

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

Sheet/plate
Bar/wire
Strip

Size range from

1.0 mm thickness
0.5 mm diameter
0.20 mm thickness

Size range to

3.0 mm thickness
32.0 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

Physical properties

Density 8.18 g/cm³
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

Do you require further information or a quotation?

Please contact us...

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