

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/cm³
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)	
Continuous use temperature	350°C	
Max service temperature, air	925°C	

Electrical properties

Resistivity	0.75 E-4 Ohm.cm
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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.

TECHNICAL DATA SHEET

Engineering coating type DR

General notes:

- » thermoplastic vulcanizate TPV
- » very soft and elastic, good tear resistance
- » outstanding abrasion/wear resistance (improved life-time)
- » good chemical resistance (oils, grease, fuels, acid, detergents and soaps)
- » good hydrolytic resistance (hot water)
- » electrically static dissipative, low surface resistivity (10^8 - 10^9 Ohm), ESD-safe material!
- » Ideal for repetitive handling tasks in specimen preparation, electronics, instrumentation, laboratories and forensics. Especially useful for handling ESD sensitive components or small static items

Mechanical properties

Hardness, Shore A	36	
Tensile Strength	20.3 kg/cm²	ASTM 412C, 23°C
Tear Strength	12.1 kg/cm	ASTM 624C, 23°C
Elongation at break	452.5 %	ASTM 412C, 23°C
Melt Flow Index	42E g/10min	ASTM D1238, 23°C

Melt Flow Index:

B: 125°C/2.16kg C: 150°C/2.16kg E: 190°C/2.16kg G: 200°C/5kg

Thermal properties

Continuous Use Temperature	50° C	96 h
Short Time Temperature	50° C	36 h

Electrical properties

Surface Resistivity	10^8-10^9 Ohm	ICE60093
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Other properties

Density	0.9 g/cm³	ASTM D792
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