

# NICKEL ALLOY

## C276 - 2.4819



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Nickel Alloy C276, or material number 2.4819, is a corrosion-resistant nickel-molybdenum-chromium alloy with an addition of tungsten. This alloy, often referred to as Hastelloy C276, is known for its excellent resistance to a wide range of severe, corrosive environments, including strong acids, chlorides, and reducing conditions, making it suitable for various challenging applications.

### KEY FEATURES

- Excellent corrosion resistance
- Excellent resistance to oxidation
- Good mechanical properties at high temperature
- Easily fabricated

### CHEMICAL PROPERTIES

Molybdenum (Mo)	Chromium (Cr)	Iron (Fe)	Tungsten (W)	Cobalt (Co)	Manganese (Mn)	Vanadium (V)	Silicone (Si)	Carbon (C)	Sulphur (S)	Nickel (Ni)
15-17%	15-16.5%	4-7%	3-4.5%	2.5%	1%	0.1-0.3%	0.08%	0.01%	0.01%	rest

### MECHANICAL PROPERTIES

Tensile strength (N/mm <sup>2</sup> )	750
Yield strength (N/mm <sup>2</sup> )	310
Elongation (% in 4D)	30
Hardness - Rockwell (HRB) max	100
Hardness - Brinell (HB) max	-

### PHYSICAL PROPERTIES

Density (kg/m <sup>3</sup> )	8600	
Modulus of elasticity (Gpa)	208	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	11.2
	0-350°C (µm/m/°C)	11.8
	0-538°C (µm/m/°C)	12.5
Thermal conductivity	at 100°C (W/m.K)	10.4
	at 500°C (W/m.K)	13.1
Specific Heat 0-100°C (J/kg.K)	415	
Electrical resistivity (nΩ.m)	125	
Melting point (°C)	1350	

### MARKET SECTORS



**Pulp & Paper Industry**

Components exposed to corrosive chemicals



**Chemical Processing**

Reactors and vessels, pipes, fittings, valves in chemical plants



**Oil & Gas Industry**

Equipment for handling sour gas, pipes, valves



**Waste Treatment**

Components in waste treatment facilities



**Pharmaceutical Industry**

Production vessels, equipment



**Power Generation**

Flue gas desulphurisation units, heat exchangers