

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. % |
|-----------|---------|-----------|----------|-----------|-----------|
| 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

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|----------------------------|-----------------------------|
| 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

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|-------------------------------|---------------------|-------------------|
| Coef. of lin. therm expansion | 16.0 E-6/°C | <i>20°C-100°C</i> |
| Coef. of lin. therm expansion | 17.0 E-6/°C | <i>20°C-300°C</i> |
| 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

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|-------------|------------------------|
| Resistivity | 0.72 E-4 Ohm.cm |
|-------------|------------------------|