

AISI 4340 Alloy Steel

AISI 4340 ALLOY STEEL DATASHEET

AISI 4340 Alloy Steel is a medium carbon, low alloy steel known for its toughness and strength in relatively large sections. AISI 4340 is also one kind of nickel chromium molybdenum steels. 4340 alloy steel is generally supplied hardened and tempered in the tensile range of 930 – 1080 Mpa. Pre-hardened and tempered 4340 steels can be further surface hardened by flame or induction hardening and by nitriding. The 4340 steel has good shock and impact resistance as well as wear and abrasion resistance in the hardened condition. AISI 4340 steel properties offer good ductility in the annealed condition, allowing it to be bent or formed.

AISI 4340 alloy steel is mainly used in power transmission gears and shafts, aircraft landing gear, and other structural parts.

Product forms include bar, seamless tubing, and plate.

Standards

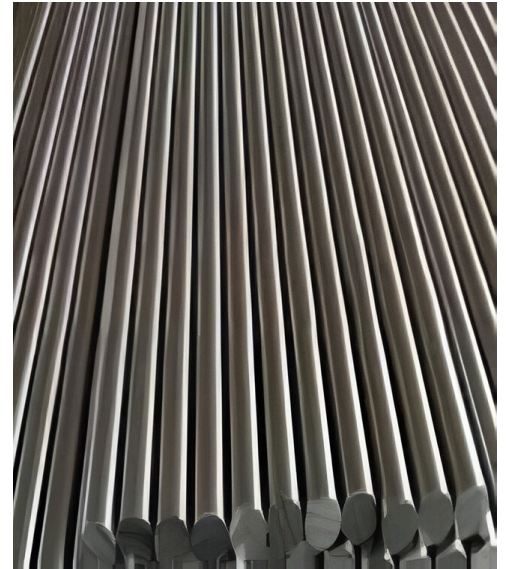
- UNS G43400
- AMS 6409
- AMS 6359
- AMS 6414
- AMS 6454
- AMS 6415

Physical Properties

- Density: 0.284 LB/in³ (7.85 g/cm³)
- Melting Point: 2600°F (1427°C)
- Modulus of Elasticity: 29.7 x10⁶psi (205 Gpa)
- Magnetic Permeability:

Characteristics

- good ductility and formability in the annealed condition
- high strength and toughness in relatively large sections
- higher tensile/yield strength than 4140 can provide



Chemical Composition

	C	Mn	S	Si	P	Cr	Mo	Fe
MIN	0.370	0.60	-	0.15	-	0.70	0.20	95.195
MAX	0.430	0.80	0.04	0.30	0.035	0.90	0.30	96.330

Mechanical Properties

Tensile (min) KSI (Mpa)	Yield (min) KSI (Mpa)	Elongation (min) %	Reduction of Area (min) %	Hardness (max) HRB (BHN)
108 (745)	68.2 (470)	22	50	95 (217)

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SPECIALTY STEEL SUPPLY
19201 CIRCLE LAKE DR
PINEHURST, TX 77362
Call for a quote (281) 821-7111

