



FOR PRODUCT DETAILS AND COMPLETE SELECTIONS
www.tedpella.com



TED PELLA, INC.

Microscopy Products for Science and Industry

www.tedpella.com sales@tedpella.com 800-237-3526

MICRO-TOOLS AND SMALL PRECISION TOOLS

For Miniature Applications, Micro Electronics, Specimen Manipulation

Micro-tools are the smallest available precision instruments for laboratory and production use.

Micro-tools with interchangeable tips are available in hardened tool steel, stainless steel, and carbide for the cutting tools. Dedicated precision handles for each type of the micro-tools are available. The tool handles have a practical hexagonal shape to prevent rolling of a flat surface. Micro-tools are available in 32 different tip configurations mounted in an interchangeable tool base. Many micro-tools with interchangeable tips are also available with shank sizes ranging from 0.025 to 1.0mm (0.001" to 0.040"). Applications for these precision micro-tools extend to microscopy, specimen preparation & manipulation, micro-biology, micro-electronics, forensics and spectroscopy. All tools are especially useful for precision tasks involving probing, manipulating, marking, cutting, assembling and separating on a microscopic level.

Based on the design and craftsmanship used to manufacture the micro-tools there are also small precision tools available with integrated handles and a fixed shank diameter (most 0.8mm). The small precision tools mostly come in sets and deliver excellent value for less demanding applications.

MICRO-TOOLS WITH INTERCHANGEABLE HARDENED TOOL STEEL TIPS



These are the original micro-tools made from first grade hardened tool steel (unless otherwise noted) to manufacture precise and durable tips. Tips are precision ground, lapped and polished with the close tolerances needed for microscopy scale applications. Available in 32 different configurations and shank sizes 0.025, 0.120, 0.250, 0.50 and 1mm for select tips. The micro-tool tips are mounted in anodized tool cones. All micro-tools fit the micro-tools handle (sold separately).

HARDENED TOOL STEEL TIP DIRECTORY			SHANK DIAMETER / PRODUCT NUMBERS				
Tip #	Micro-Tool	Description	0.025mm (0.001")	0.012mm (0.005")	0.25mm (0.010")	0.50mm (0.020")	1mm (0.001")
1		Micro-Needle, Long	13601A	13601	13601B	13601C	13601D
2		Micro-Engraver, Triangular	---	13602B	13602C	13602	13602D
3		Micro-Chisel	13603A	13603B	13603C	13603	13603D
4		Micro-Spade	13604A	13604B	13604C	13604	13604D
5		Micro-Fork	---	---	13605	13605A	---
6		Micro-Mirror, Forward, SS	---	---	---	13606	---
7		Micro-Ruler, 10mm, 0.1mm div.	---	---	---	13607	---
8		Micro-Knife, 20°	13608A	13608B	13608C	13608	13608D
9		Micro-Knife, 45°	13609A	13609B	13609C	13609	13609D
10		Micro-Mirror, Reverse, SS	---	---	---	13603	---
11		Micro-Prober, 90°	---	---	13633	13633A	---
12		Micro-Prober, 45°	---	---	13612A	13612	---
13		Micro-Engraver, Oval	13611A	13611B	13611C	13611A	13611D
14		Micro-Brush, Single Natural Fiber	---	---	---	13614	---

Continued on next page.

HARDENED TOOL STEEL TIP DIRECTORY CONTINUED			SHANK DIAMETER / PRODUCT NUMBERS				
Tip #	Micro-Tool	Description	0.025mm (0.001")	0.012mm (0.005")	0.25mm (0.010")	0.50mm (0.020")	1mm (0.001")
15		Micro-Diamond Scribe, 60°	---	---	13615A	13615	---
16		Micro-Spatula, Flexible, SS	---	---	---	13616	---
17		Micro-Manipulator, A-type	---	---	---	13617	---
18		Micro-Hook, 90°	---	---	13618	13619	---
19		Micro-Burnisher, Glass Sphere	---	---	---	13637	---
20		Micro-Hook, 180°	---	---	13620A	13620	---
21		Micro-Scraper, Triangular	13613A	13613B	13613C	13613	13613D
22		Micro-Saw	---	---	---	13622	---
23M		Micro-Scale, 5mm, 0.1mm div., SS	---	---	---	13629	---
23I		Micro-Scale, 0.2", 0.005" div., SS	---	---	---	13638	---
24		Micro-Needle, Short	13624A	13624	13624B	13624C	13624D
25		Ultra Micro-Needle, Straight, 5µm radius tip, Tungsten	---	13625	13625A	13625B	---
26		Ultra Micro-Needle, 30°, 5µm radius tip, Tungsten	---	13626	13626A	13626B	---
27		Ultra Micro-Needle, 90°, 5µm radius tip, Tungsten	---	13627	13627A	13627B	---
28		Micro-Carbide Scribe, 5 µm radius tip	13628	13628A	13628B	13628C	---
29		Micro-Diamond File, round	---	---	13639A	13639	---
30		Micro-Diamond File, triangular, 1mm edge to edge	---	---	---	13632	---
31		Micro-Loop, 2mm dia	---	---	---	13631	---
32		Micro-Hook, 25mm long, anti snag guard	---	---	---	13634	---

Available Handles and Storage Case:

- 13600 Micro-Tool Handle, 120mm (4.75") long,
light weight, anodized aluminum.....each
13675 Micro-Tool Handle, 120mm (4.75") long,
Stainless Steeleach
13640 Micro-Tool hardwood storage case
for 8 tips and handleeach

Hardened Steel Tips:

- 13601A Micro-Needle, Long, 0.025mm (0.001").....each
13601 Micro-Needle, Long 0.12mm (0.005").....each
13601B Micro-Needle, Long, 0.25mm (0.010").....each
13601C Micro-Needle, Long, 0.50mm (0.020").....each

- 13601D Micro-Needle, Long, 1.0mm (0.040").....each
13602B Micro-Engraver, triangular 0.12mm (0.005")each
13602C Micro-Engraver, triangular 0.25mm (0.010")each
13602 Micro-Engraver, triangular 0.50mm (0.020")each
13602D Micro-Engraver, triangular 1.0mm (0.040")each
13603A Micro-Chisel, 0.025mm (0.001")each
13603B Micro-Chisel, 0.12mm (0.005")each
13603C Micro-Chisel, 0.25mm (0.010")each
13603 Micro-Chisel, 0.50mm (0.020")each
13603D Micro-Chisel, 1.0mm (0.040")each
13604A Micro-Spade, 0.025mm (0.001")each
13604B Micro-Spade, 0.12mm (0.005")each
13604C Micro-Spade, 0.25mm (0.010")each
13604 Micro-Spade, 0.50mm (0.020")each

