

Technical datasheet

Alloy C22 / W-Nr. 2.4602

A nickel-chromium-molybdenum alloy with additions of tungsten which has excellent resistance to a very broad range of highly corrosive conditions – both aqueous corrosion and modes of high temperature attack.

Available products

Product form	Size range from	Size range to
Sheet/plate	0.63 mm thickness	25.40 mm thickness
Bar	6.35 mm diameter	254.00 mm diameter
Tube/pipe	5.00 mm outside diameter	219.10 mm outside diameter

Chemical composition (%)

Ni	Cr	Mo	Fe	W	Co	Mn	C
Balance	20.0-22.5	12.5-14.5	2.0-6.0	2.5-3.5	2.50 max	0.5 max	0.015 max

Major specifications

ASTM B366, B462, B574, B575, B775, B622, B829, B626, B751	UNS N06022 DIN 17750, 17752, 17754
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Physical properties

Density	8.61 g/cm ³
Melting range	1351-1387°C

Mechanical properties – typical room temperature properties

Yield strength	379 MPa
Tensile strength	793 MPa
Elongation	60 %

Key attributes

Owing to the high contents of chromium, molybdenum and tungsten Alloy C-22 has excellent resistance to both oxidising and reducing acidic environments and resists pitting, crevice attack and stress corrosion cracking. It is specially resistant to chloride-induced pitting. It has high resistance to sulphuric and hydrochloric acids, oxidising acid chlorides, chlorine (wet), formic and acetic acids, sea water and brines and many mixed chemical solutions which can present the most aggressive of conditions. At elevated temperatures the high chromium content is also effective in resisting attack by oxidation, carburisation and sulphidation and also by chlorides and fluorides.

Alloy C-22 is readily machined, formed and welded by conventional processes and techniques. Please contact us for further details on forming, fabrication and welding consumables.

Applications

Reactors, heat exchangers, columns and other equipment in the chemical processing industry
Pollution control systems / flue gas desulphurization
Pulp and paper processing
Waste incineration

All information is subject to change without notice. The properties correspond to the material in the heading. They may vary for other specifications. Please contact us for more details.