Technical datasheet — Alloy 188 / W-Nr. 2.4683

A cobalt-based superalloy with excellent high temperature strength and oxidation resistance – ideally suited for the hot corrosive environments found in turbine applications.

Available products

Product form	Size range from	Size range to
Sheet/plate	0.4 mm thickness	9.52 mm thickness
Bar	10.31 mm diameter	57.15 mm diameter

Chemical composition (%)

Co	Ni	Cr	W	Mn	Fe	Si	La	C
Balance	20.0-24.0	20.0-24.0	13.0-16.0	1.25 max	3.0 max	0.2-0.5	0.02-0.12	0.05-0.15

Major specifications

AMS 5608, 5772

UNS R30188

Physical properties

Density	9.13 g/cm^3
Melting range	1300-1330°C

Mechanical properties – typical room temperature properties (annealed sheet)

Yield strength	445 MPa
Tensile strength	960 MPa
Elongation	55 %

Key attributes

A cobalt-nickel-chromium-tungsten alloy that offers the combination of excellent high temperature strength with very good oxidation resistance at temperatures up to 1093°C. The high chromium content with additions of lanthanum results in a very tightly adherent protective scale which is resistant to oxidation, sulphidation and spalling. This grade is suitable for long term high temperature service as it is very metallurgically stable and exhibits good ductility after extended exposure at elevated temperatures.

Alloy 188 has good ductility and is highly formable though it does work harden rapidly to intermediate annealing may be required for complex fabrications. Please contact us for further details on forming, fabrication and suitable welding consumables.

Applications

Gas turbine components for aerospace and industrial/power generation

Do you require further information or a quotation?
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