



EN9 Steel: Composition, Properties, Equivalents & Applications | Steelmet Industries India

Description

EN9 steel, also known as **070M55**, is a medium carbon steel renowned for its excellent wear resistance and high tensile strength. Its balanced composition makes it ideal for components subjected to high stress and wear. At **Steelmet Industries**, we supply EN9 steel in various forms, including bright bars, hot-rolled bars, and custom shapes, ensuring top-notch quality and precision.

Chemical Composition

| Element | Percentage (%) |
|----------------|----------------|
| Carbon (C) | 0.50 - 0.60 |
| Manganese (Mn) | 0.60 - 0.90 |
| Silicon (Si) | 0.10 - 0.35 |
| Sulphur (S) | ≤ 0.04 |
| Phosphorus (P) | ≤ 0.04 |

Mechanical Properties

| Property | Value (Typical) |
|---------------------|-----------------|
| Tensile Strength | 600 - 800 MPa |
| Yield Strength | 350 - 500 MPa |
| Hardness (Annealed) | 150 - 170 HB |
| Hardness (Hardened) | Up to 50 HRC |
| Elongation | 10% - 15% |

Note: Values may vary based on heat treatment and section size.

Equivalent Grades

| Standard | Grade |
|----------|--------------|
| AISI/SAE | 1055 |
| DIN | C55 (1.0535) |
| JIS | S55C |
| IS | 55C8 |
| BS | 070M55 |

Applications

EN9 steel is widely used in engineering applications requiring high strength and wear resistance:

- Gears and sprockets
- Shafts and axles
- Crankshafts
- Connecting rods
- Machine tools
- Automotive components
- Structural parts in construction

Machinability, Weldability & Heat Treatment

Machinability: EN9 offers good machinability in the annealed condition, allowing for precise machining operations.

Weldability: Welding EN9 requires caution due to its higher carbon content. Preheating and post-weld heat treatment are recommended to avoid cracking.

Heat Treatment:

- **Annealing:** Improves ductility and machinability.
 - **Normalizing:** Enhances strength and toughness.
 - **Hardening:** Achieves high surface hardness for wear resistance.
 - **Tempering:** Reduces brittleness after hardening.
-

ö??? Forms Supplied by Steelmet Industries

At **Steelmet Industries**, we offer EN9 steel in various forms:

- **Bright Bars:** Rounds, squares, hexagons, and flats with precise dimensions and excellent surface finish.
- **Hot Rolled Bars:** Suitable for forging and machining applications.
- **Custom Shapes:** Tailored to specific requirements, including D-shapes and special profiles.

Our products adhere to strict quality standards, ensuring tight tolerances and superior mechanical properties.

ö?• Why Choose Steelmet Industries for EN9 Steel?

- **Quality Assurance:** Comprehensive testing and certification for every batch.
 - **Customization:** Tailored solutions to meet specific application needs.
 - **Timely Delivery:** Efficient logistics ensuring prompt supply.
 - **Technical Support:** Expert guidance on material selection and processing.
-

ö??? Documentation & Compliance

We provide:

- **Test Certificates:** Detailed chemical and mechanical analysis.
- **Dimensional Reports:** Ensuring adherence to specified tolerances.
- **Compliance:** Materials conform to IS, ASTM, DIN, and JIS standards.

ð??? Contact & Inquiry

For high-quality EN9 steel products, reach out to **Steelmet Industries:**

ð???• Website: <https://www.steelmet.in>

Category

1. Posts

Tags

1. EN9 applications
2. EN9 chemical composition
3. EN9 mechanical properties
4. EN9 steel supplier
5. EN9
6. Steelmet Industries

Date

11/06/2026

Author

admin