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

Description

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)

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?

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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