



EN24 Steel | Properties, Equivalents, Applications | Steelmet Industries

Description

EN24, also known as **AISI 4340**, is a high-strength alloy steel known for its toughness, high tensile strength, and fatigue resistance. It is widely used in demanding engineering applications where strength and wear resistance are critical. At **Steelmet Industries**, we supply **EN24 steel bars** in various forms such as **bright bars**, **hot rolled bars**, and **custom-made profiles**, manufactured to tight tolerances with full traceability.

Chemical Composition of EN24 Steel

Element	Composition (%)
Carbon (C)	0.36 - 0.44
Manganese (Mn)	0.45 - 0.70
Silicon (Si)	0.10 - 0.35
Chromium (Cr)	0.90 - 1.40
Nickel (Ni)	1.30 - 1.70
Molybdenum (Mo)	0.20 - 0.35
Sulphur (S)	≤ 0.035
Phosphorus (P)	≤ 0.035

Mechanical Properties (Typical Values)

Property	Value
Tensile Strength	850-1000 MPa (can be increased by heat treatment)
Yield Strength	680-800 MPa
Elongation	13-16%
Hardness	248-302 BHN

Property	Value
Toughness	Excellent (especially after oil quenching and tempering)

Values may vary based on condition and heat treatment.

Equivalent Grades of EN24

Standard Equivalent Grade

AISI / SAE	4340
DIN / EN	34CrNiMo6
IS (India)	40NiCrMo7
JIS	SNCM439
BS	817M40

Applications of EN24 Steel

EN24 is ideal for high-stress, high-strength, wear-resistant applications, such as:

- Crankshafts and camshafts
 - Axles and shafts
 - Gears and gear shafts
 - Bolts and studs
 - Aircraft landing gear components
 - Heavy-duty machine parts
 - Automotive, aerospace, and defense components
 - High-performance agricultural and construction equipment
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Machinability, Weldability & Heat Treatment

- **Machinability:** Good in normalized or tempered condition.
- **Weldability:** Fair with preheating and post-weld heat treatment are recommended.
- **Heat Treatment Options:**
 - Normalizing: ~850°C
 - Hardening: Oil quench at 830-860°C
 - Tempering: 400-650°C based on mechanical requirements
 - Suitable for nitriding, case hardening, and flame/induction hardening

EN24 Steel Bars from Steelmet Industries

Steelmet Industries supplies **EN24 bars** in the following forms:

- **Bright Bars:** Drawn, Peeled, Ground
- **Hot Rolled Bars:** Rounds, Flats, Squares
- **Custom Profiles:** Round-corner squares, special flats, hex bars, and other geometries
- **Available Sizes:**
 - Rounds: 12 mm to 90 mm
 - Flats/Squares/Hex: As per customer specification
- **Tolerances:** ISO H9, H10, or as required
- **Supply Condition:** As rolled, annealed, normalized, tempered, or quenched and tempered

All bars are dimensionally accurate and surface finished to high standards.

Why Choose Steelmet Industries for EN24?

- Wide experience in alloy steel manufacturing and supply
- Availability in small lots or bulk quantities
- Reliable and repeatable quality with full material traceability
- **VD (Vacuum Degassed) route** available for critical engineering applications
- Responsive customer service and technical support
- NABL-certified testing support and material certificates

Certifications & Compliance

- Supplied with manufacturer's **Test Certificate (TC)**
- Conforms to **IS, EN, SAE, DIN** standards
- Third-party inspections on request
- NABL-certified chemical and mechanical test reports available

Get in Touch

Looking for high-performance EN24 steel bars in India?

Contact **Steelmet Industries** today for:

- Enquiries and pricing

- Custom profiles and machining
- Ready stock availability

Visit our website: <https://www.steelmet.in>
Or send your enquiry through the contact form.

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