

Alloy 601

Technical Datasheet



Service. Quality. Value.

Nickel Chromium Alloy

Typical Applications

- Radiant tubes
- Industrial furnace retorts
- Annealing tubes
- Rotary kilns
- Infrared radiant screens
- Flame shields
- Thermal processing equipment
- Jet engine igniters

Product Description

Alloy 601 is a nickel chromium alloy used in high temperature service. The alloy which also includes aluminium develops a tightly adherent oxide scale which resists spalling even under thermal cycling. Alloy 601 offers good hot corrosion resistance under oxidising conditions and combines good creep and rupture strength.

Availability

Bar, tube, strip, plate, sheet

Key features

- Excellent high temperature material
- High chromium content
- Excellent resistance to high temperature oxidation
- Good ductility retention after long service exposure
- Good creep and rupture strength

Related material specifications

- AMS 5715, AMS 5870
- ASME SB 167, ASME SB 168
- ASTM B 167, ASTM B 168
- EN 2.4851
- UNS N06601
- Werkstoff 2.4851

Weldability

Readily weldable. Preheat or post weld heat treatment are not required.

Machinability

The work hardened layer makes machining of the material fairly difficult.

Chemical Composition (weight %)

	Ni	Cr	Al	C	Mn	Cu	Si	S	Fe	
min	58.0	21.0	1.0						Bal	
max	63.0	25.0	1.7	0.10	1.0	1.0	0.50	0.015		

Mechanical Properties (short-time elevated temperature tensile properties)

Temperature, °F	70	1000	1200	1400	1600
Ultimate Tensile Strength, ksi	100	90	60	34	18
0.2% Yield Strength, ksi	54	48	41	26	15
Elongation, %	45	44	45	70	120

Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

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Quality & Testing:



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