S355K2 Steel Plate

OMEGA STEEL CO.
Istanbul · Dilovası plant

1.0596 · S355K2 is the toughest member of the EN 10025-2 S355 family: same chemistry and strength as S355J2, but 40 J instead of 27 J Charpy energy at −20 °C (K = 40 J). Material number 1.0596. It is specified for fatigue- and impact-loaded structures — cranes, mining equipment, railway and cold-region steelwork — and we import it to order in 8–100 mm, normally in the +N condition.

1.0596 | Yield ≥ 355 MPa | KV 40 J at −20 °C | 8–100 mm to order | Usually +N

K2 is what a designer reaches for when J2 is not quite enough and the fine-grain steels of EN 10025-3 are more than the budget allows: a 50 % higher impact guarantee at −20 °C for a small premium. It is not a stock grade anywhere in Turkey; we bring it in from EU and Turkish mill programmes and ship it with the same documentation as our S355J2.

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

Identical to S355J2; fully killed. Mills add Nb/V and keep C ≤ 0.18 to reach 40 J. CEV 0.45–0.49.

MECHANICAL PROPERTIES

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

EQUIVALENT GRADES

System	Grade	Note
EN 10025-2	S355J2	same steel, 27 J
EN 10025-3	S355N	40 J at −20 °C long. — closest
ASTM	A572 Gr. 50 (CVN 30 ft·lbf at −20 °C)	by supplement
JIS G3106	SM490C	27 J only
GB/T 1591	Q355E	E = −40 °C, 27 J
BS 4360	50DD	historic

THICKNESS RANGE AND STOCK SIZES

Thickness	Widths × lengths	Availability
8–20 mm	2 000 / 2 500 × 6 000–12 000	to order 4–6 weeks
25–60 mm	2 000 / 2 500 × 6 000–12 000	to order 4–8 weeks, +N
80–100 mm	2 000–2 500 × 6 000	to order 6–8 weeks, +N, UT

STANDARDS

EN 10025-2:2019 — S355K2, 1.0596 · EN 10160 UT on request · EN 10164 Z-quality on request · EN 10029 class A/B

Updated 22 September 2026 · figures are nominal; the mill certificate governs