P235GH Boiler Plate

OMEGA STEEL CO.
Istanbul · Dilovası plant

1.0345 · P235GH is the lowest-strength grade of EN 10028-2, the non-alloy steels with specified elevated-temperature properties: 235 MPa yield at room temperature and guaranteed yield up to 400 °C, aluminium-killed, fine-grained, 27 J at +20 °C (and −20 °C on request). Material number 1.0345, successor of DIN H I. It is the plate for hot-water and low-pressure steam boilers, tube plates and heat-exchanger shells; we supply it 3–60 mm to order with 3.1 or 3.2 certificates.

1.0345 | Yield ≥ 235 MPa | Rp0.2 at 300 °C ≥ 136 MPa | 3–60 mm to order | PED / AD 2000

Every heating-boiler factory in Turkey, the Balkans and the Middle East runs on P235GH: the shell, the tube plates and the smoke-tube end plates of a 100–1 000 kW hot-water or low-pressure steam boiler come out of it. It is a mild, deeply ductile plate that flanges, dishes and welds without drama, and carries the elevated-temperature guarantee that the PED and AD 2000 codes demand.

CHEMICAL COMPOSITION

Element	C	Si	Mn	P	S	Al	Cr	Cu	Mo	Ni	N
max. % (ladle)	≤ 0.16	≤ 0.35	0.60–1.20	≤ 0.025	≤ 0.015	≥ 0.020	≤ 0.30	≤ 0.30	≤ 0.08	≤ 0.30	≤ 0.012

Nb ≤ 0.010, Ti ≤ 0.03, V ≤ 0.02; Cr + Cu + Mo + Ni ≤ 0.70. CEV ≤ 0.35 typical.

MECHANICAL PROPERTIES

Thickness	Yield ReH min (MPa)	Tensile Rm (MPa)	Elongation A min	Impact KV
≤ 16 mm	235	360–480	24 %	27 J at +20 °C (40 J long.)
> 16–40 mm	225	360–480	24 %	27 J at +20 °C
> 40–60 mm	215	360–480	24 %	27 J at +20 °C
Rp0.2 at 100 / 200 / 300 / 400 °C (≤ 16 mm)	198 / 165 / 136 / 116	—	—	—

EQUIVALENT GRADES

System	Grade	Note
DIN 17155	H I	direct predecessor
ASTM	A285 Gr. C / A516 Gr. 55	A516-55 = 205 MPa yield
JIS G3103	SB410	
GB 713	Q245R	
BS 1501	161-360A	historic
ISO 9328-2	P235GH	

THICKNESS RANGE AND STOCK SIZES

Thickness	Widths × lengths	Availability
3–6 mm	1 500 / 2 000 × 6 000	to order 1–3 weeks
8–20 mm	2 000 / 2 500 × 6 000–12 000	to order 1–3 weeks
25–60 mm	2 000 / 2 500 × 6 000	to order 2–4 weeks

STANDARDS

EN 10028-2:2017 — P235GH, 1.0345 · DIN 17155 — H I (withdrawn) · PED 2014/68/EU material; AD 2000 W1 · EN 10029 class A/B; EN 10160 UT on request