

Grade AISI 305 / EN1.4303 is an austenitic steel with good corrosion resistance due to the higher nickel content of 11-13 %. This stainless steel grade is excellently suitable for welding and cold upsetting and has no magnetisability.

Other processing options include cold forming and polishing.

Chemical composition (% by mass according to DIN EN 10088-3 for EN 1.4303)

C	Si	Mn	P	S	N	Cr	Cu	Mo	Ni	Ti	Other
≤ 0,06	≤ 1,00	≤ 2,00	≤ 0,045	≤ 0,03	≤ 0,10	17,0 – 19,0	-	-	11,0 – 13,0	-	-

Specification

EN-grade	1.4303
EN-short name	X4CrNi18-12
EN-standard	10088-3
AISI	305 *
B.S.	305S17 *
JIS	SUS305 *
Microstructure	austenite

Physical properties

Magnetizability:	No
Density (kg/dm ³)	7,9
Thermal conductivity (up to 20°C)	15
Electronic resistance at room temperature (in Ω mm ² /m)	0,73

Possible fields of application

architecture
 automobile industry
 chemical industry
 construction industry
 household appliance industry
 vessel construction
 and more

Mechanical properties at room temperature in solution annealed condition (according to EN 10088-3 for EN 1.4303)

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	≤ 190	≤ 225	500-700	45
160 < d ≤ 250	≤ 215	≤ 190	≤ 225	500-700	-

Yield strength at elevated temperature in solution annealed condition (according to EN 10088-3 for EN 1.4303)

Temperature in °C	100	150	200	250	300	350	400	450	500	550
R _{p0,2} in Mpa	155	140	127	118	110	104	98	95	92	90
R _{p1,0} in Mpa	190	170	155	145	135	129	125	122	120	120

(* in accordance with)

Heat treatment and hot forming

Solution heat treatment (cooling by air or water)	1000 - 1100 °C
Hot forming (cooling by air)	1200 - 900 °C

Welding

Grade 1.4303 can be applied for a variety of different welding processes such as arc welding or TIG welding. Please note, however, that this stainless steel grade is suitable only to a limited extent when employed for gas fusion welding and submerged arc 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.