13604D	Micro-Spade, 1.0mm (0.040").....	each	13638	Micro-Scale, 0.2" with 0.005" div, St. St., 050mm (0.020").....	each
13605	Micro-Fork, 0.25mm (0.010").....	each	13624A	Micro-Needle, Short, 0.025mm (0.001").....	each
13605A	Micro-Fork, 0.50mm (0.020").....	each	13624	Micro-Needle, Short, 0.12mm (0.005").....	each
13606	Micro-Mirror, forward, St. St., 0.50mm (0.020").....	each	13624B	Micro-Needle, Short, 0.25mm (0.010").....	each
13607	Micro-Ruler, 10mm with 0.1mm div, 0.50mm (0.020").....	each	13624C	Micro-Needle, Short, 0.50mm (0.020").....	each
13608A	Micro-Knife, 20° 0.025mm (0.001").....	each	13624D	Micro-Needle, Short, 1.0mm (0.040").....	each
13608B	Micro-Knife, 20° 0.12mm (0.005").....	each	13625	Ultra Micro-Needle, Tungsten, Straight, tip radius 5 µm, 0.12mm (0.005").....	each
13608C	Micro-Knife, 20° 0.25mm (0.010").....	each	13625A	Ultra Micro-Needle, Tungsten, Straight, tip radius 5 µm, 0.25mm (0.010").....	each
13608	Micro-Knife, 20° 0.50mm (0.020").....	each	13625B	Ultra Micro-Needle, Tungsten, Straight, tip radius 5 µm, 0.50mm (0.020").....	each
13608D	Micro-Knife, 20° 1.0mm (0.040").....	each	13626	Ultra Micro-Needle, Tungsten, 30°, tip radius 5 µm, 0.12mm (0.005").....	each
13609A	Micro-Knife, 45° 0.025mm (0.001").....	each	13626A	Ultra Micro-Needle, Tungsten, 30°, tip radius 5 µm, 0.25mm (0.010").....	each
13609B	Micro-Knife, 45° 0.12mm (0.005").....	each	13626B	Ultra Micro-Needle, Tungsten, 30°, tip radius 5 µm, 0.50mm (0.020").....	each
13609C	Micro-Knife, 45° 0.25mm (0.010").....	each	13627	Ultra Micro-Needle, Tungsten, 90°, tip radius 5 µm, 0.12mm (0.005").....	each
13609	Micro-Knife, 45° 0.50mm (0.020").....	each	13627A	Ultra Micro-Needle, tungsten, 90°, tip radius 5 µm, 0.25mm (0.010").....	each
13609D	Micro-Knife, 45° 1.0mm (0.040").....	each	13627B	Ultra Micro-Needle, Tungsten, 90°, tip radius 5 µm, 0.50mm (0.020").....	each
13630	Micro-Mirror, reverse, St. St., 0.50mm (0.020").....	each	13628	Micro-Scribe, Carbide, tip radius 5 µm, 0.025mm (0.001").....	each
13633	Micro-Prober, 90° 0.25mm (0.010").....	each	13628A	Micro-Scribe, Carbide, tip radius 5 µm, 0.12mm (0.005").....	each
13633A	Micro-Prober, 90° 0.50mm (0.020").....	each	13628B	Micro-Scribe, Carbide, tip radius 5 µm, 0.25mm (0.010").....	each
13612A	Micro-Prober, 90° 0.25mm (0.010").....	each	13628C	Micro-Scribe, Carbide, tip radius 5 µm, 0.50mm (0.020").....	each
13612	Micro-Prober, 90° 0.50mm (0.020").....	each	13639A	Micro-Diamond File, Round, 0.25mm (0.010").....	each
13611A	Micro-Engraver, oval, 0.025mm (0.001").....	each	13639	Micro-Diamond File, Round, 0.50mm (0.020").....	each
13611B	Micro-Engraver, oval, 0.12mm (0.005").....	each	13632	Micro-Diamond File, Triangular, 0.050mm (0.020"), triangle 1mm edge to edge	each
13611C	Micro-Engraver, oval, 0.25mm (0.010").....	each	13631	Micro-Loop, 2mm dia, 0.050mm (0.020").....	each
13611	Micro-Engraver, oval, 0.50mm (0.020").....	each	13634	Micro-Hook, anti snag guard, 0.050mm (0.020").....	each
13611D	Micro-Engraver, oval, 1.0mm (0.040").....	each	13637	Micro-Burnisher, Glass Sphere, 0.50mm (0.020").....	each
13614	Micro-Brush, single natural fiber, 0.50mm (0.020").....	each			
13615A	Micro-Diamond Scribe, 60° 0.25mm (0.010").....	each			
13615	Micro-Diamond Scribe, 60° 0.50mm (0.020").....	each			
13616	Micro-Spatula, Flexible, St. St. 0.50mm (0.020").....	each			
13617	Micro-Manipulator, A-type, 0.50mm (0.020").....	each			
13618	Micro-Hook, 90° 0.25mm (0.010").....	each			
13619	Micro-Hook, 90° 0.50mm (0.020").....	each			
13620A	Micro-Hook, 180° 0.25mm (0.010").....	each			
13620	Micro-Hook, 180° 0.50mm (0.020").....	each			
13613A	Micro-Scraper, Triangular, 0.025mm (0.001").....	each			
13613B	Micro-Scraper, Triangular, 0.12mm (0.005").....	each			
13613C	Micro-Scraper, Triangular, 0.25mm (0.010").....	each			
13613	Micro-Scraper, Triangular, 1.0mm (0.040").....	each			
13613D	Micro-Scraper, Triangular, 1.0mm (0.040").....	each			
13622	Micro-Saw, 0.50mm (0.020").....	each			
13629	Micro-Scale, 5mm with 0.1mm div., St. St., 050mm (0.020").....	each			



MICRO-TOOL & TWEEZER REPAIR KIT

Salvage damaged micro-tool tips and tweezers with this handy kit. Use for straightening, sharpening and deburring dull or damaged tips or tweezers. Instructions included.

54528 Micro-Tool / Tweezer Repair Kiteach

MICRO-TOOLS

Hardened Tool Steel Tips

MICRO-TOOL STANDARD SETS WITH HARDENED TOOL STEEL TIPS

The precision micro-tools with hardened tool steel are also available in standard sets for different applications, safely stored in a convenient hardwood case.

