TECHNICAL DATA SHEET

# Stainless steel type SA

**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

| | | |
|---|---|---|
| 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 | **15 W/(m·K)** | |
| Continuos use temperature | **350°C** | |
| Max service temperature, air | **925°C** | |

## Electrical properties

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

TECHNICAL DATA SHEET

# Industrial coating type T

**General notes:**

» This **solvent-based liquid Teflon® coating** is formulated with special blends of fluoropolymers and other high-performance resins to improve toughness and abrasion resistance

### Nonstick

Very few solid substances will permanently adhere to a Teflon® finish. Although tacky materials may show some adhesion, almost all substances release easily

### Low coefficient of friction

The coefficient of friction of this Teflon® coating is generally in the range of 0.20 to 0.25, depending on the load, sliding speed, and particular Teflon® coating used

### Nonwetting

Since surfaces coated with Teflon® are both oleophobic and hydrophobic, they are not readily wetted. Cleanup is easier and more thorough — in many cases, surfaces are self-cleaning

### Heat resistance

Can operate continuously at temperatures up to 150°C and can be used for intermittent service up to 200°C

### Unique electrical properties

Over a wide range of frequencies, Teflon® has high dielectric strength, low dissipation factor, and very high surface resistivity

### Cryogenic stability

Many Teflon® industrial coatings withstand severe temperature extremes without loss of physical properties. Teflon® industrial coatings may used at temperatures as low as -270°C/-454°F

### Chemical resistance

Teflon® is normally unaffected by mild chemical environments. It has good resistance to diluted acids, diluted and concentrated alkalis and organic solvents