

Grade AISI 302 / 1.4310 is an austenitic stainless steel with a high content of chromium and nickel. A typical application for this stainless steel grade is the industrial production of springs. The material AISI 302 / 1.4310 is suitable for cold forming and owns good polishing qualities. Please note that the magnetizability changes due to cold forming.

Chemical composition (% by mass according to DIN EN ISO 6931-1 for EN 1.4310)

C	Si	Mn	P	S	N	Cr	Cu	Mo	Ni	Ti	Other
0,05 – 0,15	≤ 2,00	≤ 2,00	≤ 0,045	≤ 0,015	≤ 0,10	16,0 – 19,0	-	≤ 0,80	6,0 – 9,5	-	-

Specification

EN-grade	1.4310
EN-short name	X10CrNi18-8
EN-standard	ISO 6931-1
AISI	302 *
B.S.	970, 2096 *
JIS	G4303 *
Microstructure	austenite

Physical properties

Magnetizability	low
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

automobile industry
 chemical industry
 electrical components
 production of springs
 food industry
 mechanical engineering
 and more

Mechanical properties at room temperature in solution annealed condition (according to EN ISO 6931-1 for EN 1.4310)

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		
≤ 40	≤ 230	≤ 195	≤ 230	500-750	40
≤40	≤ 230	≤195	≤ 230	500-750	40

Yield strength at elevated temperature in solution annealed condition (according to EN ISO 6931-1 for EN 1.4310)

Temperature in °C	100	150	200	250	300	350	400	450	500	550
R _{p0,2} in Mpa	210	200	190	185	180	180	-	-	-	-
R _{p1,0} in Mpa	230	215	205	200	195	195	-	-	-	-

(* 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

Since the stainless steel material 1.4310 / AISI 302 is a stainless spring steel wire, this stainless steel material cannot be welded or only with great effort. The very poor welding properties of the material 1.4310 / AISI 302 are primarily due to the high carbon content.

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.