



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**.

? 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

? 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
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? 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
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? 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.

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