



E250Cu – Technical Datasheet

1. Chemical & Mechanical Properties

A. Chemical Composition

Element	% Composition
Carbon (C)	≤ 0.23%
Manganese (Mn)	≤ 1.50%
Sulphur (S)	≤ 0.045%
Phosphorus (P)	≤ 0.045%
Copper (Cu)	≥ 0.20%
Silicon (Si)	≤ 0.45%

B. Mechanical Properties

Property	Value
Yield Strength (YS)	≥ 250 MPa
Tensile Strength (TS)	410 – 540 MPa
Elongation	≥ 23%
Hardness	Not specified
Impact Test	Optional at room temperature (Charpy V-Notch)

2. Equivalent / Alternative Grades

A. Chemical Composition Comparison

Standard	Grade	C (%)	Mn (%)	P (%)	S (%)	Cu (%)
IS 2062	E250Cu	≤ 0.23	≤ 1.50	≤ 0.045	≤ 0.045	≥ 0.20
EN 10025-2	S235JR + Cu	≤ 0.17	≤ 1.40	≤ 0.035	≤ 0.035	-
ASTM A36	A36	≤ 0.26	0.60–0.90	≤ 0.04	≤ 0.05	≥ 0.20 (min)

B. Mechanical Properties Comparison

Standard	Grade	Yield Strength	Tensile Strength	Elongation /
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		(MPa)	(MPa)	Impact
IS 2062	E250Cu	≥ 250	410 – 540	≥ 23%, Optional Impact @ RT
EN 10025-2	S235JR + Cu	≥ 235	360 – 510	≥ 26%, Not Specified Impact
ASTM A36	A36	≥ 250	400 – 550	20 – 23%, Not Specified Impact

3. Common Applications

- Construction (bridges, buildings, frames)
- Structural fabrication
- Railway wagons
- Industrial sheds and roofing
- General engineering components requiring improved corrosion resistance

4. Standard Conformance

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

Grade Code Meaning:

- E: Killed steel
- 250: Minimum yield strength in MPa
- Cu: Copper added for corrosion resistance
- Optional impact tested at room temperature (Charpy V-Notch)

5. Disclaimer

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