Alloy 276 (C-276)

Smiths Advanced Metals

Built for Severe Corrosive Service

Nickel-molybdenum-chromium alloy.

Alloy 276 (UNS N10276) is an austenitic nickel-molybdenum-chromium alloy with a small tungsten addition, and one of the most corrosion-resistant alloys available.

The alloy resists general corrosion, stress corrosion cracking, and pitting and crevice corrosion in extreme environments. It is particularly resistant to hydrochloric, sulphuric and hydrofluoric acids, alone or in combination.

Annealed bar typically gives 758 MPa tensile strength, 363 MPa yield strength and 62% elongation, well above the minimum values below.

Its main use is in oil, gas and chemical production, where equipment must withstand aggressive chemicals and sour gas.



Benefits

- **Outstanding resistance to acids & sour gas**
- **Resists pitting, crevice & stress corrosion**
- **Weld zones keep corrosion resistance**

Key Applications

- **Sour gas components**
- **Heat exchangers**
- **Pressure & reactor vessels**
- **Desulphurisation systems**
- **Pumps & valves**

* Chemical Composition (weight %)

	Mo	Cr	Fe	W	Co	Mn	V	Si	C	P	S	Ni
min.	15.0	14.5	4.0	3.0								Bal
max.	17.0	16.5	7.0	4.5	2.5	1.0	0.35	0.08	0.01	0.04	0.03	

* As per ASTM B574

* Physical & Mechanical Properties

Density	8.87 g/cm³
Melting Range	1325–1370 °C
Modulus of Elasticity	205 GPa
Thermal Conductivity	9.8 W/m °C
Tensile Strength	690 MPa min
0.2% Yield Strength	283 MPa min
Elongation	40% min

* Mechanical properties are minimum values

Welding & Fabrication

Very low carbon and silicon content means Alloy 276 resists carbide precipitation during welding, so heat-affected zones keep their corrosion resistance. This makes it suitable for welded pressure vessels in sour gas service.

Supply

We stock Alloy 276 as round bar to ASTM B574, hollow bar and round tube, and process material in-house to your specific size requirements. We provide global shipping services, supporting engineering companies worldwide.

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bsi ISO 9001 Quality Management Systems CERTIFIED
AS/EN 9100 Aviation Space and Defence CERTIFIED
EN 9120 Aviation Space and Defence CERTIFIED
UKAS TESTING 1930

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