



**BERNSTEIN**  
TOOLS FOR ELECTRONICS



## TWEEZERS – EVERYTHING IS UNDER CONTROL

Vers.01

**GET IN CONTACT WITH US****BERNSTEIN****Werkzeugfabrik  
Steinrücke GmbH**

Industriehof Trecknase 1  
42897 Remscheid

Tel. + 49 (0) 2191 - 9650 - 0  
Fax + 49 (0) 2191 - 9650 - 30

sales@bernstein-tools.de

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**www.bernstein-tools.de**

Product videos and blog posts round off our online offering. Furthermore, we also respect the traditional sales channel via specialist retailers and offer the option to present your webshop as an online sales platform for products by BERNSTEIN.

**SYMBOL LEGEND****NEU**

New product



Number of tools in sets



Weight



Dimensions



ESD protection (EPA suitable)



VDE tested





## TWEEZERS – EVERYTHING IS UNDER CONTROL

The requirements for tweezers could not be more varied. For this reason, we are continuously expanding our range of tweezers with useful models, either through new designs or technically sophisticated materials.

Our tweezers are suitable for work on statically sensitive electronics in EPAs, clean rooms, the dental sector or laboratories, as well as for jewellers, watchmakers or in the craft trade.

BERNSTEIN tweezers meet the highest demands in quality, wherever they are used.

Get in touch with us if you can't find what you're looking for in the following pages.

Together we'll find the right tweezers for you.

[sales@bernstein-werkzeuge.de](mailto:sales@bernstein-werkzeuge.de)

# TWEEZERS - MATERIAL, SHAPE AND APPLICATION

## TYPES AND APPLICATIONS

Our product selection ranges from microscope tweezers manufactured with exact tolerances (also recently available with ergonomically adapted, recessed grips) to interchangeable or cutting tips to all possible universal shapes and even locking tweezers.

Traditional tweezers are made from high-quality steel or stainless steel. We also manufacture tweezers made from titanium, ceramic, plastic and even bamboo.

The different surface finishes allow us to support a vast range of applications.

### Delicate

SMD assembly requires the finest precision tweezers due to the increasingly smaller components. The variety of shapes and a parallel tip end enable reliable handling of components, even in confined spaces.

### Ultra-fine

For precise gripping, holding and positioning work with a tip width of 0.2 mm at a tolerance of +/-0.05.

### Geometric

For easy removal and insertion of round or cubic components, every imaginable design is possible

### Universal

Partially cut (small cross grooves on the tips) for better and stable gripping. They have precise, parallel tips and are used in the medical sector to remove foreign objects.

### Wafer

For positioning flat and thin components, such as highly sensitive and fragile wafers (glass wafers, etc.), thin PCBs and LCDs.

### Cutting

Best suited for soft wires up to  $\varnothing$  0.25 mm, for example, copper wire, gold wire and silver wire.

### Self-holding

Self-holding tweezers in different shapes are suitable for simple holding and positioning.

### Interchangeable tips

The tips are connected to the body by a screw joint, allowing them to be changed.



**MATERIALS, SURFACE AND PROPERTIES**

**Stainless steel (SA)**

Anti-magnetic, corrosion-resistant, resistant to acids and chemicals, good conductivity, very hygienic, sterilisable, food-safe, recyclable

**Titanium (Ti)**

Anti-magnetic, corrosion-resistant, resistant to acids and chemicals, antibacterial, good conductivity, glare-free, solder-repellent, heat-resistant (melting point is 1677°C)

**Quality steel (FE)**

Protected from corrosion with nickel plating, not anti-magnetic, not resistance to acid.

**ESD coating**

Provides a bleeder resistance of  $10^6 - 10^9$  ohm

**VDE dip-insulation**

For working with voltages up to 1000 V, in accordance with DIN IEC 60900 / EN 60900

**Dip-insulated (red) or lacquered (red)**

anti-allergic, non-slip, secure hold

**PTFE coating**

Heat resistant up to 280 °C (536 °F), anti-allergic

**Bamboo (BA)**

Tips are individually shapeable, non-conductive, partially chemical resistant, light in the hands

**ESD ceramic zirconia (ZC)**

Dissipative  $10^6 - 10^9$  ohms, extremely wear resistant, heat resistant up to 800°, acid and chemical resistant, solder-repellent

**Plastic ESD (PA)**

Conductive between  $10^3 - 10^5$  ohms, glass-fibre reinforced plastic material, resistant to acids, heat-resistant to 175 °C, free from silicone and armin

**Carbofib (CF)**

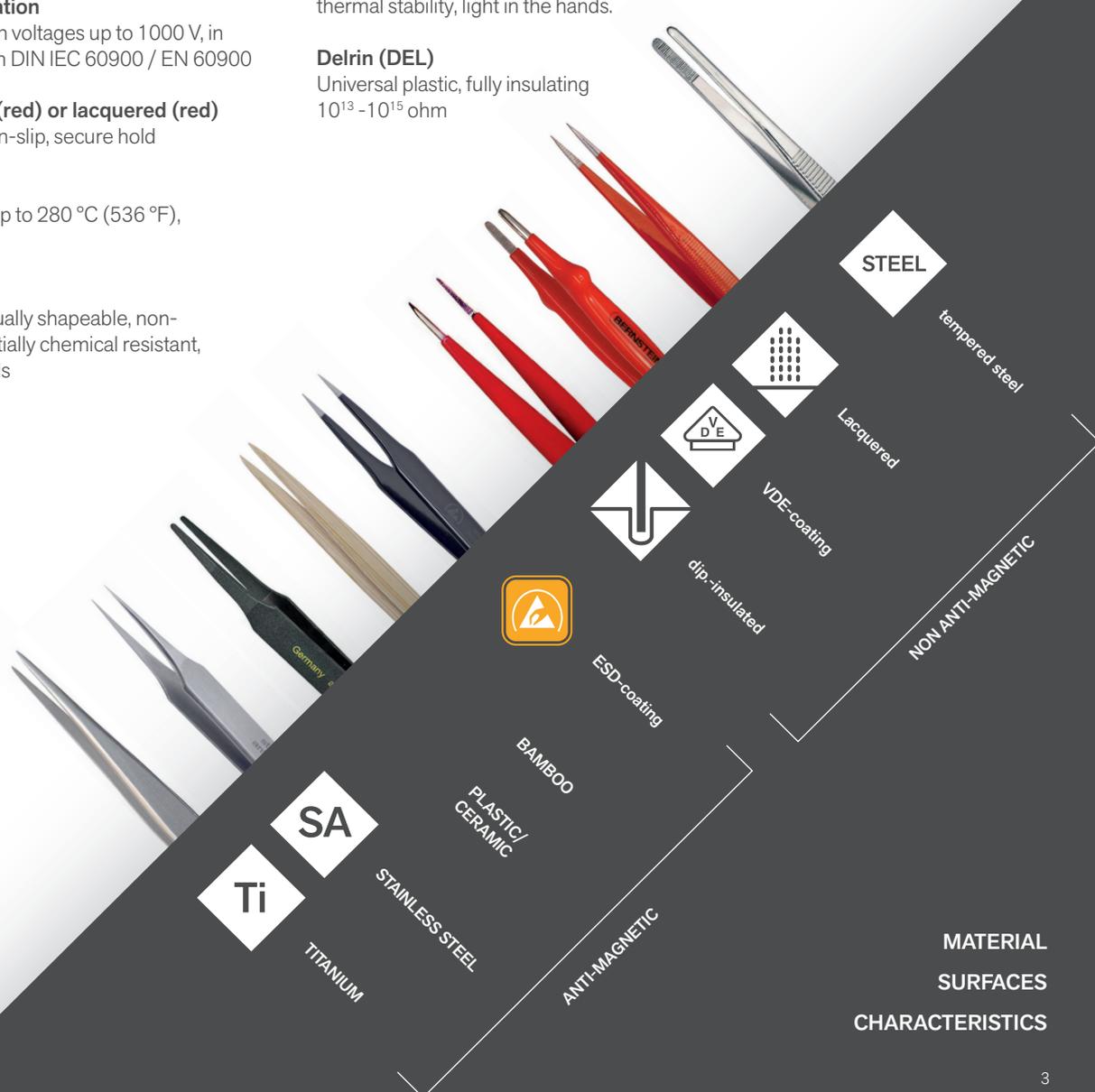
Carbon-fibre reinforced plastic, conductive  $10^2 - 10^3$  ohm

**Plastic (PP)**

Low-priced alternative, insulating, good chemical resistance, high thermal stability, light in the hands.