- 0.50mm (0.020") shank size
- Sets come with hardwood case, anodized aluminum handle and eight replaceable screw-on tips (shown below each set)
- Note: individual tips may be ordered on previous pages



MICROSCOPIST TOOL SET

Tip #	Micro-Tool	Description	Prod. No.
1		Micro-Needle, Long	13601
3		Micro-Chisel	13603
8		Micro-Knife, 20°	13608
15		Micro-Diamond Scribe, 60°	13615
16		Micro-Spatula, Flexible, Stainless Steel	13616
18		Micro-Hook, 90°	13618
23M		Micro-Scale, 5mm, 0.1mm div. Stainless Steel	13623
25		Ultra Micro-Needle, Straight, 5µm radius tip, Tungsten	13625

13610 Microscopist Tool Set.....each

MICRO-NEEDLE TOOL SET

Tip #	Micro-Tool	Description	Prod. No.
1		Micro-Needle, Long	13601
11		Micro-Prober 90°	13633
12		Micro-Prober 45°	13612
18		Micro-Hook 90°	13619
20		Micro-Hook 180°	13620
24		Micro-Needle, Short	13624
25		Ultra Micro-Needle, Straight, 5µm radius tip, Tungsten	13625
15		Micro-Diamond Scribe, 60°	13615

54458 Micro-Needle Probe Tool Set.....each



MICRO-CUTTING TOOL SET

Tip #	Micro-Tool	Description	Prod. No.
2		Micro-Needle, Long	13602
3		Micro-Chisel	13603
4		Micro-Knife, 20°	13604
8		Micro-Knife, 20°	13608
9		Micro-Knife, 45°	13609
13		Micro-Engraver, Oval	13611
28		Micro-Carbide Scribe, 5µm radius tip	13628
21		Ultra Micro-Needle, Straight, 5µm radius tip, Tungsten	13613

MICRO-PLACEMENT AND MANIPULATING TOOL SET

Tip #	Micro-Tool	Description	Prod. No.
5		Micro-Fork	13605
7		Micro-Ruler, 10mm, 0.1mm div.	13607
12		Micro-Prober 45°	13612
14		Micro-Brush, Single Natural Fiber	13614
16		Micro-Spatula, Flexible, Stainless Steel	13616
17		Manipulator, A-type	13617
18		Micro-Hook, 90°	13619
25		Ultra Micro-Needle, Straight, 30°, 5µm radius tip, Tungsten	13625

54457 Micro-Cutting Tool Seteach

54459 Micro-Placement and Manipulating Tool Seteach

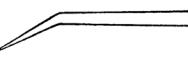
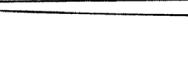
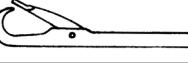
MICRO-TOOLS WITH INTERCHANGEABLE STAINLESS STEEL TIPS



All the micro-tools with stainless steel tips are forged from 304 grade stainless steel, followed by precision grinding, lapping and polishing steps to create the ultimate in precision manipulation tools. The stainless steel micro-tools withstand corrosion better than tool steels are more suitable for moist or wet environments encountered in pharmaceutical, medical, biological and biochemistry applications. The micro-tools with stainless steel tips are mounted in stainless steel tool cones. Stainless steel tools are not as hard as the micro-tools made from hardened tool steels. All micro-tools fit both the standard aluminum and the stainless steel micro-tool handle (sold separately).

STAINLESS STEEL TIP DIRECTORY			SHANK DIAMETER / PRODUCT NUMBERS			
Tip #	Micro-Tool	Description	0.012mm (0.005")	0.25mm (0.010")	0.40mm (0.016")	0.50mm (0.020")
1		Micro-Needle, Long, SS	13671	13671A	13671B	---
3		Micro-Chisel, SS	13673	13673A	13673B	13673C
4		Micro-Spade, SS	13674	13674A	13674B	---
6		Micro-Mirror, Forward, SS	---	---	---	13676
7		Micro-Ruler, 10mm, 0.1mm div., SS	---	---	---	13677
8		Micro-Knife, 20°, SS	13608A	13608B	13608C	13608
9		Micro-Knife, 45°, SS	13609A	13609B	13609C	13609
10		Micro-Mirror, Reverse, SS	---	---	---	13680
11		Micro-Prober, 90°, SS	---	13681A	13681B	---
12		Micro-Prober, 45°, SS	---	13682A	13682B	---
13		Micro-Engraver, Oval, SS	13683	13683A	13683B	---
15		Micro-Diamond Scribe, 60°, SS	---	---	13685	---
16		Micro-Spatula, Flexible, SS	---	---	13686	---
18		Micro-Hook, 90°, SS	---	13688A	13688B	---
21		Micro-Scraper, Triangular, SS	13684	13684A	13684B	---
23M		Micro-Scale, 5mm, 0.1mm div., SS	---	---	---	13687
23I		Micro-Scale, 0.2", 0.005" div., SS	---	---	---	13690
24		Micro-Needle, Short, SS	13689	13689A	13689B	---
25		Ultra Micro-Needle, Straight, 20µm radius tip, SS	---	---	---	13691

continued on next page

STAINLESS STEEL TIP DIRECTORY			SHANK DIAMETER / PRODUCT NUMBERS			
Tip #	Micro-Tool	Description	0.012mm (0.005")	0.25mm (0.010")	0.40mm (0.016")	0.50mm (0.020")
26		Ultra Micro-Needle, 30°, 20µm radius tip, SS	---	---	---	13692
27		Ultra Micro-Needle, 90°, 20µm radius tip, SS	---	---	---	13693
32		Micro-Hook, 25mm long, anti snag guard, tool steel / gold plated	---	---	---	13696

Available Handles and Storage Case:

13600	Micro-Tool Handle, 120mm (4.75") long, light weight, anodized aluminum.....	each
13675	Micro-Tool Handle, 120mm (4.75") long, Stainless Steel	each
13640	Micro-Tool Hardwood Storage Case for 8 tips and handle	each

Stainless Steel Tip Ordering Information:

