

410 QDT Stainless Steel

410 QDT STAINLESS STEEL DATASHEET

Type 410 is a Martensitic Stainless steel with 12% Chromium. This grade can be heat treated to various levels to achieve a variety of mechanical and hardness values as required by specification and application need. 410 QDT (Quench & Double Tempered), is a heat-treated variation of 410 stainless. The QDT variant is suitable for use in oil & gas sour gas (H₂S) services, where it maintains corrosion resistance.

Common industry/applications are: Automatic Production Parts, Petrochemical processing, Medical instruments, and Knives and Tooling.

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



Standards

- UNS S41000
- ASTM A276/A479
- NACE MR0175
- AMS QQ-S-763

Physical Properties

- Density: 0.280LB/in³ (7.75g/cm³)
- Melting Point: 2560–2625°F (1404–1440°C)
- Modulus of Elasticity: 28.5x10⁶psi (196 GPa)
- Magnetic Permeability: 22μΩ/in @ 68°F (20°C)

Characteristics

- Suitable for Sour Gas H₂S Service.
- 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 * HRC (BHN)
100 (689)	80-95 (551-655)	20%	40%	23 (235)

410 QDT can have increased mechanical properties (Class 2).