316L Stainless Steel Sheet

OMEGA STEEL CO.
Istanbul · Dilovası plant

1.4404 · AISI 316L · 316L is the low-carbon (≤ 0.03 %) version of 316 — material number 1.4404 (X2CrNiMo17-12-2) — for welded tanks, vessels, pipework and pharmaceutical equipment in chloride and chemical service where the heat-affected zone must stay corrosion-resistant. It is the most specified stainless grade in process industries. We stock 1–6 mm sheet (dual-certified 316/316L) and supply plate to 30 mm and 1.4432 (higher Mo) to order.

1.4404 · AISI 316L | C ≤ 0.03 % | 2–2.5 % Mo | 1–6 mm stock · plate to 30 | Pharma, chemical, marine

Every stainless tank drawing from a pharmaceutical, chemical or desalination project says 316L: welded, pickled, passivated, and expected not to rust along its seams for thirty years. It is the grade behind our stainless plate and heavy-sheet enquiries from the Gulf and North Africa, and we keep the sheet range in stock with dual 3.1 certificates.

CHEMICAL COMPOSITION

Element	C	Si	Mn	P	S	Cr	Ni	Mo	N
max. % (ladle)	≤ 0.030	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.015	16.5–18.5	10.0–13.0	2.00–2.50	≤ 0.10

1.4432: Mo 2.5–3.0; 1.4435: Ni 12.5–15.0, Mo 2.5–3.0 (pharma). ASTM 316L: Cr 16–18, Ni 10–14, Mo 2–3.

MECHANICAL PROPERTIES

Property	Requirement (EN 10088-2, cold-rolled)	Typical value	Note
Yield strength Rp0.2	≥ 220 MPa	250–310 MPa	
Tensile strength Rm	520–670 MPa	560–630 MPa	
Elongation A	≥ 40 %	45–55 %	
Hardness	—	≤ 215 HB	
Impact at −196 °C	≥ 60 J	> 100 J	cryogenic OK

EQUIVALENT GRADES

System	Grade	Note
EN 10088	1.4404 / 1.4432	material number
DIN	X2CrNiMo17-12-2 / X2CrNiMo17-12-3	historic
AISI / ASTM A240	316L	US designation
JIS G4304/4305	SUS 316L	
GB/T 3280	022Cr17Ni12Mo2	
UNS	S31603	

SURFACE CONDITION FOR PROCESS EQUIPMENT

Specification	Finish	Ra (µm)	Where required
Mill 2B	cold-rolled, annealed, pickled	≤ 0.5	general tanks, pipework
Mill 1D	hot-rolled, annealed, pickled	2–6	plate shells, heavy vessels
EHEDG / 3-A hygienic	2B or ground	≤ 0.8	food and dairy contact
ASME BPE SF1–SF3	mechanically polished	0.5–0.76	biotech, pharma product contact
ASME BPE SF4–SF6	electropolished	0.38–0.51	WFI, high-purity pharma
Pickled + passivated	any, after fabrication	—	all chloride service

We supply mill 2B / 1D; hygienic polishing and electropolishing are done by the fabricator or on request through our partners.

STANDARDS

EN 10088-2 — 1.4404 (X2CrNiMo17-12-2) / 1.4432 (Mo 2.5–3.0) · ASTM A240 — Type 316L · EN 10028-7 — pressure use · EN 10204 3.1 / 3.2