**Delrin (DEL)**

Universal plastic, fully insulating  $10^{13} - 10^{15}$  ohm



MATERIAL  
SURFACES  
CHARACTERISTICS

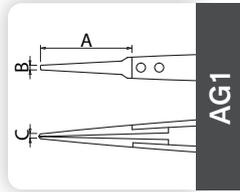
# FIND YOUR PERFECT TWEEZERS

## G Straight tweezers

round-cornered

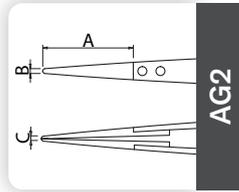
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Interchangeable tips



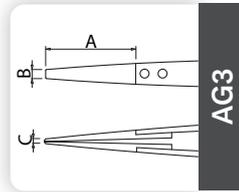
AG1

page: 20



AG2

20

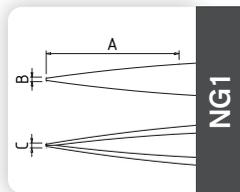


AG3

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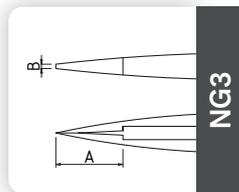
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Normal tips



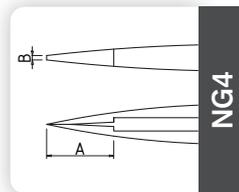
NG1

page: 7, 9, 12, 13, 16, 19



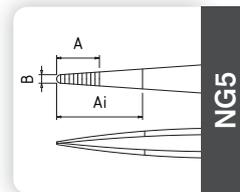
NG3

9, 21



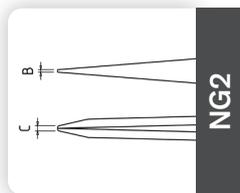
NG4

21



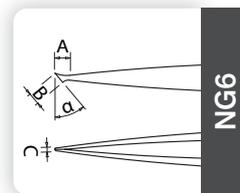
NG5

13, 16, 21



NG2

page: 16

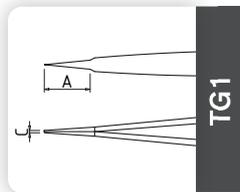


NG6

14

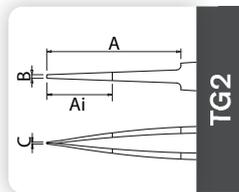
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Offset tips



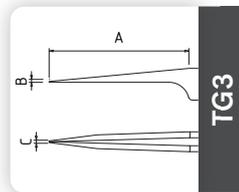
TG1

page: 19



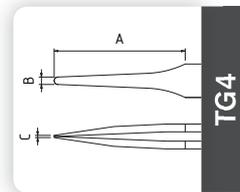
TG2

7, 11, 12, 13



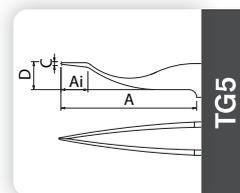
TG3

7



TG4

21

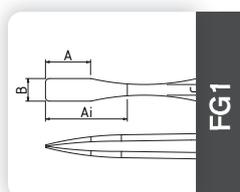


TG5

7

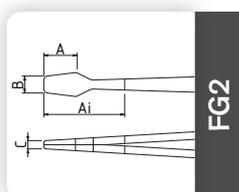
F

Flat tips



FG1

page: 11, 14, 21

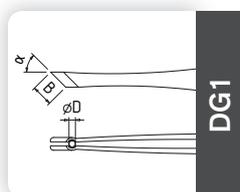


FG2

19

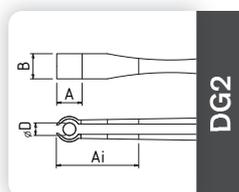
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Diameter tips



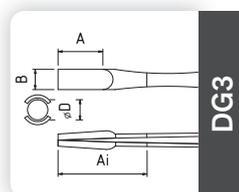
DG1

page: 14



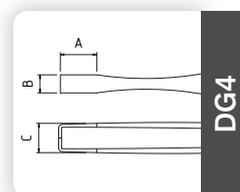
DG2

14



DG3

14



DG4

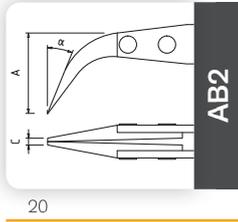
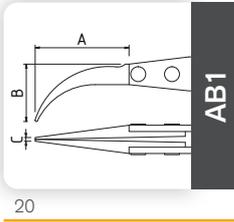
14

**B** Bent tweezers

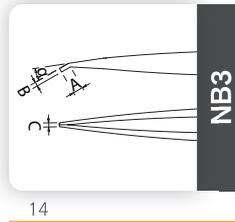
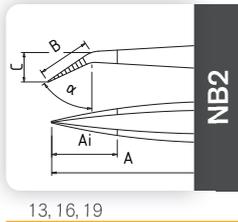
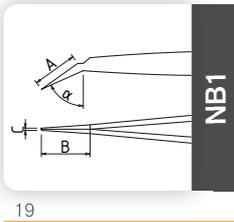
pointy-round

round-cornered

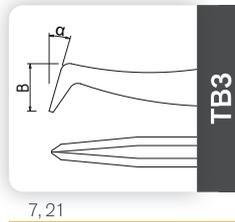
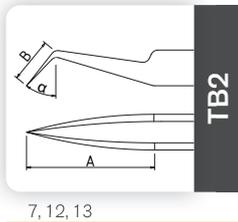
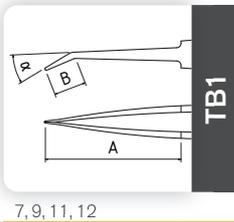
**A**



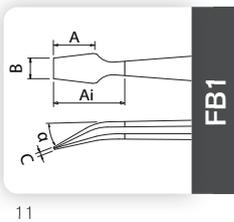
**N**



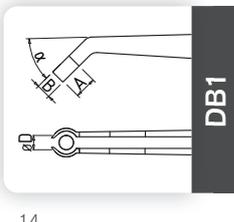
**T**



**F**

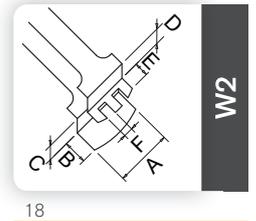
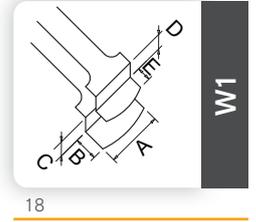


**D**



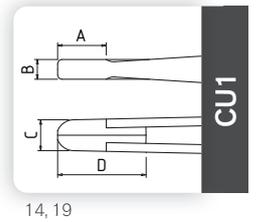
**W**

Wafer



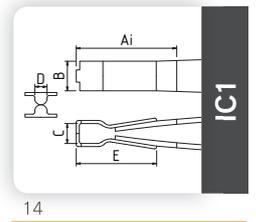
**CU**

Copper jaws



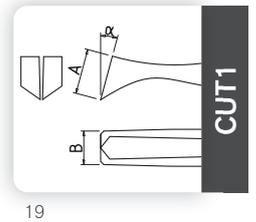
**IC**

Chip protection



**CUT**

cutting



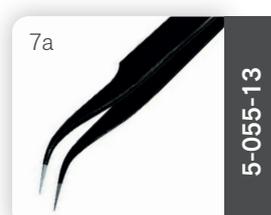
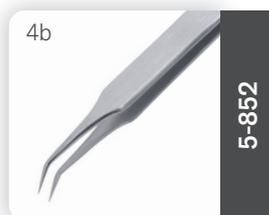
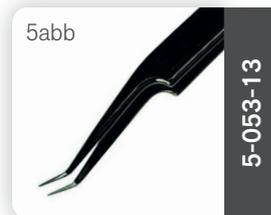
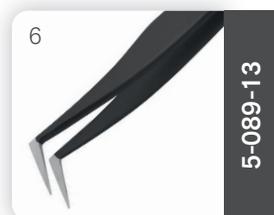
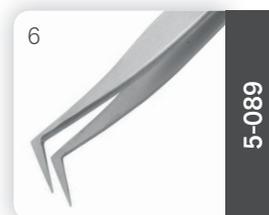
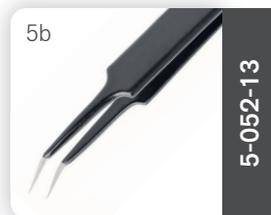
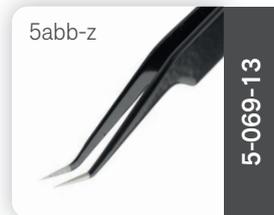
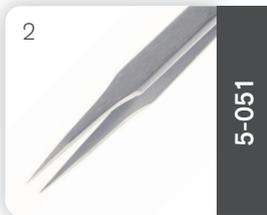
# DELICATE TWEEZERS

STAINLESS STEEL

WITH ESD COATING

STAINLESS STEEL

WITH ESD COATING



## DELICATE TWEEZERS

SMD assembly requires the finest precision tweezers due to the increasingly smaller components. The variety of shapes and a parallel tip end enable reliable handling of components, even in confined spaces. In the electronics manufacturing, antimagnetic, acid and corrosion-resistant stainless steel (SA) is preferred with a particularly high strength, making the fine tips incredibly hard and resistant. Titanium and plastic are also popular materials.

