



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.

δ??? 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.

δ?• 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.

δ??? 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.

δ??? Contact & Inquiry

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

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

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Author

admin