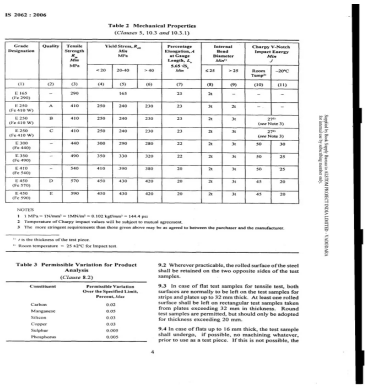

IS 2062:2006 Steel Grades â?? Complete Comparison Guide

Description

IS 2062:2006 is the Indian Standard governing **hot-rolled structural steel**, superseding IS 1977:1996 and IS 8500:1991. This guide compares all 9 grades (E165-E650) and their sub-qualities to help:

- Select the optimal grade for structural projects
- Understand chemical and mechanical property differences
- Identify suitable applications for each variant

Steelmet Industries manufactures all IS 2062:2006 grades as:
â? Steel plates (3-100mm thickness)
â? Structural sections (beams, channels, angles)
â? Round/square/flat bars (Ã?5-300mm)

Grade Classification System

Grade	Old Designation	Yield Strength (MPa)	Sub-Qualities	Key Characteristics
E165	Fe 290	165	â??	Basic structural grade
E250	Fe 410 W	250	A, B, C	Improved weldability in Quality C
E300	Fe 440	300	â??	Medium strength
E350	Fe 490	350	â??	Common construction grade
E410	Fe 540	410	â??	High strength
E450	Fe 570/590	450	D, E	Micro-alloyed variants

Sub-Quality Explanation:

- **A**: Standard quality (semi-killed/killed)
- **B**: Killed steel with room temp impact test
- **C**: Killed steel with -20Â°C impact test
- **D/E**: Micro-alloyed high-strength versions

Key Comparison Tables

1. Chemical Composition (Selected Grades)

Element	E165	E250B	E350	E450E
C (max)	0.25	0.22	0.20	0.22
Mn (min)	1.25	1.50	1.50	1.80
P (max)	0.045	0.045	0.045	0.045
S (max)	0.045	0.045	0.045	0.045
CE (max)	â??	0.41	0.42	0.48

Note: Quality C has stricter limits (P/S â?¤0.040%)

2. Mechanical Properties

Grade	Tensile (MPa)	Yield (MPa)	Elongation (%)	Impact Test
E165	290	165	23	Not required
E250B	410	250	23	27J @ RT
E350	490	350	22	â??
E450E	590	450	20	20J @ RT

Applications Guide

Grade	Best For	Form Available
E165	Light structures, roofing	Plates, bars
E250C	Welded bridges, cryogenic	Plates, sections
E350	Building frames, cranes	All forms
E450D/E	Heavy mining equipment	Plates, special sections

Why Choose Steelmet Industries?

We provide:
â?? Full range of IS 2062:2006 grades
â?? Custom processing (cutting, drilling, bending)
â?? Mill test certificates (MTC) per EN 10204 3.1
â?? Just-in-time delivery across India

Request samples of any IS 2062 grade for your project testing!

FAQ Section

Q: Can E250A be used for welded structures?
A: Yes, but E250C is recommended for critical welds due to its -20Â°C impact toughness.

Q: Difference between E450D and E450E?
A: E450E has higher manganese (1.80% vs 1.60%) for improved strength.

Conclusion

Understanding IS 2062:2006 grade differences ensures optimal material selection for structural integrity. **Steelmet Industries** stocks all grades from E165 to E650 â?? contact our technical team today for project-specific recommendations.

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