

# 410 Stainless Steel

## 410 STAINLESS STEEL DATASHEET

410 stainless steel is a Martensitic stainless steel with 12% Chromium. 410 stainless steel offers both outstanding corrosion resistance and exceptional wear resistance. 410 stainless steel can be heat treated to various levels to achieve a variety of mechanical and hardness values as required by specification and application need. 410 stainless steel maintains good corrosion resistance and high strength after heat treat. 410 stainless steel can be formed due to the excellent ductility in the annealed condition.

Common industry/applications for 410 stainless steel include: Automatic Production Parts, Petrochemical processing, Medical instruments, and Knives and Tooling.

Product forms include round bar, plate & sheet, and forgings.



### Standards

- UNS S41000

### Physical Properties

- Density: 0.280LB/in<sup>3</sup> (7.75g/cm<sup>3</sup>)
- Melting Point: 2560–2625°F (1404–1440°C)
- Modulus of Elasticity: 28.5x10<sup>6</sup>psi (196 GPa)
- Magnetic Permeability: 22μΩ/in @ 68°F (20°C)

### Characteristics

- Good ductility in annealed form.
- Good corrosion resistance.
- Capable of various Quench & Tempers.

### Chemical Composition

	C	Mn	S	P	Si	Cr	Ni	N
MIN	0.08	-	-	-	-	11.50	-	-
MAX	0.15	1.00	0.030	0.040	1.00	13.50	0.750	-

### Mechanical Properties

Tensile (min) KSI (Mpa)	Yield (min) KSI (Mpa)	Elongation (min) %	Reduction of Area (min) %	Hardness HRB (BHN)
75 (510)	42 (290)	20%	45%	97 (223)

As a Martensitic Stainless, 410 responds to Heat Treat and can be hardened to various conditions and hardness strengths. Most commonly 410QDT (Class 1 and Class 2).

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