

Grade AISI 302 / EN 1.4310 is an austenitic 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 is perfectly suited for welding and 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 10088-3 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	10088-3
AISI	302 *
B.S.	970, 2096 *
JIS	G4303 *
Microstructure	austenite

**Physical properties**

Magnetizability	low
Density(kg/dm <sup>3</sup> )	7,9
Thermal conductivity (up to 20°C)	15
Electronic resistance at room temperature (in Ω mm <sup>2</sup> /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 10088-3 for EN 1.4310)**

Ø in mm	Hardness in HB	Yield strength		Tensile strength R <sub>m</sub> in Mpa	Elongation A in%
		R <sub>p0,2</sub> in Mpa	R <sub>p1,0</sub> 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 10088-3 for EN 1.4310)**

Temperature in °C	100	150	200	250	300	350	400	450	500	550
R <sub>p0,2</sub> in Mpa	210	200	190	185	180	180	-	-	-	-
R <sub>p1,0</sub> 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

Grade 1.4310 has good weldability and can be used with various common processes such as arc welding or TIG welding. This stainless steel grade can only be used to a limited extent for submerged arc welding. Heat treatment after welding is not required.

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](mailto: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.