Made from anti-magnetic, non-corrosive and acid-resistant stainless steel – non-reflective and matt-polished. The dissipative ESD coating provides a bleeder resistance of  $10^6$ – $10^9$  ohm. Tweezers with ESD coating end with -13 in the article number.



The following types are available, specifications in mm:

Art.-No.	Art.-No.	Icon	Shape	A	B	C	D	Angle	Tolerance (or acc. ISO2768)	Total length	Weight in g
5-048	5-048-13	PTG2	5	30	0.3	0.4				110	12
5-049	5-049-13	PTG2	4	30	0.3	0.4				110	15
5-051	5-051-13	PTG2	2	35	0.4	0.8				120	15
5-052	5-052-13	PTB1	5b	30	7			30°		120	15
5-053	5-053-13	PTB2	5abb	35	7.4			30°		110	13
5-054	5-054-13	PTG5	7abb	38	0.4	7	9			120	15
5-055	5-055-13	PTB2	7a	35	10			50°		120	15
5-056	5-056-13	PTB4	7	40	0.4	0.4				120	15
5-088	5-088-13	PTG3	5a	35	0.2	0.4				115	18
5-069	5-069-13	PTB2	5abb-z	35	7.5			30°		115	15
5-089	5-089-13	PTB3	6		14.2			10°		115	17
5-852	5-852-13	PTB1	4b	27	7			40°		110	14
5-874	5-874-13	PNG1	3	45	0.2	0.2			0.1	120	14
5-878	5-878-13	PNG1	PSF-Z	50	1	0.5			0.2	130	19

### ► SMD tweezers set 6 pcs

Content: 5-051, 5-052, 5-054, 5-058, 5-061, 5-062

Art.-No.	Description	Weight in g
5-050	in a pocket (synthetic leather)	135
5-050-ES	wihtout a pocket (loosley packed)	90
5-050-V	with VARIO tool holder (5-090-1)	480



### ► ESD SMD tweezers set 6 pcs

Content: 5-049-13, 5-055-13, 5-059-13, 5-067-13, 5-068-13, 5-078-13

Art.-No.	Description	Weight in g
5-060	in a pocket (synthetic leather)	135
5-060-ES	wihtout a pocket (loosley packed)	90
5-060-ST	with plastic stand (5-180-0)	110



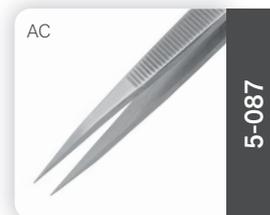
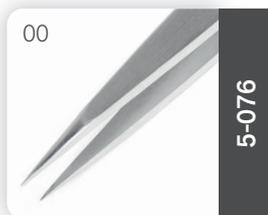
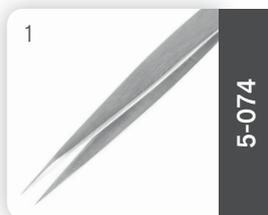
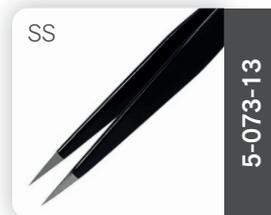
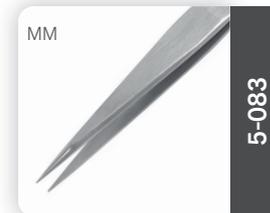
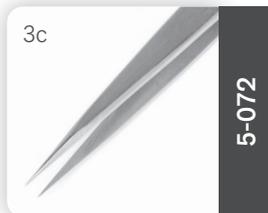
# DELICATE TWEEZERS

STAINLESS STEEL

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WITH ESD COATING



## DELICATE TWEEZERS

Made from anti-magnetic, non-corrosive and acid-resistant stainless steel – non-reflective and matt-polished. The dissipative ESD coating provides a bleeder resistance of  $10^6$ – $10^9$  ohm. Tweezers with ESD coating end with -13 in the article number.

The following types are available, specifications in mm:

Art.-No.	Art.-No. 	Icon	Shape	A	B	C	D	Angle	Tolerance (or acc. ISO2768)	Total length	Weight in g
5-071	5-071-13	PNG1	OC	48	0.2	0.4			0.3	85	8
5-072	5-072-13	PNG1	3c	46	0.3	0.4			0.2	110	11
5-073	5-073-13	PNG1	SS	53	0.2	0.4			0.3	140	13
5-074	5-074-13	PNG1	1	42	0.3	0.4			0.2	120	14
5-075	5-075-13	PNG3	BB	8	0.2					140	13
5-076	5-076-13	PNG1	00	46	0.5	1			0.4	120	19
5-077	5-077-13	PNG1	AA	50	0.3	0.6			0.3	130	16
5-078	5-078-13	PNG1	PSF	50	1	0.5			0.3	130	20
5-083	5-083-13	PNG1	MM	68	0.6	1			0.5	140	8
5-085	5-085-13	PTB1	SSBB	20	4.5			30°		140	14
5-086	5-086-13	PNG1	H	12	0.2	0.4			0.4	90	12
	5-086-135	PNG1	H	12	0.5	1.9				90	12
5-087	5-087-13	PNG1	AC	60	0.2	0.4			0.2	110	18

## DELICATE TWEEZERS SETS

### ► SMD tweezers set 6 pcs

Content: 5-049, 5-053, 5-055, 5-059, 5-078, 5-089

Art.-No.	Description	Weight in g
5-050-A	in a pocket (synthetic leather)	135
5-050-ANY	in a pocket (nylon)	110
5-050-AES	without a pocket (loosley packed)	90
5-050-AV	with VARIO tool holder (5-090-1)	480

### ► ESD SMD tweezers set 6 pcs

Content: 5-071-13, 5-077-13, 5-191, 5-052-13, 5-861-13, 5-863-13

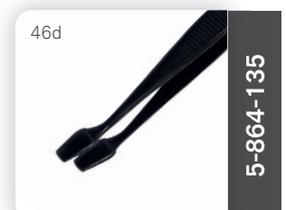
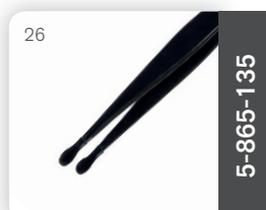
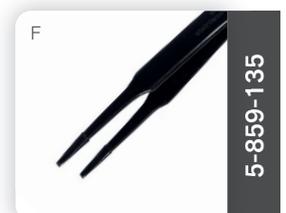
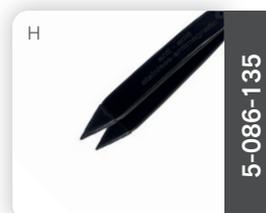
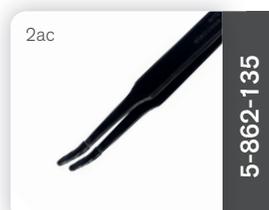
Art.-No.	Description	Weight in g
5-060-A	in a pocket (synthetic leather)	135
5-060-ANY	in a pocket (nylon)	110
5-060-AES	without a pocket (loosley packed)	90
5-060-AV	with VARIO tool holder (5-090-0)	480

## ESD TWEEZERS WITH ESD DISSIPATIVE PVC DIP INSULATION (NON-SLIP)

ESD coating achieves a discharge resistance of  $10^6$  -  $10^9$  Ohm. PVC insulation enables optimal positioning due to slight adhesion to the tip.

A secure hold for small parts and components that slip away quickly, also suitable for securely holding glass lenses and optics.

Do you need a different shape with dissipative PVC insulation? Please do not hesitate to contact us.



