

E250C – Technical Datasheet

1. Chemical & Mechanical Properties

A. Chemical Composition

Element	% Composition
Carbon (C)	≤ 0.22%
Manganese (Mn)	≤ 1.50%
Sulphur (S)	≤ 0.045%
Phosphorus (P)	≤ 0.045%
Silicon (Si)	≤ 0.45%
Carbon Equivalent (CE)	≤ 0.42%

B. Mechanical Properties

Property	Value
Yield Strength (YS)	≥ 250 MPa (for ≤ 20mm thickness)
Tensile Strength (TS)	410 – 540 MPa
Elongation	≥ 23%
Hardness	130 – 170 HB (approx)
Impact Test	27J min at 0°C (Charpy V-Notch test)

2. Equivalent / Alternative Grades

A. Chemical Composition Comparison

Standard	Grade	C (%)	Mn (%)	P (%)	S (%)	Si (%)
IS 2062	E250C	≤ 0.22	≤ 1.50	≤ 0.045	≤ 0.045	≤ 0.45
EN 10025-2	S275JR	≤ 0.21	≤ 1.50	≤ 0.045	≤ 0.045	≤ 0.50
ASTM A36	A36	≤ 0.26	0.60–0.90	≤ 0.04	≤ 0.05	0.15–0.40
JIS G3101	SS400	≤ 0.21	0.60–1.20	≤ 0.050	≤ 0.050	-

B. Mechanical Properties Comparison

Standard	Grade	Yield Strength (MPa)	Tensile Strength / Elongation
IS 2062	E250C	≥ 250	410 – 540 MPa / ≥ 23%
EN 10025-2	S275JR	≥ 275	410 – 560 MPa / ≥ 20%
ASTM A36	A36	≥ 250	400 – 550 MPa / 20% – 23%

JIS G3101	SS400	≥ 245	400 – 510 MPa / ≥ 20%
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3. Common Applications

- General structural steel fabrication
- Bridges and building frames
- Machinery and equipment parts
- Construction and infrastructure projects
- Base plates, frames, and light structural members

4. Standard Conformance

IS 2062:2011 – Indian Standard for Hot Rolled Medium and High Tensile Structural Steel.

5. Disclaimer

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