

Technical datasheet

Alloy X-750 / W-Nr. 2.4669

A precipitation hardenable nickel-chromium alloy with excellent resistance to high temperature oxidation and combined with good high temperature mechanical properties.

Available products

Product form

Sheet/plate
Bar

Size range from

1.2 mm thickness
15.0 mm diameter

Size range to

60.0 mm diameter

Chemical composition (%)

Ni	Cr	Fe	Ti	Al	Mn	Nb	Co	C
70.0 min	14.0-17.0	5.0-9.0	2.25-2.75	0.40-1.00	1.0 max	0.7-1.2	1.0 max	0.08 max

Major specifications

ASTM B637
AMS 5670, 5671, 5667, 5542, 5598

UNS N07750

Physical properties

Density 8.28 g/cm³
Melting range 1393-1427°C

Mechanical properties – typical room temperature properties

Yield strength 975 MPa
Tensile strength 1325 MPa
Elongation 23 %

Key attributes

Alloy X-750 is similar to alloy 600 but is made age hardenable through additions of Al and Ti. It has excellent resistance to oxidation at temperatures up to 980°C combined with good high temperature mechanical properties. It retains high tensile strength up to 600°C and high creep and rupture strength to 800°C. The alloy exhibits good resistance to oxidation in combustion gas environment at temperatures to 870°C. Alloy X-750 also has excellent mechanical properties in cryogenic environments. Due to this combination of properties Alloy X-750 has a wide range of applications from gas turbines for both aeroengines and industrial turbines to rocket component and nuclear reactors.

Alloy X-750 is readily machined, formed and welded by conventional processes and techniques. Please contact us for further details on forming, fabrication and welding consumables.

Applications

Gas turbine components (both aero and industrial turbines)
Cryogenic applications
High temperature fasteners
Springs
Nuclear reactor components
Pressure vessels
Rocket engines

Do you require further information or a quotation?

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