

Stainless steel type SA

General notes:

- » **Low carbon austenitic steel** (Material number 1.4435, DIN X2CrNiMo18-14-3, AISI number 316L)
- » contains from 16.5 to 18.5 wt% chromium and has important quantities of nickel and molybdenum as additional alloying elements
- » non-magnetizable (80%)
- » good corrosion resistance to most chemicals, salts and acids
- » generally used where corrosion resistance and toughness are primary requirements
- » typical applications include tweezers for the electronic industry, watch-makers, jewelers and laboratory and medical applications in moderately aggressive chemical environments

Composition

Component	Wt.%	Component	Wt.%	Component	Wt.%
C	≤ 0.03	Si	≤ 1.0	Mn	≤ 2.0
P	≤ 0.045	S	≤ 0.03	Cr	17.0-19.0
Mo	2.5-3.0	Ni	12.5-15.0		

Mechanical properties

State	annealed
Density	8.0 g/cm³
Hardness, Vickers	230 HV
Tensile strength, ultimate	500-700 MPa
Tensile strength, yield	290
0.2% Yield stress	≥ 200 MPa
Elongation, break	40%
Modulus of elasticity	200 GPa

Thermal properties

Coef. of lin. therm expansion	16.0 E-6/°C	20°C-100°C
Coef. of lin. therm expansion	17.0 E-6/°C	20°C-300°C
Specific heat capacity	0.50 J/(g·K)	
Thermal conductivity	15 W/(m·K)	
Continuous use temperature	350°C	
Max service temperature, air	925°C	

Electrical properties

Resistivity	0.75 E-4 Ohm.cm
-------------	------------------------