

AISI 316L / EN 1.4404 is a stainless austenitic steel with very good corrosion resistance. This stainless steel grade has very low magnetizability, excellent welding properties and is suitable for cold forming. The material can be used at temperatures up to 550 °C. The processing possibilities include cold heading and polishing.

Chemical composition (% by mass according to DIN EN 10088-3 for EN 1.4404)

C	Si	Mn	P	S	N	Cr	Cu	Mo	Ni	Ti	Other
≤ 0,03	≤ 1,00	≤ 2,00	≤ 0,045	≤ 0,03	≤ 0,10	16,5 – 18,5	-	2,00 – 2,50	10,0 – 13,0	-	-

Specification

EN-grade	1.4404
EN-short name	X2CrNiMo17-12-2
EN-standard	10088-3
AISI	316 L *
B.S.	316S11 *
JIS	SUS316L *
Microstructure	austenite

Physical properties

Magnetizability:	low
Density(kg/dm ³)	8,0
Thermal conductivity (up to 20°C)	15
Electronic resistance at room temperature (in Ω mm ² /m)	0,75

Possible fields of application

automobile industry
 construction sector
 pressure vessel construction
 aviation industry
 food industry
 petrochemistry
 and more

Mechanical properties at room temperature in solution annealed condition (according to EN 10088-3 for EN 1.4404)

Ø in mm	Hardness in HB	Yield strength		Tensile strength R _m in Mpa	Elongation A in%
		R _{p0,2} in Mpa	R _{p1,0} in Mpa		
≤ 160	≤ 215	≤ 200	≤ 235	500-700	40
160 < d ≤ 250	≤ 215	≤ 200	≤ 235	500-700	-

Yield strength at elevated temperature in solution annealed condition (according to EN 10088-3 for EN 1.4404)

Temperature in °C	100	150	200	250	300	350	400	450	500	550
R _{p0,2} in Mpa	165	150	137	127	119	113	108	103	100	98
R _{p1,0} in Mpa	200	180	165	153	145	139	135	130	128	127

(* in accordance with)

Heat treatment and hot forming

Solution heat treatment
(cooling by air or water) 1020-1120 °C

Hot forming
(cooling by air) 1200-900 °C

Welding

Grade 1.4404 can be used for all common welding processes (with the exception of gas welding) and without filler metals. Subsequent heat treatment is usually not required. The resistance to intergranular corrosion is not affected by welding.

If you have further questions about this or any other product, please contact our team at +49 2263-9240-0 or email agst@agst.de

Please note:

The information given in this data sheet has been compiled to the best of our knowledge and is based on the current version of the relevant standard.

It is considered for reference only and we assume no liability for any errors.