ASTM A572 Grade 50 Plate

OMEGA STEEL CO.
Istanbul · Dilovası plant

ASTM A572 Grade 50 is the high-strength low-alloy structural plate of the American system: 345 MPa (50 ksi) minimum yield, 450 MPa (65 ksi) minimum tensile, columbium (niobium) or vanadium micro-alloyed, weldable and formable. It is the plate behind ASTM/AISC-designed structures, cranes and equipment in the Gulf, Iraq and Africa, and the standard \"equivalent\" quoted for S355. Rolled to order by Turkish mills in 6–100 mm.

Yield ≥ 345 MPa (50 ksi) | Rm ≥ 450 MPa | Nb/V micro-alloyed | S355 equivalent | 6–100 mm to order

Projects engineered in the USA, or by consultants who work in AISC and AWS, arrive in our markets with A572-50 on every plate list. Turkish mills roll it with ASTM certification next to S355J2 — same furnace, same rolling schedule, different paperwork — so the plate ships from Istanbul in the same 2–4 weeks.

CHEMICAL COMPOSITION

Element	C	Mn	P	S	Si	Nb	V
max. % (ladle)	≤ 0.23	≤ 1.35	≤ 0.030	≤ 0.030	≤ 0.40	0.005–0.05 (Type 1/3)	0.01–0.15 (Type 2/3)

Type 3: Nb + V ≤ 0.15. CEV typically 0.38–0.43. Cu ≥ 0.20 on order for weathering.

MECHANICAL PROPERTIES

Grade	Yield min (MPa / ksi)	Tensile min (MPa / ksi)	Elongation min (200 / 50 mm)	Max thickness
Gr. 42	290 / 42	415 / 60	20 % / 24 %	150 mm
Gr. 50	345 / 50	450 / 65	18 % / 21 %	100 mm
Gr. 55	380 / 55	485 / 70	17 % / 20 %	50 mm
Gr. 60	415 / 60	520 / 75	16 % / 18 %	32 mm
Gr. 65	450 / 65	550 / 80	15 % / 17 %	32 mm

EQUIVALENT GRADES

System	Grade	Note
EN 10025-2	S355JR / J0 / J2	by impact class ordered
EN 10025-4	S355M (TMCP)	
ASTM	A992	shapes, 345–450 MPa yield window
ASTM	A709 Gr. 50 / 50W	bridge version with CVN zones
JIS G3106	SM490A/B	
GB/T 1591	Q355B	

THICKNESS RANGE AND STOCK SIZES

Thickness	Widths × lengths	Availability
6–12 mm	2 000 / 2 438 × 6 000–12 000	to order 2–4 weeks
15–40 mm	2 000 / 2 438 / 2 500 × 6 000–12 000	to order 2–4 weeks
50–100 mm	2 000–2 500 × 6 000	to order 3–5 weeks

STANDARDS

ASTM A572/A572M — Grades 42, 50, 55, 60, 65 · ASTM A6 general requirements · AWS D1.1 prequalified base metal · ASTM A709 Gr. 50 (bridge version) on request