EN1A vs EN1A Leaded Steel: Key Differences in Machinability & Composition

Description

Introduction

EN1A (230M07) and EN1A Leaded (230M07 Pb) are popular free-cutting steels, but their small composition differences significantly impact machining behavior.

Steelmet Industries supplies both grades as:
? Cold-drawn bright bars (Ø 5mm–150mm)
? Precision ground stock
? Cut-to-length blanks (±0.2mm tolerance)

Key Differences

Parameter	EN1A (230M07)	EN1A Leaded (230M07 Pb)
Composition	0.07–0.13% C, 0.2–0.25% S	Added 0.15–0.35% Lead (Pb)
Machinability	Good (80% of 1214)	Excellent (130% of 1214)
Tool Wear	Moderate	Reduced by 30–40%
Surface Finish	Ra 3.2–6.3 ?m	Ra 1.6–3.2 ?m
Cost	Lower	Slightly higher
Weldability	Poor (due to S)	Not recommended

Applications

EN1A (Non-Leaded)

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General-purpose turned parts

- Bushings & fittings
- Low-stress fasteners

EN1A Leaded

- High-volume CNC components
- Watch/clock parts
- Complex geometries requiring fine finishes

Why Choose Leaded?

? **Benefits**:

- 2–3x longer tool life
- Higher machining speeds (+25%)
- Better chip breaking

? **Limitations**:

- Not for welded/heat-treated parts
- Requires proper ventilation

Steelmet Industries offers both grades with:

- Drawn / Bright condition

- Custom cutting & bundling

Conclusion

While standard EN1A suits general machining, **EN1A Leaded delivers superior productivity** for high-volume precision work.

Request more information of both grades from **Steelmet Industries** to check their performance in your application.

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Author
admin