13671	Micro-Needle, Long 0.12mm (0.005"), St.St.....	each	13681A	Micro-Prober, 90°, 0.25mm (0.010"), St. St	each
13671A	Micro-Needle, Long, 0.25mm (0.010"), St. St.....	each	13681B	Micro-Prober, 90°, 0.40mm (0.016"), St. St	each
13671B	Micro-Needle, Long, 0.40mm (0.016"), St. St.....	each	13682A	Micro-Prober, 45°, 0.25mm (0.010"), St. St	each
13673	Micro-Chisel, 0.12mm (0.005"), St. St	each	13682B	Micro-Prober, 45°, 0.40mm (0.016"), St. St	each
13673A	Micro-Chisel, 0.25mm (0.0010"), St. St	each	13683	Micro-Engraver, Oval, 0.12mm (0.005"), St. St.....	each
13673B	Micro-Chisel, 0.40mm (0.016"), St. St	each	13683A	Micro-Engraver, Oval, 0.25mm (0.010"), St. St.....	each
13673C	Micro-Chisel, 0.50mm (0.020"), St. St	each	13683B	Micro-Engraver, Oval, 0.40mm (0.016"), St. St.....	each
13674	Micro-Spade, 0.12mm (0.005"), St. St	each	13685	Micro-Diamond Scribe, 60°, 0.40mm (0.016"), St. St.....	each
13674A	Micro-Spade, 0.25mm (0.0010"), St. St	each	13686	Micro-Spatula, Flexible,0.40mm (0.016"), St. St.....	each
13674B	Micro-Spade, 0.40mm (0.016"), St. St	each	13688A	Micro-Hook, 90°, 0.25mm (0.010"), St. St.....	each
13676	Micro-Mirror, Forward, 0.50mm (0.020"), St. St	each	13688B	Micro-Hook, 90°, 0.40mm (0.016"), St. St.....	each
13677	Micro-Ruler, 10mm with 0.1mm div, 0.50mm (0.020"), St. St.....	each	13684	Micro-Scraper, Triangular, 0.12mm (0.005"), St. St	each
13678	Micro-Knife, 20°, 0.12mm (0.005"), St. St	each	13684A	Micro-Scraper, Triangular, 0.25mm (0.010"), St. St	each
13678A	Micro-Knife, 20°, 0.25mm (0.010"), St. St	each	13684B	Micro-Scraper, Triangular, 0.40mm (0.016"), St. St	each
13678B	Micro-Knife, 20°, 0.40mm (0.016"), St. St	each	13687	Micro-Scale, 5mm with 0.1mm div., 050mm (0.020"), St. St.....	each
13678C	Micro-Knife, 20°, 0.50mm (0.020"), St. St	each	13690	Micro-Scale, 0.2" with 0.005" div, 0.50mm (0.020"), St. St.....	each
13679	Micro-Knife, 45°, 0.12mm (0.005"), St. St	each	13689	Micro-Needle, Short,0.12mm (0.005"), St. St.....	each
13679A	Micro-Knife, 45°, 0.25mm (0.010"), St. St	each	13689A	Micro-Needle, Short, 0.25mm (0.010"), St. St.....	each
13679B	Micro-Knife, 45°, 0.40mm (0.016"), St. St	each	13689B	Micro-Needle, Short, 0.40mm (0.016"), St. St.....	each
13680	Micro-Mirror, Reverse 0.50mm (0.020"), St. St.....	each	13691	Ultra Micro-Needle, Straight, tip radius 20 µm, 0.50mm (0.020"), St. St.....	each
			13692	Ultra Micro-Needle, 30°, tip radius 20 µm, 0.50mm (0.020"), St. St.....	each
			13693	Ultra Micro-Needle, 90°, tip radius 20 µm, 0.50mm (0.020"), St. St.....	each
			13696	Micro-Hook, 0.3/1mm, anti snag guard, 0.050mm (0.020"), St. St.....	each

MICRO-TOOLS

Stainless Steel Tips

MICRO-TOOL STANDARD SETS WITH HARDENED TOOL STEEL TIPS

The precision micro-tools with stainless steel tips are also available in standard sets for different applications, safely stored in a convenient hardwood case.

- 0.50mm (0.020") shank size; 0.40mm (0.016") special shank size available for microscopy, cutting and probing applications
- Sets come with hardwood case, stainless steel handle and eight replaceable screw-on tips (shown below each set)
- Note: individual tips may be ordered on previous pages

**MICRO-TOOL STAINLESS STEEL STANDARD SET**

0.50mm (0.020") Shank Size

Tip #	Micro-Tool	Description	Prod. No.
3		Micro-Chisel, SS	13673C
6		Micro-Mirror, Forward, SS	13676
8		Micro-Knife, 20°, SS	13578C
23M		Micro-Scale, 5mm, 0.1mm div., SS	13687
71		Ultra Micro-Needle, Straight, 20µm radius tip, SS	13691
72		Ultra Micro-Needle, 30°, 20µm radius tip, SS	13692
27		Ultra Micro-Needle, 90°, 20µm radius tip, SS	13693
32		Micro-Hook, 25mm long, anti snag guard, SS	13696

13670 Micro-Tool Stainless Steel Standard Set.....each

MICRO-TOOL STAINLESS STEEL MICROSCOPIST SET

0.40mm (0.016") Shank Size

Tip #	Micro-Tool	Description	Prod. No.
1		Micro-Needle, Long, SS	13671B
3		Micro-Chisel, SS	13673B
8		Micro-Knife, 20°, SS	13678B
12		Micro-Prober, 45°, SS	13682B
16		Micro-Spatula, Flexible, SS	13686
18		Micro-Hook, 90°, SS	13688B
23M		Micro-Scale, 5mm, 0.1mm div., SS	13687
24		Micro-Needle, Short, SS	13689B

13670-10 Microscopist Stainless Steel Tool Set.....each



MICRO-NEEDLE PROBER SET

0.40mm (0.016") Shank Size

Tip #	Micro-Tool	Description	Prod. No.
1		Micro-Needle, Long, SS	13671B
6		Micro-Mirror, Forward, SS	13676
7		Micro-Scale, 5mm, 0.1mm div. SS	13677
11		Micro-Prober, 90°, SS	13681B
12		Micro-Prober, 45°, SS	13682B
16		Micro-Spatula, Flexible, SS	13686
18		Micro-Hook, 90°, SS	13688B
24		Micro-Needle, Short, SS	13689B

MICRO-CUTTING TOOL SET

0.40mm (0.016") Shank Size

Tip #	Micro-Tool	Description	Prod. No.
1		Micro-Needle, Long, SS	13671B
3		Micro-Chisel, SS	13673B
4		Micro-Spade, SS	13674B
6		Micro-Mirror, Forward, SS	13676
8		Micro-Knife, 20°, SS	13678B
9		Micro-Knife, 45°, SS	13679B
13		Micro-Engraver, Oval, SS	13683B
21		Micro-Scraper, Triangular, SS	13684B

13670-20 Micro-Tool Stainless Steel Probe Tool Set.....each

13670-30 Micro-Cutting Stainless Steel Tool Set.....each

MICRO-TOOLS WITH INTERCHANGEABLE CARBIDE TIPS



The carbide tipped micro-tools have been developed for applications where cutting needs to be done on the micro scale. The micro-grain tungsten carbide tips are the hardest and most durable cutting tips available in the micro-tool line. The carbide micro-tools need precise holding for cutting and are more brittle than comparable tools made from tool steel or high speed steel tools. They are available in 8 different configurations and tip sizes of 0.25, 0.50mm and 1mm. The micro-tool tips are mounted in anodized tool cones. All carbide micro-tools fit the micro-tool handle (sold separately).

