NICKEL ALLOY

C22 - 2.4602

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Nickel Alloy C22, also known as Hastelloy C22, is a nickel-chromium-molybdenum alloy with the UNS N06022 designation. It is known for its exceptional corrosion resistance in highly aggressive environments and is often chosen for applications where resistance to both oxidising and reducing acids is required, especially in marine and chemical environments.

KEY FEATURES

- Excellent corrosion resistance
- Highly versatile
- High temperature stability
- Good weldability

CHEMICAL PROPERTIES

Nickel (Ni)	Chromium (Cr)	Molybdenum (Mo)	Iron (Fe)	Tungsten (W)	Cobalt (Co	Manganese (Mn)	Vanadium (V)	Phosphorus (P)	Silicone (Si)	Carbon (C)	Sulphur (S)
50-63%	**20-22.5%**	**3-3.5%**	**2-6%**	**2.5-3.5%**	**2.5%**	**0.5%**	**0.35%**	**0.015%**	**0.01%**	**0.01%**	**0.01%**

MECHANICAL PROPERTIES

Tensile strength (N/mm²)	**765**
Yield strength (N/mm²)	**359**
Elongation (% in 4D)	**25**
Hardness - Rockwell (HRB) max	**95**
Hardness - Brinell (HB) max	**320**

PHYSICAL PROPERTIES

Density (kg/m³)		**8650**
Modulus of elasticity (Gpa)		**206**
Mean coefficient of thermal expansion	0-100ºC (µm/m/ºC)	**6.9**
	0-350ºC (µm/m/ºC)	**7.2**
	0-538ºC (µm/m/ºC)	**7.5**
Thermal conductivity	at 100ºC (W/m.K)	**10.2**
	at 500ºC (W/m.K)	**13.1**
Specific Heat 0-100ºC (J/kg.K)		**414**
Electrical resistivity (nΩ.m)		**448**
Melting point (ºC)		**1400**

MARKET SECTORS

Pollution Control
Scrubbers, ducts, stacks in air pollution control systems

Chemical Processing
Reactors, vessels, piping systems

Oil & Gas Industry
Components for sour gas applications

Marine Industry
Marine shafts, valves, fasteners

Pharmaceutical Industry
Equipment for handling corrosive substances

Aerospace Industry
Valves, fasteners, electrical components