Stainless Steel 410

Technical Datasheet

Key Features

- High strength
- Moderate heat and corrosion resistance

Common Applications

- Bolts, nuts, screws, bushings
- Pump and valve parts and shafts
- Steam and gas turbine parts
- Petroleum fractionating towers
- Mine ladder rungs

Material Description

Stainless Steel 410 is a martensitic stainless steel alloy known for its high strength, hardness, and wear resistance. It offers moderate corrosion resistance compared to austenitic stainless steel grades but excels in applications requiring high mechanical properties and resistance to abrasion and wear. Stainless Steel 410 is commonly used in applications such as pump shafts, valve components, cutlery, and surgical instruments where strength, hardness, and corrosion resistance are essential.

Chemical Composition (%)

	C	Cr	Fe	Mn	P	Si	S				
Min.		11.5	84.3								
Max.	0.15	13.5	88.5	1.0	0.040	1.0	0.030				

Mechanical Properties

Ultimate Tensile Strength	221,200 PSI
Tensile Yield Strength	177,700 PSI
Hardness	Rockwell B85
Elongation at Break	14.5%

Physical Properties

Density	0.282 lb/in³ (7.80 g/cm³)
Thermal Conductivity	24.9W/m.K
Modulus of elasticity	29,000 KSI (200 GPa)
Melting Point	2,700–2,790°F (1,480-1,530 °C)

Technical Assistance

Our knowledgeable staff, supported by our in-house team of expert metallurgists and engineers, is ready to assist you with any technical inquiries.

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