

C22 / UNS N06022 / 2.4602

Alloy C22 / UNS N06022 / 2.4602 – extreme corrosion resistance

Properties of Alloy C22 / UNS N06022 / 2.4602

Alloy C22 / UNS N06022 / 2.4602 is a versatile, high-performance nickel-chromium-molybdenum-tungsten alloy designed for extreme corrosion resistance. It features:

Key Features:

- Exceptional resistance to oxidizing and reducing media
- Superior performance in environments causing pitting, crevice corrosion, and stress corrosion cracking
- High stability in mixed acid systems including nitric, sulfuric, hydrochloric, and phosphoric acids
- Excellent weldability, with minimal risk of sensitization or intergranular attack

Applications of Alloy C22 / UNS N06022 / 2.4602

Alloy C22 / UNS N06022 / 2.4602 is widely used in demanding industrial environments:

- Chemical processing: reactors, heat exchangers, piping systems
- Pollution control: flue gas desulfurization, waste incineration, sewage treatment
- Pharmaceutical and biotech equipment
- Oil & gas industry: sour gas environments, offshore components
- Pulp and paper industry: bleaching equipment
- Acid production and storage

Specification Overview

Material number	2.4602
Alloy	C22
EN designation	NiCr21Mo14W
UNS	N06022
Böhler Grade	L22
Semi-finished products (strip, sheet, pipe, rod)	DIN 17744 / DIN 17752
Forged or rolled components	ASTM B 574 / ASME SB 574 / DIN 17752 / VdTÜV 479
Sheets / strips	ASTM B 575 / ASME SB 575 / DIN 17751 / VdTÜV 479
Wire	DIN 17753
Pipe & Tube	ASTM B 619 / ASME SB 619 / ASTM B 622 / ASME SB 622 / ASTM B 626 / ASME SB 626

Physical Properties

Property	Value
Material Density	8.69 g/cm ³
Melting Point	1335 – 1380°C
Thermal conductivity (20 °C)	10.1 W/(m·K)
Electrical Resistivity	1.14 Ω·mm ² /m
Thermal Expansion (20–100 °C)	11.1 × 10 ⁻⁶ /K

Mechanical Properties: (Soft Annealed)

Property	Typical Value
Tensile Strength Rm	≥ 690 MPa
Yield Strength Rp0.2	≥ 310 MPa
Elongation A5	≥ 45%

Typical Chemical Composition:

Element Content acc. to VdTÜV Werkstoffblatt 479

C	Si	Mn	P	Fe	V	Co	Cr
≤ 0.010	≤ 0.08	≤ 0.50	≤ 0.025	2.0 – 6.0	≤ 0.35	≤ 2.50	20.0 – 22.5
Mo	Ni	W					
12.5 – 14.5	Rem	2.5 – 3.5					

Product Portfolio:

Our company offers Alloy C22 / UNS N06022 / 2.4602 in a wide range of forms and processing stages:

- Forged and Machined Components – per drawing or specification
- Sheets and Plates – hot/cold rolled, solution annealed
- Bars and Rods – forged or rolled, pickled
- Tubes and Pipes – seamless or welded
- Wire – drawn or rolled
- Fittings and Flanges

All information without guarantee and for informational purposes only.

