

# Alloy 276

## Technical Datasheet



Service. Quality. Value.

### Nickel Molybdenum Chromium Alloy

#### Typical Applications

- Heat exchangers
- Pressure vessels
- Sour gas components
- Reactor vessels
- Desulphurisation systems
- Pumps & valves
- Incinerators
- Flanges & fittings

#### Product Description

Alloy 276 is a nickel-molybdenum-chromium alloy which includes a small amount of tungsten. In corrosion resistant terms, it is one of the most superior products on the market. The material is highly resistant to a wide range of chemicals and gases and is used particularly in oil, gas and chemical production. Alloy 276 has a very low carbon and silicon content.

#### Availability

Bar, tube, pipe

#### Material Specifications

- Excellent corrosion resistance in both oxidizing and reducing environments
- Resistant to chloride stress corrosion cracking
- Particularly resistant to hydrochloric acid, sulphuric acid and hydrofluoric acid
- Easily welded

#### Corrosion Resistance

Alloy 276 displays excellent corrosion resistance to a wide range of media including general corrosion, stress corrosion cracking and pitting and crevice corrosion in extreme environments. Its resistance to carbide precipitation during welding maintains corrosion resistance in the heat-affected zones of welded joints. This makes the material ideal for use in the fabrication of weldable pressurised vessels for sour gas service. Alloy 276 is particularly resistant to certain acids including, hydrochloric, sulphuric and hydrofluoric, or a combination.

#### Weldability

Good

#### Chemical Composition (weight %)

	Ni	Cr	Fe	C	Mn	Si	Mo	W	Co	V	P	S
Min	Bal	14.5	4.0				15.0	3.0				
Max	Bal	16.5	7.0	0.010	1.0	0.08	17.0	4.50	2.5	0.35	0.04	0.03

#### Mechanical Properties

Yield Strength 0.2% Offset	Ultimate Tensile Strength	Elongation in 2 in. (%)	Hardness (max.)
41,000 psi 283 MPa	100,000 psi 690 MPa	40	100 Rockwell B

#### Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

#### UK Service Centres:

Smiths Belfast **02895 908 897**  
 Smiths Biggleswade **01767 604 704**  
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#### Quality & Testing:



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