Shape	Specification	Tips length	Tips width	Tips thickness	Angle/ Inclined	Ø	Page
straight	with Ø-holder	2.3	1.5 - 3.0			0.8	14
straight	normal	2.5			40°		14
straight	with Ø-holder	5			45°	1.5	14
straight	with Ø-holder	5	4			3.5	14
straight	normal flat	5	6.35				21
straight	normal flat	6	4 - 5	2.6 - 3.8			9, 11
straight	normal flat	6	13	3			14
straight	with Ø-holder	6.5	6			5	14
straight	with Ø-holder	7	6			5	14
straight	normal	8	0.2				9
straight	normal flat	9.5	5	2.8			19
straight	with Ø-holder	10	3.1			2	14
straight	with Ø-holder	10	5.5 - 5.6			5	14
straight	with Ø-holder	10.5	5.8	8			14
straight	normal flat	10.5	5.9	5.5			19
straight	normal flat	20	4	4.5			11
straight	tapered	10		0.5			19
straight	normal	11	3.2				21
straight	normal	12	0.2	0.4			9
straight	copper jaws	11 - 12	4.6 - 6	5.6 - 7.2			14, 19
straight	normal	13	0.65 - 1.0				16, 21
straight	normal	14	3				21
straight	normal	16	2				16
straight	normal	17	1				16
straight	normal	18	3				13
straight	normal	18 Zahnung	3				16
straight	normal	18	4.5				16
straight	interchangeable tip	25	1.8				20
straight	interchangeable tip	26	0.6 - 1.5				20
straight	interchangeable tip	26	1.1 - 2.0				20
straight	interchangeable tip	30	0.7				20
straight	tapered	30	0.1 - 0.5	0.2 - 1.0			7, 12
straight	tapered	35	0.2 - 2.25	0.2 - 1.0			7, 12, 13, 21
straight	tapered	36	2.3	0.4			9, 11
straight	tapered	38	0.4	7			7
straight	normal	42	0.3	0.4			9
straight	normal	45	0.2	0.2			7
straight	normal	46	0.1 - 0.5	0.2 - 1.0			9, 12
straight	normal	48	0.2 - 0.9	0.4 - 1.5			9, 13, 21
straight	normal	50	0.3 - 1.0	0.2 - 0.6			9, 12
straight	normal	50	0.5 - 1.0	0.5 - 0.6			7, 16
straight	normal	53	0.2	0.4			9
straight	normal	54	0.6	1			13
straight	normal	60	0.2	0.4			9
straight	normal	68	0.6	1			9
straight	normal	75	1.3				19
bent	with Ø-holder	2.3	1.5 - 3.0		35°	0.8	14
bent	normal	2.5	1		45°		14
bent	normal	6	6.5	0.7	30°		19
bent	normal flat	10	5		20°		9, 11
bent	normal	10	8	0.5	30°		20
bent	normal	12	2.5		30°		14
bent	tapered	12			16°		21
bent	tapered	14.2			10°		7
bent	tapered	20	4.5		30°		9
bent	interchangeable tip	20		1.6	45°		20
bent	interchangeable tip	25	15	1			20
bent	tapered	27 - 38	7		40°		7, 13
bent	tapered	30	7		30°		7, 11, 12
bent	tapered	34 - 35	14		30°		11
bent	tapered	35	2.3 - 2.6		30°		9, 11
bent	tapered	35	7.4 - 7.5		30°		7
bent	tapered	35	10		50°		7, 12
bent	tapered	40	0.4	0.4			7
bent	normal	45	16	12	60°		13, 16, 19

## DELICATE TWEEZERS

Made from anti-magnetic, non-corrosive and acid-resistant stainless steel – non-reflective and matt-polished.

The dissipative ESD coating provides a bleeder resistance of  $10^6$ – $10^9$  ohm. Tweezers with ESD coating end with -13 in the article number.

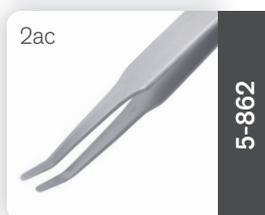
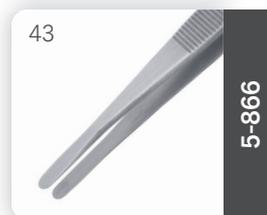
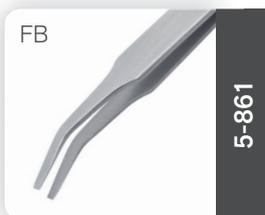
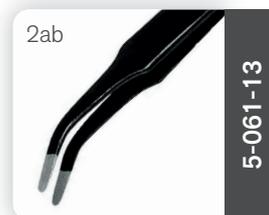
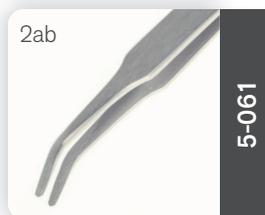
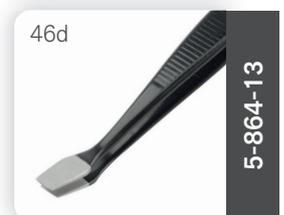
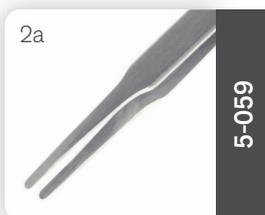
Art.-No.	Art.-No. 	Icon	Shape	A	B	C	Ai	Angle	Total length	Weight in g
5-059	5-059-13	PTG2	2a	36	2.3	0.4			120	15
5-061	5-061-13	PTB1	2ab	35	14			30°	115	16
5-859	5-859-13	PTG2	F	36	2.3	0.4	12		125	17
	5-859-135	PTG2	F	36	2.6	1.9			125	16.5
5-861	5-861-13	PTB1	FB	34	14			30°	120	17
5-862	5-862-13	PTB5	2ac	35	2.3	0.5	12	30°	125	17
	5-862-135	PTB5	2ac	35	2.6	2.0		30°	125	16.5
5-863	5-863-13	PTB5	2acb	36	2.6			30°	125	17
5-864	5-864-13	PFB1	46d	10	5		13	20°	105	14
	5-864-135	PFB1	46d	10	5.4	2.1		20°	105	14
5-865	5-865-13	PFG2	26	6	4	2.6	13		120	17
	5-865-135	PFG2	26	7	4.6	3.3			120	17.5
5-866	5-866-13	PFG2	43	20	4	4.5			120	17
5-867	5-867-13	PFG2	35a	6	5	3.8			120	17

STAINLESS STEEL

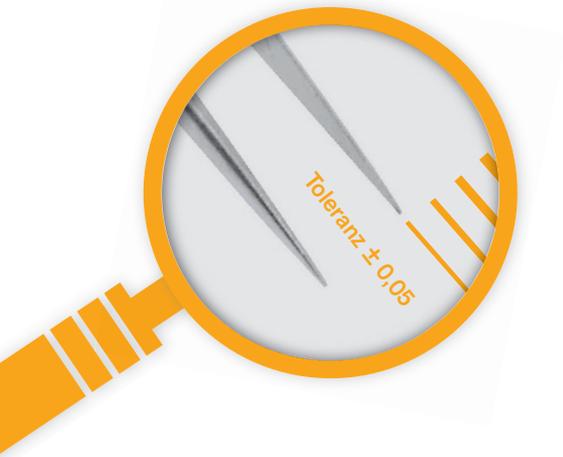
WITH ESD COATING

STAINLESS STEEL

WITH ESD COATING



# ULTRA FINE TIPPING TWEEZERS



## ► ULTRA FINE tipping tweezers

For precise gripping, holding and positioning work in laboratories, test facilities and, above all, under the microscope. Featuring a tip width of 0.2 mm at a tolerance of  $\pm 0.05$ , even robots can be equipped with them (pick-and-place), enabling a configuration with high repetition accuracy.

Made from anti-magnetic, non-corrosive and acid-resistant stainless steel – non-reflective and matt-polished. The dissipative ESD coating provides a bleeder resistance of  $10^6$ – $10^9$  ohm. Tweezers with ESD coating end with -13 in the article number.

The following types are available, specifications in mm:

Art.-No.	Art.-No.	Icon	Shape	A	B	C	Angle	Tolerance	Total length	Weight in g
5-049-UF	5-049-UF-13	PTG2	4	30	0.1	0.2		0.05	110	15
5-051-UF	5-051-UF-13	PTG2	2	35	0.4	0.2		0.05	120	15
5-052-UF	5-052-UF-13	PTB1	5b	30	7		30°	0.05	110	15
5-055-UF	5-055-UF-13	PTB2	7a	35	10		50°	0.05	120	15
5-072-UF	5-072-UF-13	PNG1	3c	46	0.1	0.2		0.05	110	11
5-078-UF	5-078-UF-13	PNG1	PSF	50	1	0.2		0.05	130	20

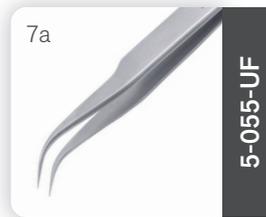
STAINLESS STEEL



WITH ESD COATING



STAINLESS STEEL



WITH ESD COATING



2



2



3c



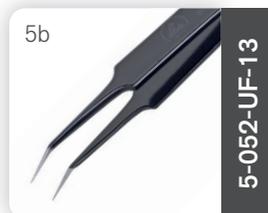
3c



5b



5b



PSF



PSF



## ULTRA FINE TIPPING TWEEZERS SETS

► **5-070-UF**

**SMD tweezers set ULTRA FINE 6 pcs**

in a pocket (synthetic leather)  
Content: 5-049-UF, 5-051-UF, 5-052-UF, 5-055-UF,  
5-072-UF, 5-078-UF

