

ASTM A516 Grade 70 – Technical Datasheet

1. Chemical & Mechanical Properties

| Element / Property | Value |
|--------------------|------------------|
| C | ≤ 0.28% |
| Mn | ≤ 1.35% |
| P | ≤ 0.035% |
| S | ≤ 0.035% |
| Si | ≤ 0.40% |
| Cu | - |
| YS | ≥ 260 MPa |
| TS | 485 – 620 MPa |
| Elongation | ≥ 21% |
| Impact | 27J min at -29°C |
| Hardness | N/A |

2. Equivalent / Alternative Grades

| Standard | Grade | C (%) | Mn (%) | P (%) | S (%) | Si (%) | Cu (%) | YS (MPa) | TS (MPa) | Elongation / Impact |
|-------------------|-----------------|--------|--------|---------|---------|--------|-------------|----------|-----------|---------------------|
| IS 2062 | E450C / E450CCu | ≤ 0.22 | ≤ 0.45 | ≤ 0.045 | ≤ 0.040 | ≤ 0.45 | 0.15 – 0.25 | ≥ 450 | 460 – 590 | ≥ 20% / 27J @ -10°C |
| EN 10025-2 | S355J2+Cu | ≤ 0.22 | ≤ 1.60 | ≤ 0.035 | ≤ 0.035 | ≤ 0.55 | ≥ 0.20 | ≥ 355 | 410 – 560 | ≥ 22% / 27J @ -10°C |
| ASTM A572 | Gr 60 | ≤ 0.23 | ≤ 1.35 | ≤ 0.040 | ≤ 0.050 | ≤ 0.40 | ≥ 0.20 | ≥ 290 | 415 – 550 | ≥ 23% / 20J @ RT |

3. Common Applications

- Boilers
- Pressure vessels

- Tanks

4. Standard Conformance

ASTM A516 Specification for Pressure Vessel Plates, Carbon Steel, for Moderate- and Lower-Temperature Service.

Grade Code Meaning:

Grade number indicates minimum yield strength in ksi (e.g. 70 = 70 ksi = 483 MPa)

5. Disclaimer

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