CARBIDE TIP DIRECTORY			SHANK DIAMETER / PRODUCT NUMBERS		
Tip #	Micro-Tool	Description	0.025mm (0.010")	0.50mm (0.020")	1.0mm (0.040")
1		Micro-Needle, Long, Carbide	13701	13701A	13701B
2		Micro-Engraver, Triangular, Carbide	13702	13702A	13702B
3		Micro-Chisel, Carbide	13703	13703A	13704B
4		Micro-Spade, Carbide	13704	13704A	13704B
8		Micro-Knife, 20°, Carbide	13708	13708A	13708B
9		Micro-Knife, 45°, Carbide	13709	13709A	13709B
13		Micro-Engraver, Oval, Carbide	13705	13705A	13705B
21		Micro-Scraper, Triangular, Carbide	13706	13706A	13706B

Available Handles and Storage Case:

- 13600 Micro-Tool Handle, 120mm (4.75") long, light weight, anodized aluminum each
 13675 Micro-Tool Handle, 120mm (4.75") long, Stainless Steel..... each
 13640 Micro-Tool hardwood storage case for 8 tips and handle..... each

Carbide Tip Ordering Information:

- 13701 Micro-Needle, Long 0.12mm (0.005"), Carbide each
 13701A Micro-Needle, Long, 0.25mm (0.010"), Carbide each
 13701B Micro-Needle, Long, 0.40mm (0.016"), Carbide each
 13702 Micro-Engraver, Triangular, Carbide, 0.25mm (0.010") each
 13702A Micro-Engraver, Triangular, Carbide, 0.50mm (0.020") each
 13702B Micro-Engraver, Triangular, Carbide, 1.0mm (0.040") each
 13703 Micro-Chisel, Carbide, 0.25mm (0.010") each
 13703A Micro-Chisel, Carbide, 0.50mm (0.020") each
 13703B Micro-Chisel, Carbide, 1.0mm (0.040") each
 13704 Micro-Spade, Carbide, 0.25mm (0.010") each
 13704A Micro-Spade, Carbide, 0.50mm (0.020") each
 13704B Micro-Spade, Carbide, 1.0mm (0.040") each
 13708 Micro-Knife, 20°, Carbide, 0.25mm (0.010") each
 13708A Micro-Knife, 20°, Carbide, 0.50mm (0.020") each
 13708B Micro-Knife, 20°, Carbide, 1.0mm (0.040") each
 13709 Micro-Knife, 45°, Carbide, 0.25mm (0.010") each
 13709A Micro-Knife, 45°, Carbide, 0.50mm (0.020") each
 13709B Micro-Knife, 45°, Carbide, 1.0mm (0.040") each
 13705 Micro-Engraver, oval, Carbide, 0.25mm (0.010") each
 13705A Micro-Engraver, oval, Carbide, 0.50mm (0.020") each
 13705B Micro-Engraver, oval, Carbide, 1.0mm (0.040") each
 13706 Micro-Scraper, triangular, Carbide, 0.25mm (0.010") each
 13706A Micro-Scraper, triangular, Carbide, 0.50mm (0.020") each
 13706B Micro-Scraper, triangular, Carbide, 1.0mm (0.040") each



MICRO-TOOL CARBIDE CUTTING TOOLS SET

The precision micro-cutting tools with carbide tips are also available in a standard set for different applications, safely stored in a convenient hardwood case.

- 0.50mm (0.020") shank size
- Set comes with hardwood case, anodized aluminum handle and 8 replaceable screw-on tips in anodized aluminum holders
- Note: individual tips may be ordered on previous page

Tip #	Micro-Tool	Description	Prod. No.
1		Micro-Needle, Long, Carbide	13701A
2		Micro-Engraver, Triangular, Carbide	13702A
3		Micro-Chisel, Carbide	13703A
4		Micro-Spade, Carbide	13704A
8		Micro-Knife, 20°, Carbide	13708A
9		Micro-Knife, 45°, Carbide	13709A
13		Micro-Engraver, Oval, Carbide	13705A
21		Micro-Scraper, Triangular, Carbide	13706A

13700 Micro-Tool Carbide Cutting Tool Seteach



MICRO-TOOL TECHNICIAN SET

This set contains 8 tool tips with integrated, color-coded handles that are light weight, non-rolling and well balanced. The overall tool length is approximately 127mm (5"). Tip size is 0.89mm (0.030") and the material is oil-hardened tool steel, nickel plated.

- 0.89mm (0.030") tip size
- Set comes with hardwood case and 8 tools: Micro Measuring Scale, Micro Diamond Scribe, Micro-Graver, Micro-Knife, Micro-Chisel, 90° Micro-Probe, 30° Micro-Probe, Straight Micro-Probe
- Note: tips are non-interchangeable

54440 Micro-Tool Technician Seteach



PRECISION CUTTING SET

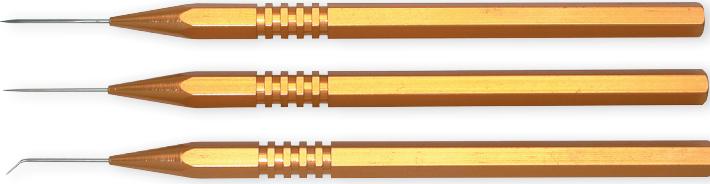
This set contains 5 hardened steel micro-tools in a plastic case.

- 1.63 x 12.7mm long (0.063" x 0.5") tip size; 124mm (4.88") overall tool length
- Set contains: Scriber, Chisel, Knife, Triangular Scraper, Oval Graver

54444 Precision Cutting Seteach

MICRO-TOOLS

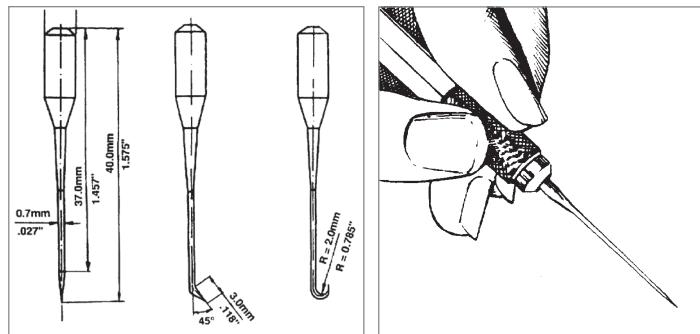
Hardened Steel Tips; Interchangeable Tips; Needle Probe Set; Measuring Scales



TINITOOL SET

This set consists of three different tools: Straight Sharp Scriber, Sharp Triangular Scriber and Bent Probe with Sharp Tip. Tip size is 0.8 x 25mm (0.03" x 1") long. Tip diameter is 0.10mm (0.040"). Overall tool length is approximately 140mm (5.5"). Tips are nickel-plated and hardened steel.

