MARTENSITIC AND FERRITIC 12 % CHROMIUM STAINLESS STEEL

AISI 410 / 410S / 410L 1.4006 / 1.4000 / 1.4003

Martensitic and ferritic 12 % chromium stainless steel

11.5–13.5 % Cr	0.15–0.03 % C	40–43 HRC	EN 10204 3.1
Ferritic-martensitic	The whole difference	410 hardened	Every lot

GRADE AND STANDARDS

Grade	Carbon	Structure	Hardening	Welding	Typical use
410	≤0.15 %	Martensitic	Yes, to 40–43 HRC	Preheat and PWHT	Valve parts, pump shafts, blades, cutlery
410S	≤0.08 %	Ferritic	No — stays soft	No preheat in thin sections	Welded structures, heat-exchanger parts, exhaust
410L	≤0.03 %	Ferritic / martensitic	Partly, about 30 HRC max	No preheat, tough HAZ	Hoppers, silos, rail wagons, mining equipment

CHEMICAL COMPOSITION (% BY MASS)

Grade	C	Si	Mn	P	S	Cr	Ni
410	≤0.15	≤1.00	≤1.00	≤0.040	≤0.030	11.5–13.5	≤0.75
410S	≤0.08	≤1.00	≤1.00	≤0.040	≤0.030	11.5–13.5	≤0.60
410L	≤0.03	≤1.00	≤1.00	≤0.040	≤0.030	11.5–13.5	0.30–1.00

MECHANICAL PROPERTIES

Grade / condition	Tensile MPa	0.2 % proof MPa	Elongation %	Hardness
410 annealed	≥480	≥275	≥20	≤217 HB
410 Q+T	≥760	≥550	≥15	22–28 HRC
410S annealed	≥415	≥205	≥22	≤183 HB
410L annealed	≥380	≥230	≥22	≤183 HB

SUPPLY RANGE

Form	Size range	Condition
Hot rolled plate	Thickness 3–100 mm × width up to 2000 mm	Annealed / as rolled
Cold rolled sheet	Thickness 0.3–3 mm × width up to 1250 mm	Annealed, pickled
Round bar	Ø10–400 mm	Annealed / Q+T
Forged bar	Ø150–1200 mm	Annealed

INSPECTION AND CERTIFICATION

- EN 10204 3.1 mill certificate - chemistry, mechanicals, and the grade actually supplied
- Intergranular corrosion test (ASTM A262 Practice E) on request for welded 410S
- Ultrasonic inspection for bar and heavy plate
- Surface condition report - pickled, ground or as rolled
- Hardness survey on 410 Q+T bar

ORDERING INFORMATION

- Grade and standard
- Form and size - thickness x width x length, or diameter and cut length
- Quantity in pieces or kilograms
- Delivery condition and hardness window
- Certificate and inspection requirements

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EN 10204 3.1 mill certificate with every shipment
Chemistry · mechanical properties · test results · heat number

Hardness map and ultrasonic inspection on request.
Values are typical for the grade; the certificate of the actual heat governs.