RAUNAQ
TRUSTED STEEL

ASTM A516 Grade 80 – Technical Datasheet

1. Chemical & Mechanical Properties

Element / Property	Value
C	≤ 0.30%
Mn	≤ 1.40%
P	≤ 0.035%
S	≤ 0.035%
Si	≤ 0.50%
Cu	-
YS	≥ 310 MPa
TS	485 – 620 MPa
Elongation	≥ 18%
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	E500 (approximate)	≤ 0.25	≤ 1.60	≤ 0.040	≤ 0.040	≤ 0.40	-	≥ 500	540 – 670	≥ 16% / 27J @ -10°C
EN 10025-2	S420	≤ 0.22	≤ 1.60	≤ 0.035	≤ 0.035	≤ 0.55	-	≥ 420	470 – 630	≥ 22% / 27J @ 20°C
ASTM A572	Gr 65 / Gr 70	≤ 0.26	≤ 1.35	≤ 0.040	≤ 0.050	≤ 0.40	-	≥ 450	620 – 780	≥ 15% / 20J @ RT

3. Common Applications

- Specialized higher strength applications

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. 80 = 80 ksi = 552 MPa)

5. Disclaimer

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