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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-magnetisable (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-markers, 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/cm^3**
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**

Electrical properties

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

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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**	