

ASTM A182 F22 Alloy Steel

ASTM A182 F22 ALLOY STEEL DATASHEET

ASTM A182 F22 alloy steel is a low alloy steel predominately used in wellhead applications as an upgrade over AISI 4130. ASTM A182 F22 alloy steel is a very deep hardening, heat treatable alloy steel that contains nominally .12% Carbon, with 2.25% Chromium and 1.0% Molybdenum as the primary hardening elements. The popularity of ASTM A182 F22 alloy steel stems from its improved weldability over 4130 while maintaining good strength and excellent impact properties deeper into the product. Hardness levels up to 22 HRC are approved to NACE MR0175. ASTM A182 F22 alloy steel is often used as the base metal for clad components.

ASTM A182 F22 alloy steel is widely used in the oilfield wellheads, applications for connectors, hangers and block valves, and a wide range of fittings and flanges.

Product forms include bar, seamless tubing, and plate.



Standards

- UNS K21590
- ASTM A182

Physical Properties

- Density: 8.0 g/cm³
- Melting Range: 2550-2650°F (1400-1455°C)
- Modulus of Elasticity:
- Magnetic Permeability:

Characteristics

- readily machinable
- very deep hardening
- heat treatable

Chemical Composition

	C	Mn	S	Si	P	Cr	Mo
MIN	0.05	0.30	-	-	-	2.00	0.87
MAX	0.15	0.60	0.04	0.50	0.040	2.50	1.13

Mechanical Properties

Tensile (min) KSI (Mpa)	Yield (min) KSI (Mpa)	Elongation (min) %	Reduction of Area (min) %	Hardness (max) BHN
95 (655)	75 (517)	17	35	197-237

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