Technical datasheet — INCONEL alloy 693

A high chromium nickel alloy with additions of aluminium for excellent resistance to high temperature attack and enhanced metal dusting resistance

Available products

Product form	Size
Tube/pipe	25.4 mm outside diameter x 2.77 mm wall thickness

Chemical composition (%)

Ni	Cr	Al	Fe	Nb	Mn	Ti	C
Balance	27.0-31.0	2.5-4.0	2.5-6.0	0.5-2.5	1.0 max	1.0 max	0.15 max

Major specifications

ASTM B166, B167

UNS N06693

Physical properties

Density	7.77 g/cm^3
Melting range	1317-1367°C

Mechanical properties – typical room temperature properties

Yield strength	530 MPa
Tensile strength	937 MPa
Elongation	42 %

Key attributes

Owing to its high content of chromium INCONEL alloy 693 has excellent resistance to both oxidation and sulphidation. The addition of aluminium increases its resistance to other forms of high temperature attack such as carburisation. INCONEL alloy 693 offers outstanding resistance to the very aggressive corrosion phenomenon known as metal dusting – a form of high temperature carburisation found in systems used to reform hydrogen and in synthesis gas production. At elevated temperatures this grade maintains very good mechanical properties in particular excellent creep rupture strength.

INCONEL alloy 693 is readily machined, formed and welded by conventional processes and techniques. Please contact us for further details on forming, fabrication and welding consumables.

Applications

Reformer tubes
Tube sheets and baffle plates
Thermowells
Catalyst manufacturing processes
Industrial fertiliser production

Do you require further information or a quotation?
Please contact us…
info@bibusmetals.com
www.bibusmetals.com