	25	1	0.1	1	0.5	0.015	Balance	1.7

APPLICATIONS

- Copper brazing, annealing and sintering
- Muffles and retorts
- Radiant tubes
- Strand annealing tubes
- Steam superheater tube supports
- Rotary kilns and calciners
- Thermocouple protection tubes
- Nuclear waste transport tank lining
- Vitrification of nuclear waste

ABOUT ALLOY 601

Alloy 601 should be welded with a matching composition filler wire. In addition, the weld products developed for RA 602 CA® can provide a stronger weld with higher oxidation resistant than alloy 601. To learn more about alloy 601 [contact us](#), or fill in our online quote form and we'll get back to you.

MECHANICAL & PHYSICAL PROPERTIES

MECHANICAL & PHYSICAL PROPERTIES	21°C	538°C	649°C	760°C	871°C	982°C	1093°C
Ultimate Tensile Strength /kMPa	689.5	620.5	413.7	234.4	124.1	-	-
0.2% Yield Strength /MPa	372.3	331	282.7	179.2	103.4	-	-
Minimum Creep 0.0001% per hr,MPa	-	-	-	28.3	13.8	5.2	3
10,000 hr Rupture Strength, MPa	-	-	-	42.7	17.9	8.3	4.3
Coefficient of Thermal Expansion $\mu\text{m}/\text{m}^\circ\text{C}$		15.3	16	16.6	17.1	17.6	18.3
Thermal Conductivity /kcal/(hr.m.°C)	9.7	17.3	18.9	20.4	22	23.5	25.1
Modulus of Elasticity/ 10^5 MPa	2.06	1.75	1.66	1.55	1.42	1.27	1.12

SPECIFICATIONS

UNS Number: N06601

W.Nr.Number: 2.4851

Standards: ASTM B163, B166, B167, B168, B564, AMS 5715, 5870, B751, B775, B829