54442	Tinitool Set.....	each
54442-11	Straight Scriber w/ Sharp Tip	each
54442-12	Sharp Triangular Scriber	each
54442-13	Bent Probe w/ Sharp Tip	each



NEEDLE PROBE SET

With Interchangeable Tips

The set includes one lightweight, precision handle and four interchangeable hardened steel tools for manipulating, scribing, spring assembly and probing. The precision handle is finely balanced, non-rolling, gold anodized with a split collet mounting and knurled lock nut. Length is 120mm (4.7").

The precision forged tools are made of hardened nickel-plated tool steel, 40mm (1.575") long with a 2mm (0.0785") diameter shank reduced to a 0.7mm (0.027") diameter. All tools are tapered to a sharp tip. Plastic container.

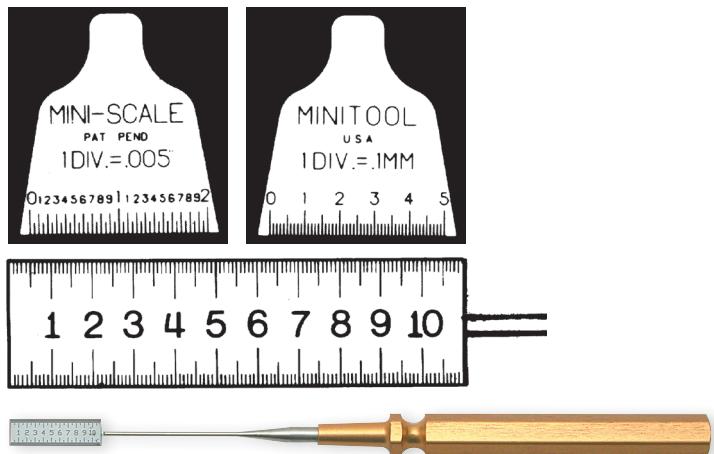


HEAVY DUTY MICRO-TOOL SET

These heavy duty micro-tools are made from fine grain high speed steel and are designed for applications where extra strength is required without sacrificing micro-tool precision. They are durable and strong with interchangeable tips available in 1mm (0.40") diameter only. Tips fit inside the PV-081 precision vise handle.

Tip #	Micro-Tool	Description
1		Micro-Needle, Long
3		Micro-Chisel
8		Micro-Knife, 20°
9		Micro-Knife, 45°
13		Micro-Engraver, Oval
15		Micro-Diamond Scribe

13710 Heavy Duty Micro-Tool Set in Plastic Caseeach



MINIATURE MEASURING SCALES AND RULER

These unique measuring scales and ruler may be used directly under a microscope or magnifier for speedy measuring of small parts, grooves, slots, line widths, holes, and chamfers. Precision fabricated from etched stainless steel, the scales and ruler are spot welded to bendable stainless steel shafts and mounted in gold colored, non-rolling handles. Each scale or ruler is individually packaged in a plastic enclosure. Overall length is 83mm (3-1/4").

13636	0.200" Scale, Calibrated to 0.005"	each
13623	5mm Scale, Calibrated to 0.1mm, 5mm Range.....	each
13655	10mm Micro-Ruler, Calibrated to 0.1mm, 10mm range	each

OPTICAL FIBER CLEAVING TOOLS

Precision Hand-Held Instruments for Scoring and Cleaving All Types of Optical Fiber

The retractable diamond cleaver is retained in a quality metal casing with pocket clasp. Ground and polished natural diamond has a 90° included angle with a relief angle of 30°. 1.5 x 3mm (.06" x .12"). Overall length: 133mm (5.25").

The carbide cleaver is made from a solid carbide rod. It has two angled sides that intersect into a very sharp cutting edge of approximately 4mm in length. A third angle is lapped on the very tip to prevent breakage. Carbide is mounted into a non-rolling hexagonal anodized aluminum holder. 2.0 x 10mm (.08" x .4"). Overall length: 120mm (4.75").



54452-2 Optical Fiber Cleaver, Diamond..... each



54452-2 Optical Fiber Cleaver, Diamond..... each

HIGH PRECISION DIAMOND SCRIBING TOOLS

These professional scribing tools are used in the electronics industry for scribing of delicate components or any other scribing tasks calling for precision work. All scribing tools have hardness-oriented, quality, industrial diamonds for outstanding performance. A 60° included angle is standard. Diamond configuration: all diamond bases are 0.25mm (.01") diameter with a final tip radius of 5µm. Depth of diamond (tip to base) is 0.15mm (.006").

Note: tools are available in straight or bent tip configuration with a variety of shaft diameters and tip lengths but the actual diamonds are consistent in size.



54410	Diamond Scribe Set of 8 w/Handle	each
54411	Tool Handle, 4.75" (120mm) long, light weight, anodized aluminum	each
54412	Shaft: 0.81mm (.032") dia., Tip: 0.50mm (.020") dia. x 1.5mm (.060") length.....	each
54413	Shaft: 0.81mm (.032") dia., 30° angle, Tip: 0.50mm (.020") dia. x 1.5mm (.060") length.....	each
54414	Shaft: 0.81mm (.032") dia., ..Fine Tip: 0.25mm (.010") dia. x 1.5mm (.060") length.....	each
54415	Shaft: 0.81mm (.032") dia., 30° angle, Fine Tip: 0.25mm (.010") dia. x 1.5mm (.060") length	each
54416	Shaft: 0.81mm (.032") dia., Tip: 0.50mm (.020") dia. x 5mm (.200") length.....	each
54417	Shaft: 0.81mm (.032") dia., 30° angle, Tip: 0.50mm (.020") dia. x 5mm (.200") length.....	each
54418	Heavy Duty Shaft: 1.27mm (.050") dia., Tip: 0.84mm (.033") dia. x 3.18mm (.125") length	each
54419	Heavy Duty Shaft: 1.27mm (.050") dia., 30° angle, Tip: 0.84mm (.033") dia. x 3.18mm (.125")	each

FINE POINT DIAMOND SCRIBERS

Applications include scribing under a microscope, precision scribing and repairing thin film circuits, micro circuits, small circuit boards or integrated circuits. This fine point scribe (0.005" radius) may also be used to clean or trim circuits or break or build up new lines. Overall length is 120mm (4.72") and the diamond has a 60° included angle. Tip shaft diameters are 0.8mm (1/16") x 8mm (5/16") long.



