

# E410C – Technical Datasheet

## 1. Chemical & Mechanical Properties

| Property              | Value                             |
|-----------------------|-----------------------------------|
| C                     | ≤ 0.26%                           |
| Mn                    | ≤ 1.60%                           |
| P                     | ≤ 0.045%                          |
| S                     | ≤ 0.040%                          |
| Si                    | ≤ 0.50%                           |
| Cu                    | 0.15 – 0.30%                      |
| Yield Strength (YS)   | ≥ 410 MPa                         |
| Tensile Strength (TS) | 550 – 700 MPa                     |
| Elongation            | ≥ 15%                             |
| Hardness              | 190 – 220 HB                      |
| Impact Test           | 27J min at -10°C (Charpy V-Notch) |

## 2. Equivalent / Alternative Grades

| Standard   | Grade     | C (%)  | Mn (%) | P (%)   | S (%)   | Si (%) | Cu (%)      | Yield Strength (MPa) | Tensile Strength (MPa) | Elongation / Impact |
|------------|-----------|--------|--------|---------|---------|--------|-------------|----------------------|------------------------|---------------------|
| IS 2062    | E410C     | ≤ 0.26 | ≤ 1.60 | ≤ 0.045 | ≤ 0.040 | ≤ 0.50 | 0.15 – 0.30 | ≥ 410                | 550 – 700              | ≥ 15% / 27J @ -10°C |
| EN 10025-2 | S420J2+Cu | ≤ 0.22 | ≤ 1.60 | ≤ 0.035 | ≤ 0.035 | ≤ 0.55 | ≥ 0.20      | ≥ 420                | 490 – 630              | ≥ 22% / 27J @ -10°C |
| ASTM A572  | Gr 50+Cu  | ≤ 0.23 | ≤ 1.35 | ≤ 0.040 | ≤ 0.050 | ≤ 0.40 | ≥ 0.20      | ≥ 345                | 450 – 620              | ≥ 21% / 20J @ RT    |

## 3. Common Applications

- Weather resistant structures
- Marine applications
- Bridges

- Industrial fabrication
- Railway wagons

#### 4. Standard Conformance

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

Grade Code Meaning:

E: Killed steel; 410: Minimum yield strength in MPa; C: Copper added for corrosion resistance

#### 5. Disclaimer

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