# AH32 Steel Plate

**OMEGA STEEL CO.**
Istanbul · Dilovası plant

AH32 is the lower step of the higher-strength hull steels: 315 MPa yield, 440–570 MPa tensile, impact-tested at 0 °C, killed and fine-grain treated so it can be used in the same structural positions as AH36 where the designer has chosen the H32 series for its lower yield-to-tensile ratio and easier welding. It is common in Far-East-designed bulk carriers and tankers and in ferries and river-sea vessels built to the H32 series throughout. Supplied 6–80 mm from class-approved mills, stamped, certified and optionally shop-primed and cut at Dilovası.

Yield ≥ 315 MPa | 31 J at 0 °C | AR, N or TM | Society-stamped | 6–80 mm

AH32 saves about 25 % thickness against Grade A for the same strength and is welded like mild steel — which is why H32 hulls need fewer plate thicknesses and simpler procedures than H36 hulls of the same size.

## CHEMICAL COMPOSITION

| Element | C | Si | Mn | P | S | Al | Nb | V | Ti | Cu | Cr | Ni | Mo |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| max. % (ladle) | ≤ 0.18 | ≤ 0.50 | 0.90–1.60 | ≤ 0.035 | ≤ 0.035 | ≥ 0.015 (total) | 0.02–0.05 | 0.05–0.10 | ≤ 0.02 | ≤ 0.35 | ≤ 0.20 | ≤ 0.40 | ≤ 0.08 |

IACS UR W11 ladle analysis for the H32 series; grain refinement by Al, Nb, V or Ti singly or in combination. CEV ≤ 0.36 typical for TM plate, ≤ 0.38 normalised.

## MECHANICAL PROPERTIES

| Property | Requirement | Typical value | Note |
|---|---|---|---|
| Yield strength ReH | ≥ 315 MPa | 335–380 MPa | |
| Tensile strength Rm | 440–570 MPa | 460–520 MPa | |
| Elongation A5 | ≥ 22 % | 26–32 % | |
| Charpy V, longitudinal | ≥ 31 J at 0 °C | 60–120 J | t ≤ 50 mm; 22 J transverse |
| Charpy V, t 50–70 mm | ≥ 38 J at 0 °C | — | 50 J above 70 mm |
| Bend test | 180°, 3 t | passes | transverse |

## EQUIVALENT GRADES

| System | Grade | Note |
|---|---|---|
| ASTM A131 | AH32 | identical |
| LR | AH32 | Lloyd's Register |
| DNV | NV A32 | |
| BV | AH32 | |
| ABS | AH32 | |
| GL (legacy) | GL-A32 | |
| EN 10025-2 (approx.) | S315 — none; nearest S275J0 | not a substitute: no class certificate |
| JIS G3106 (approx.) | SM400 – SM490 range | commercial only |

## THICKNESS RANGE AND STOCK SIZES

| Thickness | Widths × lengths | Availability |
|---|---|---|
| 6–12 mm | 2 000 / 2 500 × 6 000 / 8 000 | class-stock mills, 2–3 weeks |
| 15–30 mm | 2 000 / 2 500 / 3 000 × 6 000–12 000 | mill order 4–6 weeks |
| 32–80 mm | 2 500 / 3 000 × 6 000–12 000 | mill order 5–7 weeks |
| Cut / bevelled | plasma to 80 mm, oxy above; K/V bevels | from the nesting file |

## STANDARDS

IACS UR W11 · LR / BV / DNV / ABS / RINA / TL rules · ASTM A131 Grade AH32 · Society certificate (3.2 equivalent)



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