

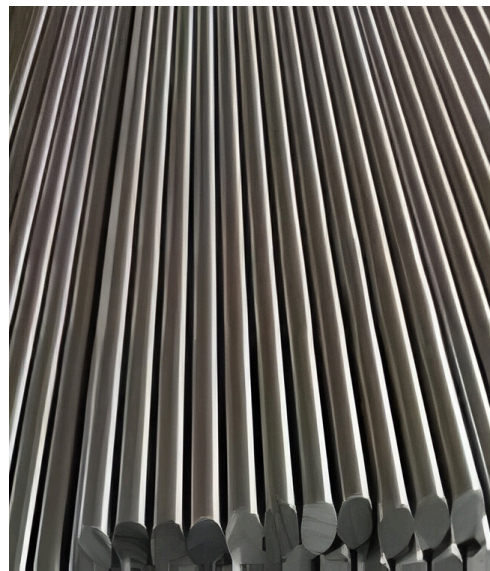
ASTM A182 F22 Alloy Steel

AISI 4340 ALLOY STEEL DATASHEET

ASTM A182 F-22 Alloy Steel is a low alloy steel predominately used in wellhead applications as an upgrade over AISI 4130. It 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 this grade 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. The grade is often used as the base metal for clad components.

F-22 is widely used in the oil patch wellhead 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
- NACE MR0175

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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