54466	Fine Point Diamond Scriber, Straight	each
54467	Fine Point Diamond Scriber, Bent 30°.....	each

MICRO-TOOLS

Diamond Scribing Tools

HEXAGONAL ALUMINUM HANDLES WITH POLISHED DIAMOND TIPS

These general purpose scribing tools are suited to a wide range of industrial and laboratory uses. Each of these high-quality hand-held tools is equipped with a polished quality industrial diamond that is vacuum bonded to a 1.57mm (0.062") diameter steel-tipped shaft. Scribes fine lines in a wide range of materials, from metals to silicon to plastics.

The unique high-precision tips of these scribes allow greater accessibility to smaller work areas and make it possible to continuously view what is being scribed. They are ideal for applications that require very low tolerances.



54482 Diamond Scriber, Head Angle 30°, Tip Included Angle 60°, Overall Length 13.2cm (5.19") each



54483 Diamond Scriber, Head Angle 30°, Tip Included Angle 90°, Overall Length 17cm (6.69") each

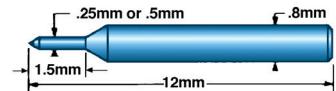


54482 Diamond Scriber, Straight Head, Tip Included Angle 90°, Overall Length 17.1cm (6.75") each

HIGH PRECISION PIN VISE HANDLE

This high precision pin vise handle is machined from the finest material. It is light weight and versatile, with a precision drawbar for positive collet chuck clamping. Hexagonal barrel is 8 x 100mm (0.31" x 4") long and has a knurled finger grip for positive precision control in handling and tool manipulation. Overall length is 115mm (4.53") fully assembled.

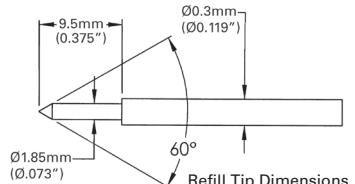
Supplied with a standard collet chuck (bore diameter 2mm [0.078"]) and collet adapter (bore diameter 0.8mm [0.030"]) for diamond stylus chucking (diamond stylus shown below but is only available separately). Separate diamond stylus has a 60° included angle, 0.25mm and 0.5mm tip diameters each with a 0.8mm diameter mounting shaft. Tip radius is 0.013mm (0.0005").



13662 Precision Pin Vise Handle each
13663 Diamond Scribe, 0.25mm Tip Diameter each
13664 Diamond Scribe, 0.5mm Tip Diameter each

DELUXE DIAMOND SCRIBING PEN

High-quality precision diamond scribing tool in a durable chromium pen housing. Screw-type precision mechanism works smoothly and diamond mounting (quality industrial diamond tip) is firmly affixed when exposed; no wobble. Twist-type barrel exposes or retracts diamond tip. Refills available. Diamond is ground and lapped to a 60° included angle. Overall length is 133mm, weight is 26 grams.



54468 Deluxe Diamond Scribing Pen each
54469 Diamond Refill each

3M™ DIAMOND SCRIBER

Plastic pen-like handle with steel shaft; diamond tip. Marks glass slides, scribes metal, scores for breaking glass, and glass knives. Tip included angle: 90°; shaft diameter: 3.15mm (0.124"); shaft length from handle, with diamond: 5.9mm (0.232"); diamond diameter, exposed: 1.14mm (0.045"); diamond length, exposed: 0.86mm (.034"); overall length, without cap: 155.6mm (6.125").



54463 3M™ Diamond Scriber each

GLASCRIBE®

Clips to pocket like a ballpoint pen. Retractable tungsten carbide tip to scribe on glass, ceramics and plastics. Tip included angle: 40°; shaft diameter: 1.55mm (0.061"); tip length (angled area): 2.13mm (0.084"); shaft length from pen body: 4.24mm (0.167").



829 Glascribe® Tungsten Carbide Scriber each

SAPPHIRE BURNISHING TOOL

Outperforms Any Stone for the Finest Burnishing

The sapphire burnishing tool is indispensable for delicate burnishing of fine instrument parts such as miniature pivot points, shafting and probes. Materials can be hard steel, carbide, glass and ceramics. It may also be used for deburring of soft and hard materials.

The precision ground sapphire (ground on all 5 exposed surfaces) is mounted in a non-rolling hexagonal gold anodized aluminum holder. Sapphire dimensions: 1.5 x 2.3 x 14mm exposed sapphire (0.06" x 0.09" x 0.56"). Mounting: structural epoxy; overall length: 120mm (4.72").



54446 Sapphire Burnishing Tool each

MICRO PICKS

Stainless steel, for dissecting, manipulating or holding small tissues or objects, wooden handle, needle diameter is 0.63mm (0.025").



13531 Micro Pick, Angled, 19.0cm L each



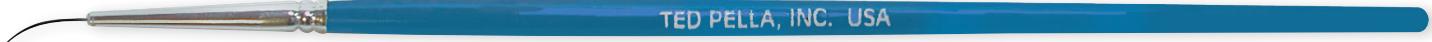
13532 Micro Pick, Straight, 18.4cm L each

MICRO-TOOLS

Micro Eyelash; Ultrafine Single Deer Hair; Pin Vise; Micro Needles

MICRO EYELASH

A carefully selected No. 1 Superfine Eyelash is attached to a fine wooden handle for delicate manipulation of ultra-thin sections in the knife boat of an ultramicrotome or wherever delicate teasing or manipulation is required. These special eyelashes are chosen due to their taper and strength and make an excellent addition to your dissection tools.



TED PELLA, INC. USA

113 No. 1 Superfine Eyelash each

ULTRAFINE SINGLE DEER HAIR

Selected, single deer hair brush for manipulating thin sections on water or separating small particles using a microscope. The ultrafine deer hair is attached to a 159mm (6.25") long wooden handle.



TED PELLA, INC. USA

119 Ultrafine Single Deer Hair w/ Handle each

PIN VISE AND MICRO NEEDLES

This quality pin vise, with a wide choice of micro needles, is ideally suited for probing, picking, scribing, cleaning, marking and similar fine work. There is a wide choice of fine pointed needles for different grades of precision work.

- Straight and angled stainless steel needles with 0.25, 0.40 and 0.55 mm diameter
- Very fine and straight short micro needles with a 0.1mm diameter
- Sharp carbon tool steel needle (nickel plated) with a diameter of 0.35mm

The stainless steel micro needles are more flexible and suitable for probing, picking and sorting. They are also more chemically resistant. The carbon steel needle is stiffer and harder and more suitable for marking, scribing and cleaning applications.

The precision pin vise has a knurled brass handle for a firm grip and a precision carbon steel collet for holding the needles. 80mm (3.125") long. The maximum needle diameter capacity for the pin vise is 0.70mm (0.028").