Weight: 150 g

► **5-070-UF-13**

**ESD SMD tweezers set ULTRA FINE 6 pcs**

in a pocket (synthetic leather)  
Content: 5-049-UF-13, 5-051-UF-13, 5-052-UF-13,  
5-055-UF-13, 5-072-UF-13, 5-078-UF-13

Weight: 150 g



5-070-UF



5-070-UF-13

## TITANIUM TWEEZERS



► **TITANIUM tweezers**

Tweezers made of titanium material are antimagnetic, corrosion-resistant, acid- and chemical resistant, antibacterial, highly conductive, glare-free, solder repellent, heat resistant (melting point at 1677° C), matt polished

The following types are available, specifications in mm:

Art-No.	Icon	Shape	A	B	C	Angle	Tolerance (or acc. ISO2768)	Total length	Weight in g
5-031	PTG2	5	35	0.5	1			110	9
5-035	PNG1	3	48	0.9	1.5		0.6	120	9
5-036	PNG5	40	18	2.5				145	15
5-037	PNB2	22b	45	18	12	60°		150	12
5-051-Ti	PTG2	2	35	0.2	0.6			125	10
5-055-Ti	PTB2	7a	38	14		40°		125	10
5-059-Ti	PTG2	2a	35	2.25	1			125	10
5-078-Ti	PNG1	PSF	54	0.6	1		0.5	130	10

► **5-030**

**TITAN tweezers set 3 pcs**

in a pocket (synthetic leather)  
Content: 5-031, 5-036, 5-037  
Weight: 70 g

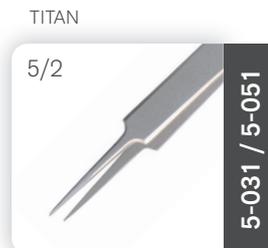
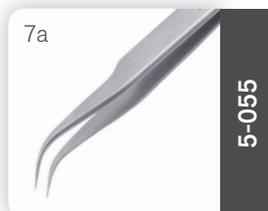


5-030

► **5-030-A**

**TITAN tweezers set 3 pcs .**

in a pocket (synthetic leather)  
Content: 5-051-Ti, 5-055-Ti, 5-059-Ti  
Weight: 55 g



5/2

5-031 / 5-051



3/PSF

5-035 / 5-078



22b

5-037



40/2a

5-036 / 5-059

## GEOMETRIC TWEEZERS

Every imaginable shape is possible. Bulbous or long, hollow tweezers with the appropriate diameter are suitable for the easy removal or insertion of round or cubic component parts. PVC dip-insulation on the tips protect sensitive parts made from plastic or glass such as laser optics or other opto-mechanical components.

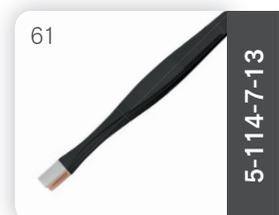
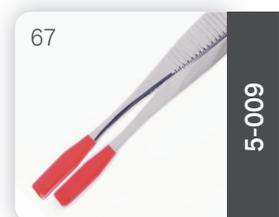
Made from quality steel (nickel-plated, not anti-magnetic) or made from Stainless steel (anti-magnetic, non-corrosive and acid-resistant, non-reflective and matt-polished). The dissipative ESD coating provides a bleeder resistance of  $10^6$ - $10^9$  ohms. Tweezers with ESD coating end with -13 in the article number.

**Additional models with dissipative ESD coating on request.**

The following types are available, specifications in mm:

Art.-No.	Art.-No.	Icon	Shape	A	B	C	D	E	Ai	Angle	Ø	Material	Total length	Weight in g
2-601	2-601-13	PIC1	-		8.2	6	3.2		20			steel nickel-plated	125	21
2-601-5		PIC1			9	8.5	4.7		26.5			steel nickel-plated*	125	21
2-601-7		PIC1	-		8.2	7	3.2		20			stainless steel	125	21
5-006		PDG3	64	14	5.6				25		5	steel nickel-plated	125	21
5-006-7	5-006-7-13	PDG3	64	13.5	5.8						5	stainless steel	125	23
5-007	5-007-13	PDG2	62	6.5	6				21		5	steel nickel-plated*	145	23
5-007-5		PDG2	62	7	6.2				21		5	steel nickel-plated	145	22
5-008		PDG4	67	11.5	5.9	8						steel nickel-plated	145	22
5-009		PFG2	68	13	6	3			25			steel nickel-plated*	145	25
5-013-7	5-013-7-13	PDG1	63		5			16		45°	1.5	stainless steel	125	15
5-014-7	5-014-7-13	PDG2	52	5	4				14		3.5	stainless steel	120	15
5-015-7	5-015-7-13	PDG2	53	8.8	3.5				14		6.5	stainless steel	120	15
5-016-7	5-016-7-13	PDG3	55	10.5	3.1						2	stainless steel	125	15
5-062	5-062-13	PDB1	59	2.3	1.5					35°	0.8	stainless steel	115	16
5-063	5-063-13	PDB1	58	2.3	3					35°	0.8	stainless steel	115	16
5-064	5-064-13	PDG2	54	2.3	1.5						0.8	stainless steel	120	16
5-065	5-065-13	PDG2	50	2.3	3						0.8	stainless steel	120	16
5-066	5-066-13	PNB4	8b	12	2.5					30°		stainless steel	120	15
5-067	5-067-13	PNB3	12	2.5	1					45°		stainless steel	120	15
5-068	5-068-13	PNG6	13		2.5					40°		stainless steel	120	13
5-114-7	5-114-7-13	PCU1	61	13	6	5.5					11	stainless steel	145	23

\*tips PVC insulated

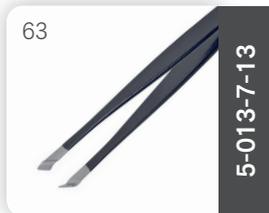


## GEOMETRIC TWEEZERS

STAINLESS STEEL



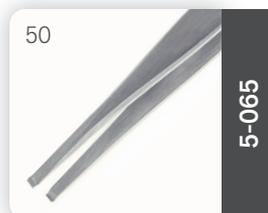
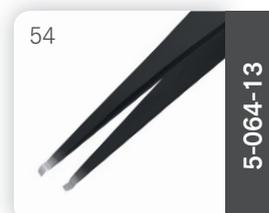
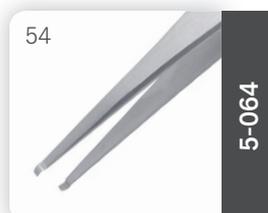
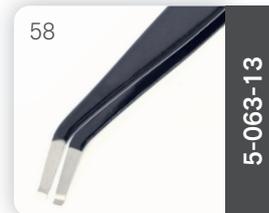
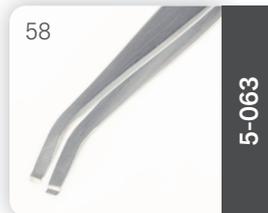
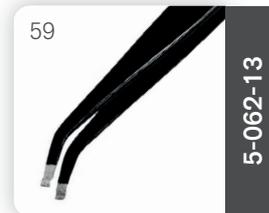
WITH ESD COATING



STAINLESS STEEL



WITH ESD COATING



## SETS

► **5-130**

**Geometric tweezers set 3 pcs**

in a pocket (synthetic leather)

Content: 5-066-13, 5-067-13, 5-068-13

Weight: 90 g

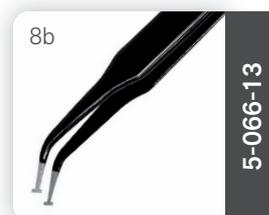
► **5-130-A**

**Geometric tweezers set 3 pcs**

in a pocket (synthetic leather)

Content: 5-013-7-13, 5-014-7-13, 5-062-13

Weight: 95 g



## UNIVERSAL TWEEZERS

Anatomic tweezers are somewhat larger due to their main body and are partially cut (small cross grooves on the tips) for better and stable gripping. They have precise, parallel tips and are used in the medical sector to remove foreign objects. Bent, slightly angled models provide support for work in the laboratory with ergonomic positioning for high grip repetition.

Made from quality steel (nickel-plated, not anti-magnetic) or made from Stainless steel (anti-magnetic, non-corrosive and acid-resistant, non-reflective and matt-polished). The dissipative ESD coating provides a bleeder resistance of  $10^6$ – $10^9$  ohms. Tweezers with ESD coating end with -13 in the article number.

