410 Stainless Steel Sheet

OMEGA STEEL CO.
Istanbul · Dilovası plant

1.4006 · AISI 410 · 410 is the basic martensitic stainless steel: 11.5–13.5 % chromium and up to 0.15 % carbon, material number 1.4006 (X12Cr13). Delivered annealed and soft, it hardens by quenching to 35–45 HRC, which makes it the grade for knives and cutlery blanks, wear plates, valve trim, pump parts, turbine and fastener components that need moderate corrosion resistance with hardness. Magnetic, weldable with care, supplied 1–6 mm to order from EU and Asian mills.

1.4006 · AISI 410 | 12 % Cr · C ≤ 0.15 | Hardenable to 45 HRC | Magnetic | 1–6 mm to order

410 is stainless for things that cut, slide or seal: a knife blank, a screen plate, a valve seat. Softer grades rust or wear, harder tool steels rust — 410 hardens in the furnace and shrugs off water and steam. We source it to order, annealed and ready for heat treatment, in the gauges the cutlery and valve trades use.

CHEMICAL COMPOSITION

Element	C	Si	Mn	P	S	Cr	Ni
max. % (ladle)	0.08–0.15	≤ 1.00	≤ 1.50	≤ 0.040	≤ 0.015	11.5–13.5	≤ 0.75

ASTM 410: C ≤ 0.15, Cr 11.5–13.5. 420 (1.4021): C 0.16–0.25; 1.4028: C 0.26–0.35.

MECHANICAL PROPERTIES AND HEAT TREATMENT

Condition	Yield Rp0.2 (MPa)	Tensile Rm (MPa)	Elongation / hardness
Annealed +A (as delivered)	≥ 250	≤ 730	A ≥ 15 %, ≤ 200 HB
+QT650 (hardened, tempered 650 °C)	≥ 450	650–850	A ≥ 15 %
+QT800 (tempered 600 °C)	≥ 600	800–1 000	A ≥ 12 %
Hardened, tempered 200–300 °C	≈ 1 000	1 200–1 500	38–45 HRC
Hardening	950–1 000 °C, oil or air quench	—	temper immediately
Magnetic	yes	—	all conditions

EQUIVALENT GRADES

System	Grade	Note
EN 10088	1.4006	material number
DIN	X12Cr13 / X10Cr13	historic
AISI / ASTM A240	410	US designation
JIS G4304/4305	SUS 410	
GB/T 3280	12Cr13	
UNS	S41000	

DELIVERY CONDITION AND SURFACE

Stage	Condition	Surface	Hardness
As delivered, sheet	annealed (+A)	2B, filmed	≤ 200 HB
As delivered, plate	annealed (+A)	1D pickled	≤ 200 HB
After forming and blanking	annealed	as delivered	—
After hardening and tempering	+QT	oxide scale — grind / blast	38–45 HRC or as specified
After grinding and polishing	+QT	No.4, mirror or ground	unchanged
After passivation	+QT	clean, passive	unchanged

Hardened material cannot be bent; do all forming before heat treatment and allow for scale removal in the thickness.

STANDARDS

EN 10088-2 — 1.4006 (X12Cr13) · ASTM A240 / A176 — Type 410 · EN 10204 3.1

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