

Technical datasheet

Alloy 80A / W-Nr. 2.4631

A nickel-chromium alloy with excellent high temperature strength and creep-rupture properties combined with good high temperature corrosion and oxidation resistance.

Available products

Product form
Sheet/plate
Bar

Size range from
1.6 mm thickness
10.0 mm diameter

Size range to
80.0 mm diameter

Chemical composition (%)

Ni	Cr	Ti	Al	Si	Mn	Co	Cu	C
Balance	18.0-21.0	1.8-2.7	1.0-1.8	1.0 max	1.0 max	2.0 max	0.2 max	0.10 max

Major specifications

ASTM B637
BS 3076, HR1, HR201, HR401, HR601

UNS N07080
DIN 17742

Physical properties

Density 8.19 g/cm³
Melting range 1320-1365°C

Mechanical properties – typical room temperature properties (precipitation treated condition)

Yield strength 750 MPa
Tensile strength 1180 MPa
Elongation 45 %

Key attributes

Alloy 80A is nickel-chromium alloy comparable to Alloy 75 with additions of titanium and aluminium for strength. This grade has excellent tensile strength, creep resistance and thermal stability at temperatures up to 815°C and high fatigue strength even in highly stressed applications. It has very good resistance to oxidation and scaling resistance.

Alloy 80 A can be easily formed by both hot and cold working processes. It is machinable and can be welded by conventional processes and procedures. Please contact us for further details on forming, fabrication and welding consumables.

Applications

Aerospace and industrial gas turbine components
Automotive engine exhaust valves
High strength fasteners
High temperature springs

Do you require further information or a quotation?

Please contact us...

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