**Additional models with dissipative ESD coating on request.**

The following types are available, specifications in mm:

Art.-No.	Art.-No.	Icon	Shape	A	B	C	Ai	Angle	Material	Total length	Weight in g	
5-106-7	5-106-7-13		PNG5	48	16	1			stainless steel	155	20	
5-107			PNB2	22b	45	18	10	16	60°	steel nickel-plated	150	20
5-107-1			PNB2	22b	45	18	10	16	60°	steel lacquered	150	23
5-107-6			PNB2	22b		18	10	16	60°	steel PVC coated	150	27
5-107-7	5-107-7-13		PNB2	22b	45	18	10	16	60°	stainless steel	155	28
5-107-9			PNB2	22b	45	18	10	16	60°	steel PTFE	150	22
5-117			PNG5	40	16	3			steel nickel-plated	145	25	
5-117-1			PNG5	40	16	3		19	steel lacquered	145	26	
5-117-5			PNG5	40		4.5		22	steel nickel-plated	145	27	
5-117-6			PNG5	40	16	3		15	steel PVC coated	145	31	
5-117-7	5-117-7-13		PNG5	40	16	3			stainless steel	145	20	
5-117-9			PNG5	40	16	3			steel PTFE coated	145	29	
5-119			PNG5	40-z	16	2			steel nickel-plated	140	19	
5-121			PNG5	16	13	1			steel nickel-plated	120	14	
5-121-1			PNG5	16	13	1		14	steel lacquered	120	14	
5-121-6			PNG5	16	13	1		19	steel PVC coated	120	17	
5-121-7	5-121-7-13		PNG5	16	13	1			stainless steel	120	14	
5-121-9			PNG5	16	13	1			steel PTFE coated	120	13	
5-125			PNG1	HH	75	1.3	2.2		steel nickel-plated	110	12	

Art.-No.	Art.-No.	Icon	Shape	A	B	C	Ai	Angle	Type	Material	Total length	Weight in g	
5-107 VDE	mechanic tweezers		PNB2 22b		18	11	16	45°	VDE protective insulation according to VDE standard angled, fine tips, serrated		steel PVC dip-insulated	150	37
5-117 VDE	mechanic tweezers		PNG5 40	16	3		19		VDE protective insulation according to VDE standard straight, rounded tip, serrated		steel PVC dip-insulated	145	39
5-020	bamboo tweezers		PNG2 AA		0.6	1.5			long slim shape, pointed, individually shapeable, non conductive, non magnetic, partly chemical resistant		bamboo	150	4

### ► 5-100

#### Universal tweezers set 12 pcs

in a pocket (synthetic leather)  
Content: 2-126, 2-127, 2-601, 5-006, 5-107, 5-107-6, 5-117, 5-117-6, 5-121, 5-078, 5-156  
Weight: 360 g



### ► 5-110

#### Universal tweezers set 3 pcs.

in a pocket (synthetic leather), anatomical and cross tweezers  
Content: 5-107, 5-121, 5-155  
Weight: 95 g



### ► 5-030-PTFE

#### PTFE tweezers set 3 pcs

(without bag), Anatomical and cross Steel-tweezers  
Content: 5-107-9, 5-117-9, 5-155-9  
Weight: 80 g

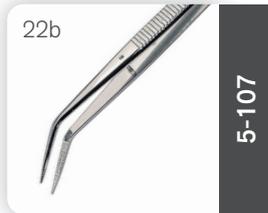




STEEL  
NICKEL-  
PLATED



5-125



5-107



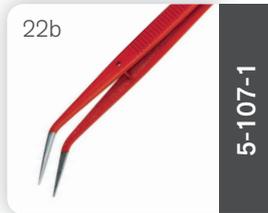
5-117/5-119



5-121



STEEL LACQUERED



5-107-1



5-117-1



5-121-1



STEEL DIP INSULATED



5-107-6



5-117-6



5-121-6



STAINLESS  
STEEL



5-106-7



5-107-7



5-117-7



5-121-7



ESD COATED



5-106-7-13



5-107-7-13



5-117-7-13



5-121-7

STEEL PTFE COATED



5-107-9



5-117-9



5-121-9



VDE DIP-INSULATED

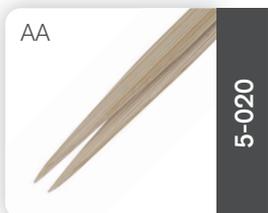


5-107 VDE



5-117 VDE

BAMBOO

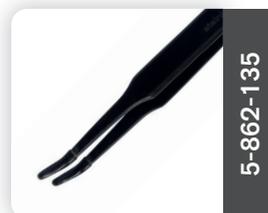


5-020

TIP ISOLATED



5-117-5



5-862-135

# WAFER TWEEZERS

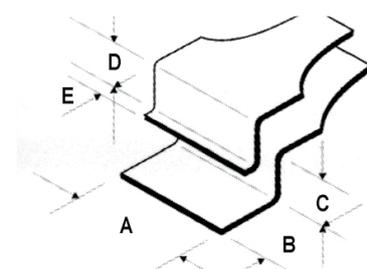
For positioning flat and thin components, such as highly sensitive and fragile wafers (glass wafers, etc.), thin PCBs and LCDs.

Made from anti-magnetic, non-corrosive and acid-resistant stainless steel – non-reflective and matt-polished. The dissipative ESD coating provides a bleeder resistance of  $10^6$ – $10^9$  ohms. Tweezers with ESD coating end with -13 in the article number.



The following types are available, specifications in mm:

Art.-No.	Art.-No.	Icon	Type	A	B	C	D	E	F	for Wafer in inch	Total length	Weight in g	
5-411	5-411-13		PW2	3 teeth, slim	6.2	5.1	3.5	3.7	2.9	1	2	130	14
5-412	5-412-13		PW2	3 teeth	9.8	8.2	4	4	4.2	1.8	2	130	14
5-413	5-413-13		PW2	4 teeth	12.5	7.6	3.5	3.9	4.8		3	130	17
5-414	5-414-13		PW2	5 teeth	16.5	7.7	3	3.8	4	1.8	4-5	130	20
5-415	5-415-13		PW2	6 teeth	20.2	7.9	3	3.9	3.8	1.8	6	130	20
5-421	5-421-13		PW1	without teeth	6	6.5	3.6	4	3		2	130	14
5-422	5-422-13		PW1	without teeth	12.3	8.4	4	3.6	5.4		3	130	17
5-423	5-423-13		PW1	without teeth	16.4	7.4	2.8	3.4	4		4-5	130	20
5-424	5-424-13		PW1	without teeth	20.2	7.3	3.2	4.3	3.2		6	130	20



# CUTTING TWEEZERS



Made from high-quality carbon steel (INOX).  
 CARE INSTRUCTIONS: Carbon steel rusts in high humidity or if touched with fingers (sweat). For this reason, tweezers should always be kept dry or rubbed with oil if stored for longer periods.

If a film of rust still shapes on the tweezers or blades, it can be easily removed by lightly sanding the affected area.  
 The dissipative ESD coating provides a bleeder resistance of 10<sup>6</sup>-10<sup>9</sup> ohms. Tweezers with ESD coating end with -13 in the article number.

The following types are available, specifications in mm:

Art.-No.	Art.-No.	Icon	Shape	Type	A	B	Angle	Material	Total length	Weight in g
5-079	5-079-13	PCUT1	15 AWG	for oblique cutting	10	8	20°	Carbon steel	115	25
5-879	5-879-13	PCUT1	15 AP	for flush cutting	10	8.5	20°	Carbon steel	115	25

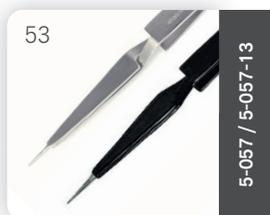
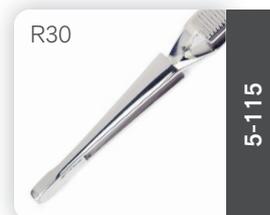
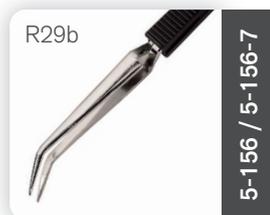


# SELF-HOLDING TWEEZERS, CROSS TWEEZERS

Made from quality steel (nickel-plated, not anti-magnetic) or made from Stainless steel (anti-magnetic, non-corrosive and acid-resistant, non-reflective and matt-polished). Dissipative ESD coating available on request. Tweezers with ESD coating end with -13 in the article number.

