

# AISI 8620 Alloy Steel

## AISI 4340 ALLOY STEEL DATASHEET

AISI 8620 Alloy Steel is a low alloy nickel, chromium, molybdenum case hardening steel, generally supplied in the as rolled condition with a maximum hardness HB 255max. SAE steel 8620 offers high external strength and good internal strength, making it highly wear resistant. AISI 8620 steel has a higher core strength than grades 8615 and 8617. AISI 8620 alloy steel is flexible during hardening treatments, thus enabling improvement of case/core properties. Pre-hardened and tempered (uncarburized) 8620 can be further surface hardened by nitriding but will not respond satisfactorily to flame or induction hardening due to its low carbon content.

Applications include gears, cranks, shafting, axles, bushings, heavy duty pins, bolting, springs, hand tools, chains, and many other machinery parts.

Product forms include bar, seamless tubing, and plate.

### Standards

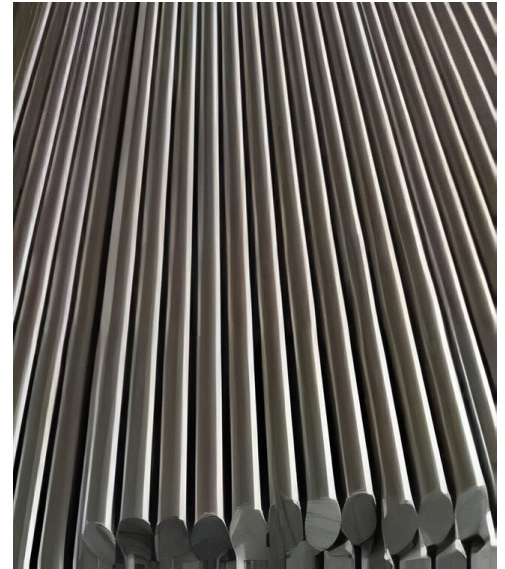
- UNS G86200
- ASTM A322
- ASTM A646

### Physical Properties

- Density: 0.284 LB/in<sup>3</sup> (7.85 g/cm<sup>3</sup>)
- Melting Range: 2580-2650°F (1416-1454°C)
- Modulus of Elasticity: 29.7 x10<sup>6</sup>psi (205 Gpa)
- Magnetic Permeability:

### Characteristics

- high case toughness and above average core toughness
- the most widely used carburizing alloy steel



### Chemical Composition

	C	Mn	S	Si	P	Cr	Mo	Fe
MIN	0.180	0.70	-	0.15	-	0.40	0.15	96.895
MAX	0.230	0.90	0.04	0.35	0.035	0.60	0.25	98.020

### Mechanical Properties

Tensile (min) KSI (Mpa)	Yield (min) KSI (Mpa)	Elongation (min) %	Reduction of Area (min) %	Hardness (max) HRB (BHN)
76.9 (530)	55.8 (385)	26	60	80 (149)

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