

# 410 Stainless

## Technical Datasheet



Service. Quality. Value.

### Martensitic Stainless Steel Alloy

#### Typical Applications

- Gas turbines
- Steam turbines
- Petroleum fractioning structures
- Valves & pumps
- Kitchen utensils
- Fasteners

#### Product Description

Type 410 stainless is a martensitic alloy commonly supplied in the hardened but still machinable condition. The alloy contains 11.5% chromium which provides good resistance to atmospheric corrosion. However, corrosion resistance is limited unless the alloy is further enhanced by processes including hardening, tempering and polishing. Type 410 displays excellent hardness after heat treatment and the material can be used in the fabrication of highly stressed parts. Weldability of the alloy is generally poor.

#### Key features

- A commonly used martensitic stainless steel.
- Excellent hardness properties after heat treatment.
- Suitable for highly stressed parts.
- Limited corrosion resistance and weldability is poor.

#### Machinability

Good but difficult if alloy is hardened above 30HRC.

#### Weldability

Poor.

#### Availability

Round bar, plate and sheet

#### Corrosion resistance

Good resistance to atmospheric corrosion.

#### Chemical Composition (weight %)

	C	Mn	Si	P	S	Cr	Ni		
min						11.50			
max	0.15	1.00	1.00	0.04	0.03	13.50	0.75		

#### Mechanical Properties

Tensile strength	700 - 850	MPa
Yield Strength	495	N/mm <sup>2</sup>
Elongation A5	15	%

#### Physical Properties

Density	7800	kg/m <sup>3</sup>
Melting Point	1400	°C
Modulus of Elasticity	200	GPa
Electrical Resistivity	570	n Ω.m
Thermal Conductivity at 100°C	24.9	W/m.K

#### 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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