

Material for EM-Tec high precision super alloy tweezers

The material used for manufacturing the EM-Tec high precision super alloy tweezers is a proprietary grade of a Ni-Cr-Mo super alloy.

It is used for the EM-Tec high precision super alloy tweezers:

- [#50-004010 EM-Tec high precision super alloy tweezers, style 1](#)
- [#50-004020 EM-Tec high precision super alloy tweezers, style 2A](#)
- [#50-004030 EM-Tec high precision super alloy tweezers, style 3](#)
- [#50-004035 EM-Tec high precision super alloy tweezers, style 3C](#)
- [#50-004040 EM-Tec high precision super alloy tweezers, style 4](#)
- [#50-004050 EM-Tec high precision super alloy tweezers, style 5](#)
- [#50-004070 EM-Tec high precision super alloy tweezers, style 7](#)

General remarks:

- Proprietary grade Ni-Cr-Mo super alloy
- Six times harder than anti-magnetic stainless steel
- Highest hardness at tweezers tips
- Excellent strength from room temperature to 800°C
- Excellent shape retention, resistant to fatigue
- Fully non-magnetic
- Excellent corrosion resistance to most chemicals, salts and acids
- Excellent wear resistance
- Generally used in harsh chemical environments, at elevated temperature and hard materials
- Typical applications include tweezers for microscopy, sample preparation, laboratory, medical and for aggressive chemical requirements

Properties of Ni-Cr-Mo super alloy

Mechanical Properties	
State	50% cold reduction
Density	8.4 g/cm ³
Hardness Rockwell C	60-64
Tensile strength, ultimate	1500 MPa
Tensile strength, yield	1250 MPa
Elongation until break	5%
Modulus of Elasticity	208 GPa
Thermal Properties	
Coefficient of linear thermal expansion	12.8 x 10 ⁻⁶ /°C (25-100°C)
Coefficient of linear thermal expansion	13.4 x 10 ⁻⁶ /°C (25-300°C)
Specific heat capacity	0.41 J/(g.K)
Thermal conductivity	10W/(m.K)
Continuous use (service) temperature	600°C
Maximum service temperature (short)	980°C
Electrical Properties	
Resistivity	1.29 x 10 ⁻⁴ Ohm.cm

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