

# IS 2062:2011 Steel Grades Comparison â?? Complete Guide

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

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IS 2062:2011 is the Indian Standard for **hot-rolled medium and high tensile structural steel**, covering grades from E250 to E650. This guide compares:

- 9 base grades with 4 sub-qualities each
- Chemical composition requirements
- Mechanical properties
- Impact test requirements
- Recommended applications

**Steelmet Industries** supplies all IS 2062 grades as:
â? Plates (3-100mm thickness)
â? Sections (angles, beams, channels)
â? Round/square/flat bars

## Grade Classification System

| Grade | Minimum Yield Strength (MPa) | Sub-Qualities | Key Feature |
|---|---|---|---|
| E250 | 250 | A, BR, B0, C | Basic structural grade |
| E275 | 275 | A, BR, B0, C | Improved strength |
| E300 | 300 | A, BR, B0, C | â?? |

| Grade | Minimum Yield Strength (MPa) | Sub-Qualities | Key Feature |
|---|---|---|---|
| E350 | 350 | A, BR, B0, C | Common construction grade |
| E410 | 410 | A, BR, B0, C | High strength |
| E450 | 450 | A, BR | â?? |
| E550 | 550 | A, BR | â?? |
| E600 | 600 | A, BR | â?? |
| E650 | 650 | A, BR | Highest strength grade |

**Sub-Quality Explanation:**

- **A**: No impact test required
- **BR**: Optional room temperature impact test
- **B0**: Mandatory 0Â°C impact test
- **C**: Mandatory -20Â°C impact test (best weldability)

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## Key Comparison Tables

### 1. Chemical Composition (Selected Grades)

| Element | E250A | E350C | E450A | E650A |
|---|---|---|---|---|
| C (max) | 0.23 | 0.20 | 0.22 | 0.22 |
| Mn (min) | 1.50 | 1.55 | 1.65 | 1.70 |
| P (max) | 0.045 | 0.040 | 0.045 | 0.025 |
| S (max) | 0.045 | 0.040 | 0.045 | 0.015 |
| CE (max) | 0.42 | 0.47 | 0.52 | 0.55 |

*Note: Stricter limits apply for sub-qualities B0/C*

### 2. Mechanical Properties

| Grade | Tensile (MPa) | Yield (MPa) | Elongation (%) | Impact Test Temp |
|---|---|---|---|---|
| E250 | 410 | 250 | 23 | -20Â°C (Quality C) |
| E350 | 490 | 350 | 22 | -20Â°C (Quality C) |
| E450 | 570 | 450 | 20 | Room Temp (BR) |
| E650 | 780 | 650 | 12 | Room Temp (BR) |

## Applications Guide

| Grade | Typical Uses |
|---|---|
| E250 | Light structures, roofing |
| E275 | General construction |
| E350 | Bridges, heavy structures |
| E410 | High-rise buildings |
| E450+ | Specialized heavy engineering |

## Why Choose Steelmet Industries?

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

We provide:
â?? All IS 2062 grades in stock
â?? Certified material (EN 10204 3.1/3.2)
â?? Custom cutting & processing
â?? Technical support for grade selection

**Contact us today** for quotes on IS 2062 steel plates, sections or bars!

## FAQ Section

**Q: Can E250 be used for welded structures?**
A: Yes, but Quality C (-20Â°C impact tested) is recommended for critical welding.

**Q: Difference between E350A and E350C?**
A: E350C has stricter impurity controls and mandatory -20Â°C impact testing.

## Conclusion

Understanding IS 2062 grade differences ensures optimal material selection for structural projects. **Steelmet Industries** stocks all grades from E250 to E650 â?? request samples or datasheets today!

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3. E450 steel
4. high tensile steel

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03/11/2026
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