P355NH Steel Plate

OMEGA STEEL CO.
Istanbul · Dilovası plant

1.0565 · P355NH belongs to EN 10028-3, the weldable fine-grain pressure-vessel steels: micro-alloyed with Nb/V/Ti, normalised, 355 MPa yield, 490–630 MPa tensile and 40 J Charpy at −20 °C (longitudinal) as a standard property — the toughness the GH series only offers as an option. Material number 1.0565. It is the specified plate for LPG spheres and bullets, ammonia and refrigerated-gas vessels and cold-climate pressure equipment. Imported to order in 6–100 mm.

1.0565 | Yield ≥ 355 MPa | KV 40 J at −20 °C | Normalised fine grain | 6–100 mm to order

Where P355GH is the boiler plate, P355NH is the tank plate: the same 355 MPa, but a cleaner fine-grain chemistry tested cold as standard. LPG bullet and sphere fabricators in Turkey, Iraq and North Africa specify it by name; we bring it from EU and Turkish mills with 3.2 inspection and ultrasonic testing as the norm.

CHEMICAL COMPOSITION

Element	C	Si	Mn	P	S	Al	Nb	V	Ti	Ni	Cr	Mo	Cu	N
max. % (ladle)	≤ 0.18	≤ 0.50	0.90–1.70	≤ 0.025	≤ 0.015	≥ 0.020	≤ 0.05	≤ 0.10	≤ 0.03	≤ 0.50	≤ 0.30	≤ 0.08	≤ 0.30	≤ 0.020

Nb + Ti + V ≤ 0.12 %. CEV 0.40–0.43 typical.

MECHANICAL PROPERTIES

Thickness	Yield ReH min (MPa)	Tensile Rm (MPa)	Elongation A min	Impact KV
≤ 16 mm	355	490–630	22 %	40 J at −20 °C (long.) / 27 J trans.
> 16–40 mm	345	490–630	22 %	40 J at −20 °C
> 40–60 mm	335	490–630	22 %	40 J at −20 °C
> 60–100 mm	325	470–610	21 %	40 J at −20 °C
Rp0.2 at 100 / 200 / 300 / 400 °C (≤ 16 mm)	304 / 265 / 216 / 194	—	—	—

EQUIVALENT GRADES

System	Grade	Note
DIN 17102	WStE 355	direct predecessor
EN 10028-3	P355N / P355NL1 / P355NL2	siblings: −20 / −40 / −50 °C
ASTM	A537 Cl. 1	normalised C-Mn-Si pressure plate
ASTM	A516 Gr. 70 (normalised, CVN −20 °C)	near
JIS G3115	SPV355	
GB 713	Q345R (N)	

THICKNESS RANGE AND STOCK SIZES

Thickness	Widths × lengths	Availability
6–12 mm	2 000 / 2 500 × 6 000–12 000	to order 3–5 weeks
15–40 mm	2 500 / 3 000 × 6 000–12 000	to order 3–5 weeks
50–100 mm	2 500 × 6 000–10 000	to order 5–6 weeks, UT standard

STANDARDS

EN 10028-3:2017 — P355NH, 1.0565 (also P355N, P355NL1, P355NL2) · PED 2014/68/EU; AD 2000 W1 · EN 10160 UT; EN 10164 Z15/Z25 · DIN 17102 — WStE 355 (withdrawn)