

4A High Precision Tweezer



4 1/4" 110 mm

As 4, stronger

4A.SA

Anti-Magnetic Anti-Acid Stainless Steel

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
- 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/cm ³ |
| hardness HB30 | ≤215 |
| Hardness Rockwell B | 79 |
| 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

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|-------------------------------|--------------|------------|
| 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: | 15W/(m·K) | |
| Continuous use temperature: | 350°C | |
| Max service temperature, ait | 925°C | |

Electrical properties

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