13560 Pin Vise Without Needles, 80mm (3.125") L each

MICRO NEEDLES FOR PIN VISE

Stainless Steel Micro Needles

13561-10	Straight Stainless Steel Needles 0.25mm Diameter, 36mm L	pkg/10
13561-20	Straight Stainless Steel Needles 0.40mm Diameter, 36mm L	pkg/10
13561-30	Straight Stainless Steel Needles 0.55mm Diameter, 36mm L	pkg/10
13561-50	Straight Stainless Steel Needles 0.1mm Diameter, 12mm L	pkg/10
13562-10	Angled Stainless Steel Needles 0.25mm Diameter, 36mm L	pkg/10
13562-20	Angled Stainless Steel Needles 0.40mm Diameter, 36mm L	pkg/10
13562-30	Angled Stainless Steel Needles 0.55mm Diameter, 36mm L	pkg/10

Carbon Steel Micro Needles

13565-10	Straight Sharp Carbon Tool Steel Needles 0.35mm Diameter, 30mm L, Nickel Plated.....	pkg/10
----------	--	--------

PIN VISES WITH 10 STAINLESS STEEL NEEDLES



13561 Pin Vise with 10 (13561-10) Straight, 0.25mm Diameter Stainless Steel Needles each



13562 Pin Vise with 10 (13562-10) Angled, 0.25mm Diameter Stainless Steel Needles each



13562 Pin Vise with 10 (13565-10) Straight, 0.35mm Diameter Sharp Carbon Steel (Nickel Plated) Needles each

ULTRAFINE TUNGSTEN MANIPULATOR PROBE

This probe consists of a fine tungsten needle with 0.6µm radius in a quality precision pin vise. The ultrafine point is ideal for probing and manipulating very small particles or feature under a microscope. The tungsten needle has a diameter of 0.52mm (0.020"), a length of 25mm (1") and a sharp tip radius of 0.6µm. The precision pin vise has knurled brass handle for a firm grip and a precision carbon steel collet for holding the tungsten probe. 80mm (3.125") long. The maximum probe diameter for the pin vise is 0.70mm (0.028"). The sharp tungsten needle can also be used in other needle holders or for custom made probing systems.



13570 Ultrafine Tungsten Manipulator Probe each

13570-10 Replacement Tungsten Needle each

SPEEDLES SET

Speedles are miniature needle-like spatulas with five different blade sizes from 200 – 1180µm. Handles are color coded for easy identification, includes protective cap. Ideal for making micro dispersions directly on SEM specimen stubs. Properly shaped for applying micro amounts of adhesive for tacking down specimens. Can also be used for applying small droplets of oil. Another use is specimen manipulation under the light microscope. Overall length 63.5mm (2.5"), sold in sets of five.



Tip Widths:

Red	200µm
Green	360µm
Blue	560µm
Gold	800µm
Black	1180µm



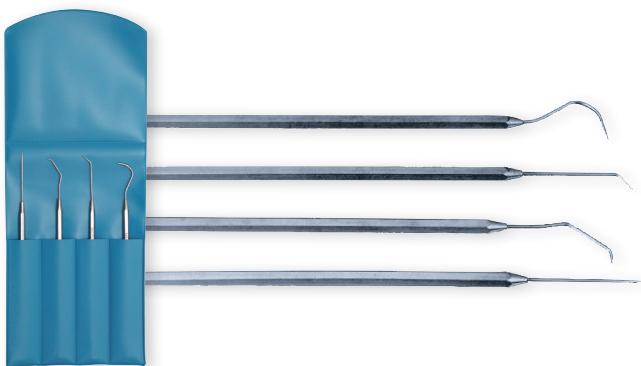
Removing Protective Cap



13580 Speedles Set, 200, 360, 560, 800, 1180µm each

MICRO-TOOLS

Micro Probes



MICRO PROBES

Quality stainless steel micro probes for probing, picking, poking or moving. Set of four comes in a vinyl pouch. Probes have very fine tips. Pouch and probes may be ordered separately.

13550	Micro Probes, Set of 4 w/Pouch.....	each
13551	Probe, Straight Needle, 14cm (5.5")	each
13552	Probe, Hook Curve, 14cm (5.5")	each
13553	Probe, Bent Needle, 14cm (5.5")	each
13554	Probe, Large Curve, 14cm (5.5").....	each
13550-P	Probe Pouch Only	each



PELCO® CARBO-PROBE™ SV ESD SAFE PVDF PROBES PELCO® CARBO-PROBE™ CP ESD SAFE PEEK PROBES

The PELCO® Carbo-Probe™ SV tools are made of ESD safe PVDF (polyvinylidene fluoride) and CP tools are made of ESD safe PEEK (polyetheretherketone), both are reinforced with conducting carbon fibers. They are wear resistant and the soft tips do not scratch delicate surfaces. Ideal for positioning small specimens/parts/components. Also suited for forensic and microscopy sampling applications. Three different types or a complete set. Available with a straight or curved point being flat on the opposite end or as a double spatula. Temperature resistant up to 300°C (575°F)



13555	PELCO® Carbo-Probe™ SV (PVDF), Set of 3.....	each
13555-1	PELCO® Carbo-Probe™ SV (PVDF), MPT-1R, Straight Point, 150mm (5.9")	each
13555-2	PELCO® Carbo-Probe™ SV (PVDF), MPT-2, Curved Point, 148mm(5.8").....	each
13555-3	PELCO® Carbo-Probe™ SV (PVDF), MPT-3, Double Spatula, 140mm (5.5").....	each
5097	PELCO® Carbo-Probe™ CP (PEEK), Set of 3.....	each
5094	PELCO® Carbo-Probe™ CP (PEEK), MPT-1R, Straight Point, 150mm L (5.9").....	each
5095	PELCO® Carbo-Probe™ CP (PEEK), MPT-2, Straight Point, 148mm L (5.8").....	each
5096	PELCO® Carbo-Probe™ CP (PEEK), MPT-3, Straight Point, 140mm L (5.5").....	each



PELCO® NYLON-PROBE

Stabilized Glass Fiber Reinforced Nylon Probes

PELCO® Nylon-Probe tools have the same design and dimensions as the PELCO® Carbo-Probe™ tools but are made of stabilized glass fiber reinforced nylon. This material exhibits high strength, good wear resistance and moderate to good chemical resistance. Temperature resistant up to 120°C (248°F)



13557	PELCO® Nylon Probe Set of 3 (Straight, Curved, Spatula) in Plastic Pouch	each
13557-1	PELCO® Nylon Probe MPT-1, Straight Point, 150mm (5.9")	each
13557-2	PELCO® Nylon Probe MPT-2, Curved Point, 148mm (5.8")	each
13557-3	PELCO® Nylon Probe MPT-3, Double Spatula, 140mm (5.5")	each