

### Nickel Chromium Molybdenum Alloy

#### Typical Applications

- Wellhead components
- Propellers & shafts
- Reactor core & control rod components
- Sour service applications
- Downhole equipment
- Seawater heat exchangers
- Sour gas pipelines
- Superheater tubing

#### Product Description

Alloy 625 has proved to be a highly prized construction material because of its value in its ability to solve a wide variety of design and application issues. Alloy 625 has outstanding corrosion resistance and is used extensively in the oil, gas and petrochemical sector, particularly in sour service and sour gas applications. With excellent weldability and high tensile strength, the material also offers resistance to both sulphide and chlorides stress cracking. Normally supplied in the annealed condition.

#### Key features

- Outstanding corrosion resistance
- High tensile, creep and rupture strength
- High fatigue strength in seawater
- Versatile – can be used to solve numerous design and application problems

#### Corrosion Resistance

Alloy 625 has versatile resistance to corrosion which is outstanding, even in severe corrosive environments. The material also shows superior resistance to high temperature effects such as oxidation and carburization. It is an excellent choice for seawater and sour gas applications.

#### Availability

Bar, tube, strip, plate, sheet

#### Weldability

Excellent

#### Chemical Composition (weight %)

	Ni	Cr	Mo	Fe	Nb+Ta	Co	Si	Mn	Ti	Al	C	S	P
min	58.0	20.0	8.0		3.15								
max		23.0	10.0	5.0	4.15	1.0	0.50	0.50	0.40	0.40	0.10	0.015	0.015

#### Mechanical Properties

##### Bar - Ruling Sections up to and including 101.6mm (4")

0.2% Proof Stress (N/mm <sup>2</sup> )[ksi] minimum	415 [60]
Ultimate Tensile Strength (N/mm <sup>2</sup> )[ksi] minimum	830 [120]
Elongation (%) minimum	30

##### Bar - Ruling Sections greater than 101.6mm (4")

0.2% Proof Stress (N/mm <sup>2</sup> )[ksi] minimum	345 [50]
Ultimate Tensile Strength (N/mm <sup>2</sup> )[ksi] minimum	760 [110]
Elongation (%) minimum	25

#### 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
Smiths Birmingham	0121 728 4940
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##### Quality & Testing:



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