ASTM A516 Grade 70 Plate

OMEGA STEEL CO.
Istanbul · Dilovası plant

ASTM A516 Grade 70 is the standard carbon pressure-vessel plate of the ASME world: 260 MPa (38 ksi) yield, 485–620 MPa (70–90 ksi) tensile, killed fine-grain steel for moderate and lower-temperature service, normalised above 40 mm or on order. As ASME SA-516 it is the plate every U-stamp vessel, refinery drum and LNG-adjacent tank in the Gulf and Africa is built from. We supply it — and Grades 60 and 65 — from EU and Turkish mills to order in 6–100 mm, with Charpy testing at −20 °C to −46 °C on request.

SA-516 Gr. 70 | Yield ≥ 260 MPa (38 ksi) | Rm 485–620 MPa | Normalised, CVN option | 6–100 mm to order

In Saudi Arabia, the UAE, Iraq and Nigeria the pressure-vessel code is ASME, and the plate is A516-70. Turkish mills roll it to ASTM alongside their EN grades, so a fabricator on an ASME job can buy it from Istanbul with the same lead time as P355GH — and with the ASME SA-516 dual certification the U-stamp inspector wants.

CHEMICAL COMPOSITION

Element	C	Mn	P	S	Si
max. % (ladle)	≤ 0.27 (≤ 12.5 mm) … ≤ 0.31 (> 100 mm)	0.79–1.30 (> 12.5 mm)	≤ 0.025	≤ 0.025	0.13–0.45

Mn 0.85–1.20 up to 12.5 mm. Grade 60: C ≤ 0.21–0.27, Mn 0.60–1.20 (0.85–1.20 > 12.5 mm). CEV Gr. 70 ≈ 0.43–0.48.

MECHANICAL PROPERTIES

Grade	Yield min (MPa / ksi)	Tensile (MPa / ksi)	Elongation min (200 mm / 50 mm)	Impact
Gr. 70	260 / 38	485–620 / 70–90	17 % / 21 %	CVN on order (S5): e.g. 27 J at −20 °C, 20 J at −46 °C
Gr. 65	240 / 35	450–585 / 65–85	19 % / 23 %	CVN on order
Gr. 60	220 / 32	415–550 / 60–80	21 % / 25 %	CVN on order
Gr. 55	205 / 30	380–515 / 55–75	23 % / 27 %	CVN on order

EQUIVALENT GRADES

System	Grade	Note
EN 10028-2	P355GH (Gr. 70) / P295GH (Gr. 65) / P265GH (Gr. 60)	usual substitutions, designer approval
EN 10028-3	P355NH / P355NL1 (Gr. 70 N + CVN)	cold service
ASME	SA-516 Gr. 70	identical, Section II listing
JIS G3115	SPV355 (near)	
GB 713	Q345R	
ASTM	A537 Cl. 1	higher-strength alternative

THICKNESS RANGE AND STOCK SIZES

Thickness	Widths × lengths	Availability
6–12 mm	2 000 / 2 500 × 6 000	to order 2–4 weeks
15–40 mm	2 000 / 2 500 × 6 000–12 000	to order 2–4 weeks; N on order
50–100 mm	2 000–2 500 × 6 000–8 000	to order 4–6 weeks, N mandatory, UT A435/A578

STANDARDS

ASTM A516/A516M — Grades 55, 60, 65, 70 · ASME SA-516/SA-516M (Section II Part A) · ASTM A20 general requirements; A435 / A578 UT · ASME VIII Div. 1 / Div. 2 material

Updated 22 September 2026 · figures are nominal; the mill certificate governs