S355J2 Steel Plate

OMEGA STEEL CO.
Istanbul · Dilovası plant

1.0577 · S355J2 is the fully-killed, −20 °C impact-tested 355 MPa structural plate of EN 10025-2, material number 1.0577, successor of DIN ST52-3 N. It is the default grade for welded heavy structures, bridges, cranes and offshore equipment, and the one we hold in stock at Dilovası in 6–30 mm, with 3–150 mm rolled to order in +AR or +N condition.

1.0577 | Yield ≥ 355 MPa | KV 27 J at −20 °C | 6–30 mm stock | 3–150 mm to order

When a structural engineer writes "S355" without thinking further, the plate that keeps them safe is S355J2: killed steel, phosphorus and sulphur under 0.025 %, 27 J at −20 °C, no surprises in the heat-affected zone. It costs a few dollars more than JR and is stocked in the sizes that matter — which is why most of our export plate orders from Iraq, the Gulf, Romania and Germany are J2.

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 (Al ≥ 0.020 % typical). CEV max 0.45 (≤ 30 mm), 0.47 (30–40 mm), 0.49 (40–150 mm). Typical heat: C 0.16, Mn 1.40, Si 0.30, CEV 0.41.

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 (+N)
ASTM	A572 Gr. 50 (CVN −20 °C) / A709 Gr. 50	impact by supplement
JIS G3106	SM490C / SM490YB	
GB/T 1591	Q355D	D = −20 °C
BS 4360	50D	historic
ISO 630	E355D	
EN 10025-3	S355N	normalised fine-grain, −20 °C

THICKNESS RANGE AND STOCK SIZES

Thickness	Widths × lengths	Availability
3–5 mm	1 500 × 6 000	to order (sheet)
6–15 mm	1 500 / 2 000 × 6 000	stock
20–30 mm	2 000 / 2 500 × 6 000	stock
40–80 mm	2 000–2 500 × 6 000–12 000	to order 2–4 weeks, +N
100–150 mm	2 000–2 500 × 6 000	to order 3–5 weeks, +N, UT tested

STANDARDS

EN 10025-2:2019 — S355J2, 1.0577 · DIN 17100 — ST52-3 N (withdrawn) · EN 10029 class A / B · EN 10160 ultrasonic S1/E1 on request · EN 10164 Z15 / Z25 on request