

Stainless steel type S.5

General notes:

- » Austenitic steel (Material number 1.4301, DIN X5CrNi1810, AISI number 304)
- » contains from 17.5 to 20 wt% chromium and has important quantities of nickel
- » non-magnetizable
- » good corrosion resistance to a wide range of atmospheric environments and many corrosive media
- » generally used where corrosion resistance and toughness are primary requirements
- » typical applications include tweezers for the electronic industry, screws, machinery parts and food-handling equipment

Composition

Component	Wt.%	Component	Wt.%	Component	Wt.%
C	≤0.08	Si	≤1.0	Mn	≤2.0
P	≤0.045	S	≤0.03	Cr	17.5-20.0
Mo	2.5-3.0	Ni	8.0-11.0		

Mechanical properties

State	annealed
Density	8.0 g/cm³
Hardness, Vickers	210 HV
Tensile strength, ultimate	600 MPa
Tensile strength, yield	330
0.2% Yield stress	≥ 290 MPa
Elongation, break	55%
Modulus of elasticity	193 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	16 W/(m·K)	
Continuous use temperature	350°C	
Max service temperature, air	925°C	

Electrical properties

Resistivity	0.72 E-4 Ohm.cm
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This document contains information based on average values as obtained from the results of laboratory tests and observations made on the material. Ideal-tek SA declines all responsibility from an improper use of the product described in this document.