



## EN19 Steel | Properties, Equivalents, Applications | Steelmet Industries

### Description

**EN19 steel**, also known as **AISI 4140**, is a high-quality alloy steel grade with excellent mechanical properties, making it one of the most widely used engineering steels for demanding applications. At **Steelmet Industries**, we supply EN19 steel bars in **hot rolled, bright bar, peeled**, and **custom-shaped** forms, offering high dimensional accuracy and complete traceability.

### Chemical Composition of EN19 Steel

Element	Composition (%)
Carbon (C)	0.36 ?? 0.44
Manganese (Mn)	0.60 ?? 0.90
Silicon (Si)	0.10 ?? 0.40
Chromium (Cr)	0.90 ?? 1.50
Molybdenum (Mo)	0.15 ?? 0.30
Sulphur (S)	?? 0.035
Phosphorus (P)	?? 0.035

### Mechanical Properties (Typical Values)

Property	Value
Tensile Strength	850??1000 MPa
Yield Strength	680??800 MPa
Elongation	16??18%
Hardness	248??302 BHN
Impact Strength	High (suitable for shock loading)

---

*Note: Values vary depending on heat treatment and section size.*

---

## • Equivalent Grades of EN19

### Standard Equivalent Grade

AISI/SAE	4140
DIN/EN	42CrMo4
IS (India)	40Cr4Mo3
JIS	SCM440
BS	708M40

## • Applications of EN19 Steel

EN19 is a versatile alloy steel used in:

- Transmission shafts
- Gears and gear shafts
- Axles
- Spindles
- Bolts and studs
- Connecting rods
- High-stress machine parts
- Automotive and agricultural equipment
- Powertrain components

Its strength, toughness, and wear resistance make it ideal for **forging, machining, and heat treatment**

---

## δ??§ Machinability, Weldability & Heat Treatment

- **Machinability:** EN19 offers good machinability in normalized and tempered condition.
- **Weldability:** Fair ?? Preheating and post-weld heat treatment are recommended.
- **Heat Treatment:**
  - Hardening: Oil quenching at ~850°C
  - Tempering: ~500??650°C depending on strength/toughness requirements
  - Can be induction or flame hardened

## δ?§± EN19 Steel Bars from Steelmet Industries

At **Steelmet Industries**, we offer EN19 steel in various forms:

- **Bright Bars:** Drawn, Peeled, Ground
- **Hot Rolled Bars:** Rounds, Squares, Flats
- **Custom Shapes:** Round-corner squares, special flats, D-bars, hexes, and more
- **Size Range:**
  - Rounds: 12 mm to 90 mm
  - Flats/Squares/Hex: As per customer requirement
- **Tolerances:** ISO H9/H10/H11 as needed

Our EN19 bars are supplied in **heat-treated, normalised, or as rolled** conditions with **tight dimensional accuracy** and **NABL-certified testing support**.

## • Why Choose Steelmet Industries for EN19?

- Trusted source of **graded alloy steels** with full traceability
- Custom lengths, profiles, and finishes available
- Reliable deliveries and consistent quality
- **Vacuum Degassed (VD) Route** options available for critical applications
- Experienced in fulfilling OEM, forging, machining, and export orders

## • Certifications & Compliance

All EN19 bars are supplied with:

- **Test Certificates (TC)**
- Dimensional reports on request
- Optional third-party inspection
- Conformance to **IS, EN, SAE and DIN** standards
- Support from NABL-accredited laboratories for chemical and mechanical testing

## • Get in Touch

Looking for reliable EN19 steel bars with consistent quality?

• Contact **Steelmet Industries** today for pricing, delivery timelines, or bulk orders.

• Visit: <https://www.steelmet.in>

• Or send your enquiry through our website contact form.

## Category

1. Posts

---

## Tags

1. bright bars
2. EN19 chemical composition
3. EN19 mechanical properties
4. EN19 steel supplier
5. EN19
6. hot rolled steel bars
7. special steel India
8. Steelmet Industries

**Date**

20/01/2026

**Author**

admin

*Steelmet Industries - Bright Bars, Alloy Steels, Free Cutting Steels, Stainless Steels*