S355J2+N Steel Plate

OMEGA STEEL CO.
Istanbul · Dilovası plant

S355J2+N is S355J2 in the normalised (or normalised-rolled) delivery condition: a fine, uniform ferrite-pearlite grain through the full thickness, guaranteed properties in every direction, low residual stress and minimal distortion after welding. It is the specification for thick plate — bridges, crane girders, wind towers, machine beds — and we roll it to order in 8–150 mm from Turkish mills, with ultrasonic testing on request.

Normalised (+N) | Yield ≥ 355 MPa | KV 27 J at −20 °C | 8–150 mm | UT + Z-quality on request

Thick S355 plate delivered as-rolled can be fine at the surface and coarse in the core; the +N condition removes that doubt. Specifiers who write "ST52-3 N" or "S355J2+N" are buying predictable toughness through 40, 60 or 100 mm and a plate that stays flat after heavy welding. We source it from the Erdemir and İsdemir plate mills and from EU mills for the largest sizes, and deliver with 3.1 or 3.2 certificates and EN

CHEMICAL COMPOSITION

Element	C	Si	Mn	P	S	Cu
max. % (ladle)	0.20 (≤ 30 mm) / 0.22	0.55	1.60	0.025	0.025	0.55

Fully killed. Mills producing +N typically keep C ≤ 0.18 and add Nb/V micro-alloying for grain refinement. CEV 0.45–0.49 by thickness.

MECHANICAL PROPERTIES

Thickness	Yield ReH min (MPa)	Tensile Rm (MPa)	Elongation A min	Impact KV (long.)
≤ 16 mm	355	470–630	22 %	27 J at −20 °C
> 16–40 mm	345	470–630	22 %	27 J at −20 °C
> 40–63 mm	335	470–630	21 %	27 J at −20 °C
> 63–80 mm	325	470–630	20 %	27 J at −20 °C
> 80–100 mm	315	470–630	20 %	27 J at −20 °C
> 100–150 mm	295	450–600	18 %	27 J at −20 °C

EQUIVALENT GRADES

System	Grade	Note
DIN 17100	ST52-3 N	direct predecessor
EN 10025-3	S355N / S355NL	fine-grain normalised, NL −50 °C
ASTM	A572 Gr. 50 normalised / A709 Gr. 50	
JIS G3106	SM490C (N)	
GB/T 1591	Q355D (N)	
BS 4360	50D normalised	historic

THICKNESS RANGE AND STOCK SIZES

Thickness	Widths × lengths	Availability
8–20 mm	2 000 / 2 500 × 6 000–12 000	to order 3–4 weeks
25–60 mm	2 000 / 2 500 / 3 000 × 6 000–12 000	to order 3–5 weeks
80–150 mm	2 000–2 500 × 4 000–8 000	to order 4–6 weeks, UT S1/E1 standard

STANDARDS

EN 10025-2:2019 — S355J2+N (1.0577) · EN 10160 — ultrasonic testing classes S1–S3 / E1–E4 · EN 10164 — Z15 / Z25 / Z35 through-thickness · EN 10029 class A/B/C