The following types are available, specifications in mm:

Art.-No.	Art.-No.	Icon	Shape	A	B	C	D	Ai	Angle	Material	Total length	Weight in g
5-057	5-057-13	PTG1	53	10		0.5				stainless-steel	120	13
5-058	5-058-13	PNB1	53c	10	8	0.5			30°	stainless-steel	120	13
5-857	5-857-13	PNG1	31	48	0.4	0.8				stainless-steel	125	15
5-858	5-858-13	PNB1	31c	6	6.5	0.7			30°	stainless-steel	125	15
5-115		PCU1	R30	12	4	7.2	19.5			steel nickel-plated	165	35
5-155		PFG3	R30	9.5	5	3				steel nickel-plated	160	35
5-155-1		PFG3	R30	9.5	5	2.8				steel lacquered	160	40
5-155-5		PFG3	R30	10.5	5.9	5.5		19		steel nickel-plated	160	35
5-155-9		PFG3	R30	9.5	5	2.8				steel PTFE	160	40
5-156		PNB2	R29b	45		10		16	60°	steel nickel-plated	160	29
5-156-7		PNB2	R29b	45		10		16	60°	stainless-steel	160	29
5-157-7		PNG1	R29b		1.3					stainless-steel	160	29



## CHANGEABLE TIPS TWEEZERS

The body of the tweezers is made from anti-magnetic, non-corrosive and acid-resistant stainless steel – non-reflective and matt-polished

### Carbofib tips

Carbon-fibre reinforced plastic, electrically conductive  $10^2$ – $10^3$  ohms, scratch-proof, fully elastic, fatigue-resistant, vibration-dampening, water-repellent, resistant to most acids, alkalis and solvents.

The following types are available, specifications in mm:

Art.-No.	Short description	Icon	Shape	A	B	C	Angle	Material	Total length	Weight in g
5-431	ESD tweezers with changeabel tips	PAG1	70 CV	26	1.5			stainless steel / Carbofib	125	17
5-431-0	ESD replacement tips for 5-431 (pair)	PAG1	70 CV					Carbofib	42	2
5-432	ESD tweezers with changeabel tips	PAG3	72 CV	26	2			stainless steel / Carbofib	125	17
5-432-0	ESD replacement tips for 5-432 (pair)	PAG3	72 CV					Carbofib	42	2
5-433	ESD tweezers with changeabel tips	PAG3	74 CV	26	1.2			stainless steel / Carbofib	125	17
5-433-0	ESD replacement tips for 5-433 (pair)	PAG3	74 CV					Carbofib	42	2
5-434	ESD tweezers with changeabel tips	PAG1	76 CV	26	0.6			stainless steel / Carbofib	125	17
5-434-0	ESD replacement tips for 5-434 (pair)	PAG1	-					Carbofib	42	2
NEW 5-436	ESD tweezers with changeabel tips	PAB1	82 CV	25	15	1		stainless steel / Carbofib	125	18
5-436-0	ESD replacement tips for 5-436 (pair)	PAB1	-					Carbofib	42	2
NEW 5-437	ESD tweezers with changeabel tips	PAB2	84 CV	20		1.6	45°	stainless steel / Carbofib	125	18
5-437-0	ESD replacement tips for 5-437 (pair)	PAB2	-					Carbofib	42	2



### Delrin tips

Universal plastic, fully insulating for  $10^{13}$  and  $10^{15}$  ohms, excellent technical properties, low frictional resistance, good abrasion resistance, excellent spring power, high fatigue strength, high dielectric strength, low dielectric dissipation factor, good chemical resistance, particularly to solvents, very resistant to stress crack shapeation.

The following types are available, specifications in mm:

Art.-No.	Short description	Icon	Shape	A	B	Material	Total length	Weight in g
5-441	Delrin tweezers	PAG1	70 DV	26	1.4	stainless steel / Delrin	125	17
5-441-0	Delrin replacement tips for 5-441 (pair)	PAG1	-			Delrin	42	2
5-443	Delrin tweezers	PAG3	74 DV	26	1.1	stainless steel / Delrin	125	17
5-443-0	Delrin replacement tips for 5-443 (pair)	PAG3	-			Delrin	42	2
5-452	ESD ceramic tweezers	PAG3	2 AZJ	25	1.8	stainless steel / Zirconia	125	17
5-452-0	ESD ceramic replacement tips for 5-452 (pair)	PAG3	-			Zirconia	42	2
5-454	ESD ceramic tweezers	PAG2	71 ZJ	30	0.7	stainless steel / Zirconia	125	17
5-454-0	ESD ceramic replacement tips for 5-454 (pair)	PAG2	-			Zirconia	42	2

### Ceramic tips

Conductive between  $10^6$  and  $10^9$  ohms, highly wear-resistant ceramic (zirconium), excellent mechanical and thermal properties, heat-resistant up to 800 °C, solder-repellent, coefficient of thermal expansion  $10 \times 10^{-6}$  K<sup>-1</sup>, thermal conductivity 2 W/mK, resistant to acids and solvents.





## PLASTIC TWEEZERS

ESD tweezers made of conductive, black, glass fibre reinforced plastic material (Vestamid) which is antimagnetic, resistant to acids, usable at temperatures up to 175 °C and free of silicone and Armin.

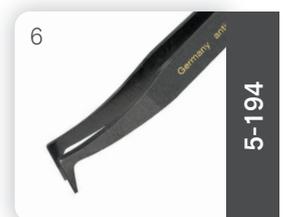
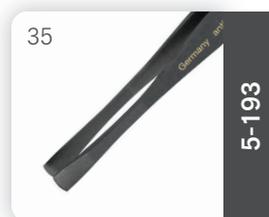
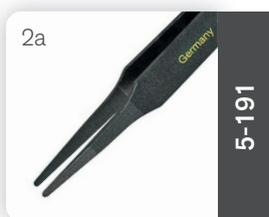
The precisely matched tip closure allows components to be held optimally at a constant pressure.

Conductive between  $10^3$  and  $10^5$  ohm.

The following types are available, specifications in mm:



Art.-No.	Short description	Icon	Shape	A	B	C	Angle	Material	Total length	Weight in g
5-191	ESD plastic precision tweezers	PTG4	2a	35	2	0.6		PA	120	5
5-192	ESD plastic precision tweezers	PNG4	F	11.2	3.2			PA	120	5
5-193	ESD plastic precision tweezers	PFG2	35	5	6.35	1		PA	120	5
5-194	ESD plastic precision tweezers	PTB3	6		12		16°	PA	120	5
5-195	ESD plastic precision tweezers	PNG3	BB	13	0.65			PA	120	5
05-0030	plastic tweezers	PNG5	-	14	3			PP	130	6





## ESD TWEEZERS SETS WITH HOLDER

### ► 5-090-V



#### ESD plastic precision tweezers set VARIO 5 pcs

Content: 5-090-0 ESD tool holder VARIO

- 5-191 ESD plastic tweezers 120 mm, shape 2a, tips 2 mm wide
  - 5-192 ESD plastic tweezers 120 mm, shape F, tips 3 mm wide
  - 5-193 ESD plastic tweezers 120 mm, shape 35, tips 6 mm wide
  - 5-194 ESD plastic tweezers 120 mm, shape 6, hook tip
  - 5-195 ESD plastic tweezers 120 mm, shape BB, very fine tips
- Conductive tweezers  $10^3 - 10^5$  Ohm  
 Tweezers material Vestamid PA12 L-Polyamid 12 (clean room usable)  
 Holder steel, ESD powder coated RAL9005, dissipative  $10^5 - 10^9$  Ohm  
 Weight: 390 g



### ► 5-190-V



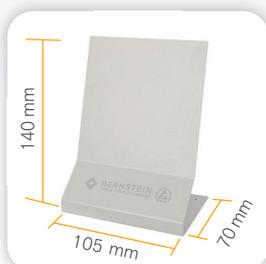
#### ESD plastic precision tweezers set VARIO 6 pcs

Content: 5-090-0 ESD tool holder VARIO

- 5-191 ESD plastic tweezers 120 mm, shape 2a, tips 2 mm wide
  - 5-192 ESD plastic tweezers 120 mm, shape F, tips 3 mm wide
  - 5-193 ESD plastic tweezers 120 mm, shape 35, tips 6 mm wide
  - 5-194 ESD plastic tweezers 120 mm, shape 6, hook tip
  - 5-195 ESD plastic tweezers 120 mm, shape BB, very fine tips
  - 5-454 ESD ESD changeable ceramic tweezers tips 0.7 width
- Conductive tweezers  $10^3 - 10^5$  Ohm, 5-454 dissipative  $10^5 - 10^9$   
 Tweezers material Vestamid PA12 L-Polyamid 12 (clean room usable)  
 Holder steel, ESD powder coated RAL9005, dissipative  $10^5 - 10^9$  Ohm  
 Weight: 390 g



