

**TECHNICAL DATA SHEET** 

# Stainless steel type SA.B

#### 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.%      |
|-----------|---------|-----------|----------|-----------|-----------|
| С         | ≤0.08   | Si        | ≤1.0     | Mn        | ≤2.0      |
| Р         | ≤0.045  | S         | ≤0.03    | Cr        | 17.5-20.0 |
| Мо        | 2.5-3.0 | Ni        | 8.0-11.0 |           |           |

### Mechanical properties

| State                      | annealed              |
|----------------------------|-----------------------|
| Density                    | 8.0 g/cm <sup>3</sup> |
| Hardness, Vickers          | 210 HV                |
| Tensile strength, ultimate | 600 MPa               |
| Tensile strength, yield    | 330                   |
| 0.2% Yield stress          | ≥ <b>290 MP</b> a     |
| 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)   |            |
| Continuos use temperature     | 350°C        |            |
| Max service temperature, air  | 925°C        |            |

# **Electrical properties**

Resistivity 0.72 E-4 Ohm.cm

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.