

## Technical datasheet

## Alloy 90 / W-Nr. 2.4632

A nickel-chromium-cobalt age hardenable alloy which has good elevated temperature creep resistance and also good resistance to high temperature corrosion and oxidation.

### Available products

Product form	Size range from	Size range to
Sheet/plate	1.0 mm thickness	3.0 mm diameter
Bar/wire	0.5 mm thickness	32.0 mm thickness
Strip	0.2 mm diameter	2.50 mm thickness

### Chemical composition (%)

Ni	Cr	Co	Ti	Al	Fe	Mn	Si	C
Balance	18.0-21.0	15.0-21.0	2.0-3.0	1.0-2.0	1.5 max	1.0 max	1.0 max	0.13 max

### Major specifications

AMS 5829 BS HR2, HR202	UNS N07090
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### Physical properties

Density	8.18 g/cm <sup>3</sup>
Melting range	1310-1370°C

### Mechanical properties – typical room temperature properties

Yield strength	750 MPa
Tensile strength	1175 MPa
Elongation	30 %

### Key attributes

The high chromium content of Alloy 90 promotes good resistance to high temperature corrosion and oxidation. The high cobalt content results in the alloys high creep rupture strength and excellent creep resistance at service temperatures up to 920°C.

Alloy 90 is highly fabricable and is readily formed by either hot or 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

Turbine blades and disks
High temperature springs
Tools for hot working