EN8 vs 070M20 Steel: Comprehensive Comparison Guide

Description

EN8 (1.0425) and 070M20 (1.0402) are two fundamental medium-carbon steels with distinct characteristics that engineers must understand for proper material selection. At **Steelmet Industries**, we supply both grades in various forms to meet your project requirements.

Key Differences at a Glance

Parameter	EN8 Steel	070M20 Steel
Carbon Content	0.36-0.44% (Higher)	0.17-0.23% (Lower)
Tensile Strength	700-850 MPa	500-700 MPa
Primary Use	High-stress components	General engineering

Detailed Comparison

1. Chemical Composition

Element	EN8 (%)	070M20 (%)
Carbon	0.36-0.44	0.17-0.23
Manganese	0.60-1.00	0.60-1.00
Sulfur	â?¤0.05	â?¤0.05

Key Insight: EN8â??s higher carbon content makes it stronger but less ductile than 070M20.

2. Mechanical Properties

- **EN8 Advantages:**
  - Better wear resistance
  - Superior response to heat treatment
  - Higher load-bearing capacity
- **070M20 Advantages:**
  - Easier machining
  - Better weldability
  - More cost-effective for simple components

3. Available Forms at Steelmet Industries

Both grades available as:

- **Bright bars** (Ã?5-150mm)
- **Black bars** (Ã?20-250mm)
- **Precision ground stock**
- **Custom forgings**

Applications Comparison

Best Uses for EN8:
â?? Gears and shafts
â?? Hydraulic components
â?? High-stress fasteners

Best Uses for 070M20:
â?? General fabrication
â?? Cold-formed parts
â?? Welded structures

Expert Recommendations

Choose EN8 When:

- You need heat-treated components
- The application involves heavy loads
- Wear resistance is critical

Choose 070M20 When:

- Cost is a primary factor
- You require good weldability
- The parts wonâ??t undergo extreme stress

Why Source From Steelmet Industries?

We provide:
â? Certified material (EN 10204 3.1)
â? Just-in-time delivery
â? Custom processing (cutting, grinding)
â? Technical support for material selection

Contact our sales team today for quotes on EN8 or 070M20 steel in your required specifications.

FAQ Section

Q: Can 070M20 be heat treated like EN8?
A: While possible, EN8 responds better to quenching and tempering due to its higher carbon content.

Q: Which grade is better for machining?
A: 070M20 machines more easily, though EN8 achieves good results with proper tooling.

Conclusion

Understanding the differences between EN8 and 070M20 steel ensures optimal material selection for your engineering projects. **Steelmet Industries** stands ready to supply both grades in all standard forms and sizes â?? contact us today to discuss your requirements.

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