16Mo3 Steel Plate

OMEGA STEEL CO.
Istanbul · Dilovası plant

1.5415 · 16Mo3 is the molybdenum-alloyed grade of EN 10028-2: 0.25–0.35 % Mo gives creep strength and a certified proof-strength curve to 500 °C (137 MPa at 500 °C for thin plate), with 275 MPa yield at room temperature. Material number 1.5415, successor of DIN 15Mo3, comparable to ASTM A204 Grade B. It is the plate for superheated-steam boilers, economisers, flue-gas heat exchangers and refinery equipment above the 400 °C limit of the carbon GH grades. Imported to order in 6–100 mm.

1.5415 | Mo 0.25–0.35 % | Rp0.2 at 500 °C ≥ 137 MPa | 6–100 mm to order | Creep to 500 °C

When the design temperature passes 400 °C the carbon boiler plates run out of certified strength, and 16Mo3 takes over: a small molybdenum addition that holds the microstructure and the creep strength up to 500 °C. Power-plant, waste-to-energy and refinery fabricators order it by heat with 3.2 inspection; we source it from EU mills and stock nothing — every lot is a project lot.

CHEMICAL COMPOSITION

Element	C	Si	Mn	P	S	Mo	Cr	Cu	Ni	N
max. % (ladle)	0.12–0.20	≤ 0.35	0.40–0.90	≤ 0.025	≤ 0.010	0.25–0.35	≤ 0.30	≤ 0.30	≤ 0.30	≤ 0.012

Al ≤ 0.040 (no deliberate Al-killing), Nb ≤ 0.020, Ti ≤ 0.03, V ≤ 0.02. CEV ≈ 0.45–0.50.

MECHANICAL PROPERTIES

Thickness	Yield ReH min (MPa)	Tensile Rm (MPa)	Elongation A min	Impact KV
≤ 16 mm	275	440–590	22 %	31 J at +20 °C (40 J long.)
> 16–40 mm	270	440–590	22 %	31 J at +20 °C
> 40–60 mm	260	440–590	22 %	31 J at +20 °C
> 60–100 mm	240	430–580	21 %	31 J at +20 °C
Rp0.2 at 100 / 200 / 300 / 400 / 500 °C (≤ 16 mm)	243 / 213 / 194 / 174 / 137	—	—	—

EQUIVALENT GRADES

System	Grade	Note
DIN 17155	15Mo3	direct predecessor
ASTM	A204 Gr. B	C-½Mo plate, 275 MPa
ASTM	A209 T1 / A335 P1	tube / pipe analogues
JIS G4109	SB450M	
GB 713	15MoG (near)	
BS 1501	240	historic

THICKNESS RANGE AND STOCK SIZES

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

STANDARDS

EN 10028-2:2017 — 16Mo3, 1.5415 · DIN 17155 — 15Mo3 (withdrawn) · PED 2014/68/EU; AD 2000 W1 · EN 10160 UT; EN 10164 Z on request