



## EN2 vs EN2A vs EN2B vs EN2C vs EN2D – A Complete Comparison of Free-Cutting Mild Steel Grades (BS970-1955)

### Description

#### Introduction

The **EN2 family of steel grades**, as specified in the **British Standard BS970-1955**, consists of free-cutting mild steels ideal for components that require excellent machinability with moderate strength. Variants like **EN2A**, **EN2B**, **EN2C**, and **EN2D** offer small but significant changes in composition to suit specific manufacturing needs. This article compares these grades in detail to help engineers, buyers, and manufacturers choose the most suitable material.

### Comparison Table – Chemical Composition (% by weight)

Grade	Carbon (C)	Manganese (Mn)	Sulphur (S)	Phosphorus (P)	Notes
EN2	0.07–0.15	0.60–0.90	≤ 0.05	≤ 0.05	Base grade, general purpose
EN2A	0.07–0.15	0.60–0.90	0.10–0.15	≤ 0.05	Higher sulphur, better machinability
EN2B	0.07–0.15	0.60–0.90	0.15–0.25	≤ 0.05	Very high sulphur for automated machining
EN2C	0.07–0.15	0.60–0.90	0.25–0.35	≤ 0.05	Ultra machinable for high-volume production
EN2D	0.07–0.15	0.60–0.90	0.35–0.45	≤ 0.05	Maximum machinability with trade-off in weldability

### Applications

These grades are typically used in:

- Turned parts
- Bushes and spacers
- Screws, studs, and bolts
- Lightly stressed mechanical parts
- Automated machining (especially EN2C & EN2D)

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### Key Differences & Selection Guide

- **EN2:** The base mild steel variant, usable for general machining and simple turning operations.
- **EN2A:** Slightly enhanced machinability without much compromise on mechanical properties.
- **EN2B:** Balances good machinability with strength; good choice for threaded components.
- **EN2C:** Optimized for fast production lines and CNC automation.
- **EN2D:** Maximum sulphur for the best machinability, but not recommended for parts that require welding.

If your process relies heavily on speed and dimensional precision, Steelmet Industries can provide **bright bars or special-shaped steel bars** in EN2-series steels, tailored to your machine feed sizes and tolerances.

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### Heat Treatment & Weldability

These steels are not generally heat treated for strength. Due to high sulphur content, **EN2C and EN2D are not suitable for welding** and must be used in mechanically fastened assemblies.

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### Machinability Index (Approx.):

#### Grade Machinability (%)

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EN2 50%  
EN2A 60%  
EN2B 70%  
EN2C 85%  
EN2D 95%

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## Why Source EN2 Series Steels from Steelmet Industries?

We understand the precise demands of automated manufacturing. Whether you need **custom-cut bright bars, hexagonal or round corner squares**, or **tailored steel with precise sulphur content**, our team ensures reliable and traceable supply — right from **VD-route verification to lab-tested certification**.

If you're looking to streamline your component production, [talk to our technical team](#) or reach us on WhatsApp at **+91 712 2728071** to explore grades that work best with your processes.

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## FAQs

### Q: Can EN2D be welded?

A: Due to its high sulphur content, EN2D is not suitable for welding. Mechanical fastening or threading is recommended.

### Q: What's the difference between EN2 and EN2A?

A: EN2A has higher sulphur than EN2, giving it better machinability but slightly reducing ductility.

### Q: Are these steels available as bright bars?

A: Yes, Steelmet Industries supplies these grades in bright bar and custom profile forms with tight tolerances.

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**Author**

admin

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