



EN1A Steel | Properties, Equivalents, Applications | Steelmet Industries

# DescripciA<sup>3</sup>n

EN1A, also known as 230Mu/ or an offers excellent machinability. It is the go-to material automatic lathes. At Steelmet Industries, we offer EN1A steel bars and excellent surface finish, tight tolerances, and consistent quality. EN1A, also known as 230M07 or Free Cutting Mild Steel, is a low-carbon steel with added sulfur that offers excellent machinability. It is the go-to material for mass production on CNC machines and automatic lathes. At Steelmet Industries, we offer EN1A steel bars in bright and hot rolled forms with

Carbon (C) 0.07 â?? 0.15 Manganese (Mn) 0.80 â?? 1.20 Sulfur (S) 0.20 â?? 0.30 Phosphorus (P) â?¤ 0.07 Iron (Fe) Balance

Note: EN1A is a free-cutting steel. The high sulfur content improves machinability.

## **8** Nechanical Properties (Typical in Cold Drawn Condition)

**Property** Value Tensile Strength 370 â?? 540 MPa Yield Strength 220 â?? 350 MPa

Elongation ~15%

130 â?? 170 Hardness (BHN) Machinability Rating 100% (Excellent)



## ð??• Equivalent Grades of EN1A

**Standard Equivalent Grade** 

ΕN EN1A / 230M07

AISI 1213 / 12L13

IS 14420 (Steel Type 14C6S13)

DIN 9SMn28 / 1.0715

JIS SUM22

BS EN1A / 230M07

## â??ï. • Applications of EN1A Steel

Automatic turned parts

• Precision machined components a Steels, Stainless Steels EN1A is widely used for high-speed machining of parts with moderate strength requirements, including:

- Couplings and connectors
- Valve parts and nipples
- Furniture and hardware components

It is ideal for mass production, especially on CNCs and turret lathes where tight tolerances and fast cycle times are critical.

## **ð??§ Machinability, Weldability & Heat Treatment**

• Machinability: Excellent â?? best among all carbon steels



- Weldability: Limited due to high sulfur content; use EN1A lead-free (EN1A(L)) if welding is necessary
- Heat Treatment: Not typically hardened; not suited for quenching or tempering
- Case Hardening: Possible if core strength is not a concern

For applications requiring welding or better impact toughness, EN1A(L) or EN3B may be more suitable.

## **ð**?§± EN1A Steel Bars from Steelmet Industries

Steelmet Industries supplies EN1A in multiple profiles and conditions:

- Bright Bars: Drawn, Peeled, Ground a?? ideal for precision machining
- Hot Rolled Bars: For forgings and general use
- Shapes: Rounds, Squares, Flats, Hexagons, Round Corner Squares, Custom Profiles
- Size Range:
  - o Rounds: 10 mm to 75 mm
  - Flats and Squares: As per requirement
- Tolerances: ISO H9, H10 or customer-specified
- Supply Condition: Bright drawn, annealed, hot rolled, or custom

We ensure **low decarb**, **consistent chemistry**, and **tight tolerances** for hassle-free machining and high productivity.

# ð?• Why Choose Steelmet Industries for EN1A?

- â? Decades of experience in free-cutting steels
- â? Custom sizes and tolerances



- a? Fast dispatch from ready stock
- â? Traceable material with Test Certificate
- a? Ideal partner for OEMs, exporters, and contract manufacturers
- a? Competitive pricing and customer-first service

## **ð???** Certifications & Compliance

- Supplied with Material Test Certificate (MTC)
- Complies with EN 10277, BS 970, IS 14420
- Optional: NABL-certified lab reports, UT/visual inspection, TPI

Need EN1A steel bars for machining or mass production?

Steelmet Industries today.

The steel bars for machining or mass production?

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#### **Fecha**

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