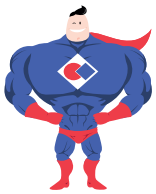
Material data sheet
1.4401 / X5CrNiMo17-12-2
Stainless steel, austenitic



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Description:

The grade 1.4401 is an austenitic chromium-nickel-molybdenum-steel with a good corrosion resistance regarding acids and chlorinated medias. The main field of use is in the food- and chemichal industry.

Properties:

Very good corrosion resistance, good polishability, good forgeability, good mechanical properties, medium weldability

CHEMICAL COMPOSITION (% by mass according to DIN EN 10088-3)

	C	Si	Mn	P	S	Cr	Mo	N	Ni
min.	-	-	-	-	-	16,50	2,00	-	10,00
max	0,07	1,00	2,00	0,045	0,015[a)]	18,50	2,50	0,110	13,00

a) For machinability a controlled S-content of 0,015-0,030% is recommended and permitted. For weldability, a controlled S-content of 0,008-0,030% is recommended and permitted. For polishability, a controlled S-content of ≤0,015% is recommended.

MATERIAL SPECIFICATIONS

DIN EN 10088	1.4401
	X5CrNiMo17-12-2
AISI	316
UNS	S31600
B.S.	316S31
JIS	SUS316
AFNOR	Z7CND17-12-02
SS	2347
GOST	08Ch16N11M3
UNE	F.3534

FIELD OF USE

- chemistry, petrochemistry
- foodindustry
- automotive industry
- mechanical engineering
- construction industry
- plant construction
- architecture & decoration

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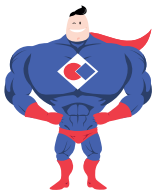
Stainless steel, austenitic



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MECHANICAL PROPERTIES at 20° C (solution annealed)				
Hardness HB 30	Yield Rp0,2% (MPa)	Tensile strength Rm (MPa)	Elongation A5,65	Modulus of elasticity
≤ 215 HB	≥ 200 N / mm²	500 - 700 N / mm²	≥ 40 %	200 kN / mm²

PHYSICAL PROPERTIES at 20° C				
Density	Specific heat	Thermal conductivity	Electrical resistance	Magnetisability
8,00 kg/dm³	500 J/kg K	15 W/m K	0,75 (ohm) mm²/m	very low

WELDABILITY

TIG welding	suitable
MAG welding	suitable
Arc welding	suitable
UP welding	partly
laser welding	suitable
gas fusion welding	partly

1.4401 can be welded with and without filler material. Subsequent heat treatment is necessary.

THERMAL TREATMENT

Hot forming temp	900 - 1200 °C
Solution annealing	1020 - 1120 °C

FORMS OF DELIVERY

Bars

Sheets

Profiles

Wires, Fittings, Forgings, Casts, Steel strip, cuttings from sheets, Drawings

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