

Alloy 600

Smiths Advanced Metals

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Nickel Chromium Sheet.

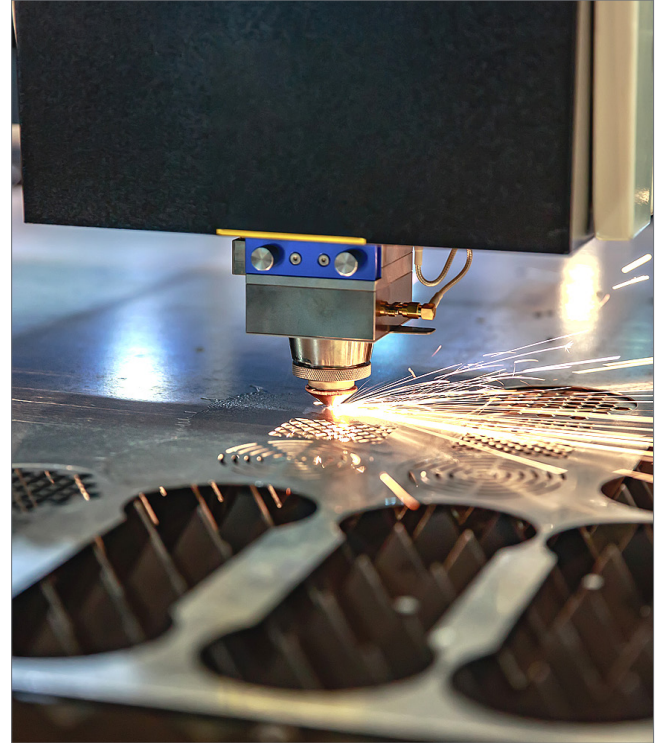
Non-magnetic sheet available ex-stock which we guillotine in-house

Alloy 600 offers excellent corrosion resistance with superior oxidation resistance and high carburisation resistance at high temperatures.

The material is virtually immune to the effects of chloride-induced stress corrosion cracking, a type of intergranular corrosion. This type of intergranular corrosion is common in austenitic stainless steel. Alloy 600 also performs well in high-temperature nitriding environments. The material combines high strength with good workability and is also readily weldable. Cold formability characteristics are similar when compared to chromium-nickel stainless steels.

Alloy 600 finds typical use in aerospace, chemical processing, food processing and power generation, including nuclear power.

We stock [Alloy 600 sheets](#) in various sizes, which we process in-house using our guillotining service.



Grades / Specifications

- AMS5540
- ASME B168
- ASTM B168
- BS 3072
- NACE MR0175
- UNS N06600, NA14, NiCr15Fe

Benefits

- Good corrosion resistance
- Excellent mechanical properties
- Good heat resistance
- Good workability

*Chemical Composition (weight %)

	Ni	Cr	Cu	C	Mn	Si	S	Fe	P	Co	Nb	Ti	Ta	Al	Cu
min.	72.00	14.00						6.00							
max.		17.00	0.50	0.15	1.00	0.50	0.015	10.00	0.040	1.00	1.00	0.50	0.05	0.35	0.50

* As per AMS 5540

Mechanical Properties

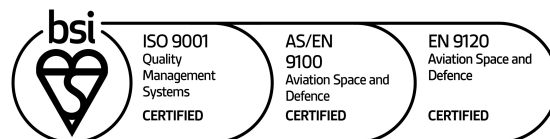
	21°C	538°C	649°C	760°C	871°C	982°C	1093°C
Ultimate Tensile Strength /MPa	641.2	579.2	448.2	189.6	103.4	51.7	-
0.2% Yield Strength /MPa	255.1	196.5	182.7	117.2	62	27.6	-
Elongation %	61	63.7	52.9	62.4	108.5	160	-
Coefficient of Thermal Expansion $\mu\text{m}/\text{m}^\circ\text{C}$	-	15.1	15.5	15.6	16.4	-	16.7
Thermal Conductivity /kcal/(hr.m. $^\circ\text{C}$)	12.8	19.6	21.3	19.3	23.8	-	-
Modulus of Elasticity / $\times 10^5$ MPa	2.1	1.77	1.69	1.63	1.53	-	1.4

www.smithsadvanced.com

info@smithsadvanced.com



Unit 5 Percy Road,
Huntingdon,
Cambridgeshire PE29 6SZ
Tel: +44 (0) 1767 604710



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