P355GH Boiler Plate

OMEGA STEEL CO.
Istanbul · Dilovası plant

1.0473 · P355GH is the highest-strength non-alloy grade of EN 10028-2: 355 MPa yield, 510–650 MPa tensile, Rp0.2 of 206 MPa at 300 °C, normalised fine-grain, material number 1.0473, formerly DIN 19Mn6, the EN counterpart of ASTM A516 Grade 70. At the same pressure a P355GH shell is about 25 % thinner than P265GH. It is the plate for high-pressure boilers, LPG vessels and large autoclaves; rolled or imported to order in 6–150 mm.

1.0473 | Yield ≥ 355 MPa | Rp0.2 at 300 °C ≥ 206 MPa | 6–150 mm to order | PED / AD 2000

P355GH is where European boiler makers go when the drum gets thick: the strongest plate the GH series offers without alloying, with a temperature curve to 400 °C and a well-understood welding recipe — preheat, low-hydrogen, PWHT. We supply it from Turkish and EU mills to order with the full pressure-equipment documentation.

CHEMICAL COMPOSITION

Element	C	Si	Mn	P	S	Al	Cr	Cu	Mo	Ni	N
max. % (ladle)	0.10–0.22	≤ 0.60	1.10–1.70	≤ 0.025	≤ 0.010	≥ 0.020	≤ 0.30	≤ 0.30	≤ 0.08	≤ 0.30	≤ 0.012

Nb ≤ 0.040, Ti ≤ 0.03, V ≤ 0.02; Cr + Cu + Mo + Ni ≤ 0.70. CEV 0.45–0.50.

STRENGTH AND ELEVATED-TEMPERATURE DESIGN DATA

Thickness	Yield ReH min (MPa)	Tensile Rm (MPa)	Elongation A min	Impact KV
≤ 16 mm	355	510–650	20 %	27 J at +20 °C (40 J long.)
> 16–40 mm	345	510–650	20 %	27 J at +20 °C
> 40–60 mm	335	510–650	20 %	27 J at +20 °C
> 60–100 mm	315	490–630	19 %	27 J at +20 °C
> 100–150 mm	295	480–620	18 %	27 J at +20 °C
Rp0.2 at 100 / 200 / 300 / 400 °C (≤ 16 mm)	300 / 250 / 206 / 176	—	—	—

NEAREST GRADES IN ASME, JIS AND GB

System	Grade	Note
DIN 17155	19Mn6	direct predecessor
ASTM	A516 Gr. 70	260 MPa yield, 485–620 tensile
JIS G3115	SPV355	
GB 713	Q345R	
BS 1501	224-490B	historic
EN 10028-3	P355NH	normalised fine-grain, −20 °C

THICKNESS RANGE AND STOCK SIZES

Thickness	Widths × lengths	Availability
6–12 mm	2 000 × 6 000	to order 2–4 weeks
15–40 mm	2 000 / 2 500 × 6 000–12 000	to order 2–4 weeks
50–100 mm	2 000–2 500 × 6 000–8 000	to order 4–6 weeks, UT
120–150 mm	2 000–2 500 × 4 000–6 000	to order 6–8 weeks, UT

STANDARDS

EN 10028-2:2017 — P355GH, 1.0473 · DIN 17155 — 19Mn6 (withdrawn) · PED 2014/68/EU; AD 2000 W1 · EN 10160 UT; EN 10164 Z on request