### ► 5-180



#### ESD plastic precision tweezers set 5 pcs

Content: 5-180-0-ST ESD tool holder ZEE

- 5-191 ESD plastic tweezers 120 mm, shape 2a, tips 2 mm wide
  - 5-192 ESD plastic tweezers 120 mm, shape F, tips 3 mm wide
  - 5-193 ESD plastic tweezers 120 mm, shape 35, tips 6 mm wide
  - 5-194 ESD plastic tweezers 120 mm, shape 6, hook tip
  - 5-195 ESD plastic tweezers 120 mm, shape BB, very fine tips
- Conductive tweezers  $10^3 - 10^5$  Ohm  
 Tweezers material Vestamid PA12 L-Polyamid 12 (clean room usable)  
 Holder steel, ESD powder coated RAL7035, conductive  $10^4 - 10^6$  Ohm  
 Weight: 216 g



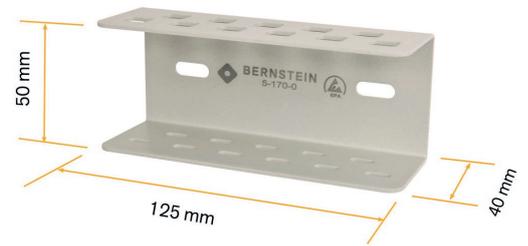
## ▶ 5-170-0

**ESD tweezers holder TWEEZ**

made of steel, ESD powder coated RAL7035  
conductive  $10^4 - 10^5$  Ohm  
storage of up to 11 tweezers or other suitable tools  
clearly arranged and ready to hand at any time  
for standing or hanging  
Weight: 170 g



approx. 125 x 40 x 50 mm  
(dimensions for orientation)



NEW

## ▶ 5-170

**ESD SMD tweezers set 11 pcs**

Content: 5-170-0 ESD tweezers holder TWEEZ

5-048-13 ESD tweezers 110 mm, shape 5, very pointed  
5-055-13 ESD tweezers 120 mm, shape 7a, angle  $40^\circ$   
5-059-13 ESD tweezers 120 mm, shape 2a  
5-066-13 ESD tweezers 120 mm, shape 8b, angle  $30^\circ$   
5-067-13 ESD tweezers 120 mm, shape 12, angle  $45^\circ$   
5-068-13 ESD tweezers 120 mm, shape 13, angle  $45^\circ$   
5-069-13 ESD tweezers 115 mm, shape 5abb-Z, angle  $30^\circ$ , serrated  
5-079-13 ESD Schneidpinzette (schräg) 115 mm, shape 15, AGW  
5-191 ESD plastic tweezers 120 mm, shape 2a, tips 2 mm wide  
5-192 ESD plastic tweezers 120 mm, shape F, tips 3 mm wide  
5-194 ESD plastic tweezers 120 mm, shape 6, Hakenspitze  
Conductive plastic tweezers  $10^3 - 10^5$  Ohm  
Tweezers material Vestamid PA12 L-Polyamid 12 (clean room usable)  
Dissipative steel tweezers  $10^6 - 10^9$  Ohm  
Tweezers material stainless steel, ESD powder coated RAL9005  
Holder steel, ESD powder coated RAL7035, conductive  $10^4 - 10^5$  Ohm  
Weight: 530 g



NEW

## ▶ 5-170-G

**ESD SMD tweezers set geometrisch 11 pcs**

Content: 5-170-0 ESD tweezers holder TWEEZ

5-048-13 ESD tweezers 110 mm, shape 5, very pointed  
5-055-13 ESD tweezers 120 mm, shape 7a, angle  $40^\circ$   
5-059-13 ESD tweezers 120 mm, shape 2a  
5-062-13 ESD tweezers, 115 mm, shape 59, angle  $35^\circ$   
5-063-13 ESD tweezers, 115 mm, shape 58, angle  $35^\circ$   
5-064-13 ESD tweezers, 120 mm, shape 54  
5-065-13 ESD tweezers, 120 mm, shape 50  
5-066-13 ESD tweezers 120 mm, shape 8b, angle  $30^\circ$   
5-067-13 ESD tweezers 120 mm, shape 12, angle  $45^\circ$   
5-068-13 ESD tweezers 120 mm, shape 13, angle  $45^\circ$   
5-069-13 ESD tweezers 115 mm, shape 5abb-Z, angle  $30^\circ$ , serrated  
Dissipative tweezers  $10^6 - 10^9$  Ohm  
Tweezers material stainless steel, ESD powder coated RAL9005  
Holder steel, ESD powder coated RAL7035, conductive  $10^4 - 10^5$  Ohm  
Weight: 530 g



NEW

# TERMS OF SALE AND DELIVERY

## GENERAL

The nature and scope of delivery are specified in the order confirmation. The following delivery terms shall apply to all deliveries to be carried out by us. Purchasing conditions of the customer do not oblige us, even if we do not expressly contradict this. Verbal or by intercom agreements made require our written confirmation. Obvious mistakes in offers, order confirmations, etc. are expressly reserved and can be considered at any time. We are entitled to process any data relating to the business relationship or in connection with the same concerning buyers, whether the buyer itself or third parties, within the framework of the Federal Data Protection Act.

## OFFER

Our offers are permissive, an order is deemed to be granted if confirmed by us in writing. PRICES, DELIVERY BASIS AND PACKAGING Unless otherwise agreed, the prices in Euros, ex works, are exclusive packaging. In the case of special packaging regulations of the customer, the additional costs involved are invoiced. Packaging is not accepted.

## DELIVERY

The delivery takes place at the expense and risk of the buyer without regard to who bears the freight costs. We reserve the right to place orders in partial deliveries. For custom-made products, excess or short deliveries of up to 10% are permitted.

## DELIVERY TIME

The delivery time begins upon receipt of all information required for the execution of the order. We endeavor to comply with the delivery time specified in the order confirmation. No claims of any kind can be asserted from a delayed delivery.

## COMPLAINTS

Complaints can only be accepted within 8 days after receiving of the goods.

The shape and colour of the tool may differ from the item shown in the catalogue.

## GUARANTEE

For all BERNSTEIN tools, which are unusable due to proven material or manufacturing defects, we deliver within one year after deliver a replacement. This free replacement service is excluded if the tools have become unusable due to natural wear or improper handling.

## DISCLAIMER

We do not assume any guarantee for the suitability of our products for the intended purpose of the customer. For damages caused by unsuitable or improper use, commissioning by the customer or third parties, and for the natural wear and tear we assume no guarantee. Any claims for damages, irrespective of the legal basis, as well as, in particular, the liability by tort (product liability) are excluded to the extent permitted by law.

## PAYMENT

Our invoices are payable within 10 days of the invoice date with 2% discount or in 30 days net, unless otherwise agreed in the order confirmation.

## RESERVATION OF TITLE

We reserve the title to all goods delivered by us until the buyer has paid all claims arising from the business relationship. The buyer is entitled to resell the reserved goods in ordinary business transactions. In the case of resale, the buyer has to reserve the ownership of the sold goods on the same terms as his customer. The purchaser hereby assigns to us the purchase price claim against the buyer from the resale.

## FULFILLMENT AND JURISDICTION

Place of performance and jurisdiction for delivery and payment is Remscheid. In any case, only German law shall apply, with the exclusion of any foreign law.

## ONLINE DISPUTE RESOLUTION

The European Commission provides a platform for online dispute resolutions (ODR) which can be accessed at

<https://ec.europa.eu/consumers/odr/> .

In order to settle dispute arising from a contractual relationship with a consumer or from whether such a contractual relationship exists at all, we will participate in dispute settlement proceedings before a consumer dispute resolution body. Consumers can contact their national European Consumer Centre in this regard. The respective contact details of the individual ECCs can be found at

<https://www.evz.de/en/alternative-dispute-resolution/adr-in-europe/>.





A little story about  
the word amber (BERNSTEIN)

The greek word for amber is „elektron“: the root of today's term electronics. Even the greeks discovered the special feature of amber: by rubbing the natural amber can be electrostatically charged. The charged stone can attract dust particles.

Today you can use this property to check the authenticity of an amber. If it is real, it can be tested through charge rubbing on a cotton cloth.

You can also wear it as jewellery:  
it should protect from evil magic and give joy of life.

Just like our high-quality BERNSTEIN  
ESD Tools - them protect against  
electrostatics and give joy with  
the daily work.

(Autor Max Walter Hartmut Blombach)

**BERNSTEIN**

**Werkzeugfabrik  
Steinrücke GmbH**

Industriehof Trecknase 1  
42897 Remscheid

Tel. + 49 (0) 2191 - 9650 - 0  
Fax + 49 (0) 2191 - 9650 - 30

[sales@bernstein-tools.de](mailto:sales@bernstein-tools.de)  
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