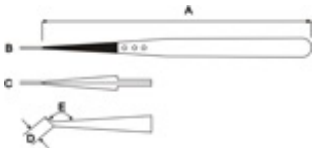
ideal-tek swiss made

Electronics

Tweezers
3 Plastic tips Tweezers

Fine tips

A 5" 130 mm
B 0.03" 0.8 mm
C 0.05" 1.3 mm



3CF.SA **Anti-Magnetic Anti-Acid Stainless Steel body with ESD Carbofib (CF) tips**

General notes *Plastic Type CF*

- **PA66/CF30** polyamide 66 reinforced with 30 wt% carbon fibre
- heat stabilized
- very high rigidity, excellent tensile and flexural strength, fatigue and creep resistance

- low friction, self lubricating properties, excellent wear and abrasion resistance
- good heat capability
- good chemical resistance (oils, grease, fuels, non polar solvents); not resistant to strong acids, alkalis and hot water or steam
- ESD safe material, (avoid powder attraction, sparks generation, ignition sources).
- very low coefficient of linear thermal expansion
- typical applications include handling of sensitive components and devices (electronic components, micro-mechanical parts, glass and ceramic substrates, capillary, etc.)

Mechanical propetries

Flexural modulus +23°C:	17000 MPa	ASTM D 790
Flexural modulus +60°C:	12000 MPa	ASTM D 790
Flexural modulus +90°C:	9800 MPa	ASTM D 790
Flexural modulus +120°C	8000 MPa	ASTM D 790
Tensile strength +23°C	210 MPa	ISO 527
Tensile strength +60°C	159 MPa	ISO 527
Tensile strength +90°C	134 MPa	ISO 527
Tensile strength +120°C	117 MPa	ISO 527
Rockwell hardness M:	>100	ASTM D 785
Izod-Impact strength (notched) +23°C	70 J/m	ASTM D 785
Charpy-Impact strength (unnotched)	30 kJ/m²	DIN 53453

Thermal properties

Temp. of defl. uner load (1.80 MPa):	256°C	ASTM D648
Temp. of defl. uner load (0.45 MPa):	260°C	ASTM D648
Vicat softening temperature (50°C/h 50N)	254°C	ISO 306
Coef. of lin.therm expansion, normal:	2.80 E-5/°C	ASTM D 696
Continuous Use Temperature	130°C	20'000 h
Short Time Temperature	190°C	

Electrical properties

Surface resistivity	10² Ohm	100V
Comparative tracking index:	<100 Volts	IEC 112
Decay time:	< 0.1 sec	1000-10 V

Other properties

Density	1.28 g/ccm	ISO 1183
Water absorption in water 23°C (24h)	0.60%	ISo 62

General Notes *Stainless Steel type SA*

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

Electrical properties

Resistivity	0.75 E-4 Ohm.cm

Credits