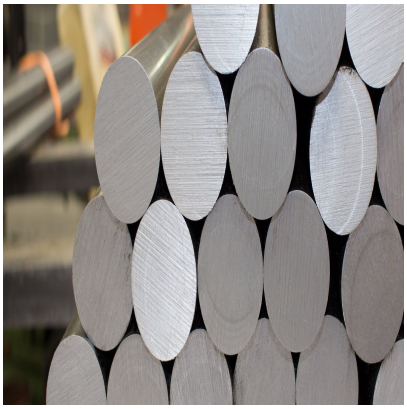

EN2 vs EN2A vs EN2B vs EN2C vs EN2D â?? A Complete Comparison of Free-Cutting Mild Steel Grades (BS970-1955)

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 â?? Chemical Composition (% by weight)

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

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.

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.

Machinability Index (Approx.):

Grade	Machinability (%)

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

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 â?? right from **VD-route verification** to **lab-tested certification**.

If youâ??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.

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: Whatâ??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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