

Accessories, Supplies, Equipment and Tools



Sectioning



Mounting/Embedding



Grinding



Fine Grinding/Lapping



Polishing



Inspection, Microscopy & Analysis



XP PRECISION SECTIONING SAW & DIAMOND SECTIONING / WAFERING BLADES

Manual, precision sectioning saw designed for cutting printed circuit boards, ceramics, metal samples and composite components. Can also be used as a precision cut-off saw for small rods, wires, bars and tubes. Large working area of 6x10" with coolant bath below. The saw housing and table are made of non-corroding sturdy cross linked polyethylene to ensure durability. Powerful 1/4 HP (115V/1.75A/200W) motor with approximate variable speed of 400-3250 rpm, allows for selecting the best cutting speed for a variety of sample materials. Uses 4" and 5" diamond wafering blades with 5/8" (16mm) arbor holes.

Includes a 4" diamond wafering blade with medium/coarse grit in high concentration (#812-316-5), dressing stick and water soluble coolant.

Maximum cutting width: 3-1/2"; Maximum cutting depth: 4" blade = 1"; 5" blade = 1-1/2"

220V version is NOT available; use Product No. 54585, 500W Step Down Transformer with 220V power outlets.

812-300	XP Precision Sectioning Saw, 115V	each
54585	500W Step Up / Step Down Voltage Transformer	each

DIAMOND SECTIONING / WAFERING BLADES

812-310	3" x 0.010" x 1/2" Hole, Medium/Fine Grit - Low Concentration	each
812-311	3" x 0.010" x 1/2" Hole, Medium/Coarse Grit - High Concentration	each
812-312	3" x 0.010" x 1/2" Hole, Fine Grit - High Concentration	each
812-315	4" x 0.012" x 1/2" Hole, Medium/Fine Grit - Low Concentration	each
812-316	4" x 0.012" x 1/2" Hole, Medium/Coarse Grit - High Concentration	each
812-317	4" x 0.012" x 1/2" Hole, Fine Grit - High Concentration	each
812-320	5" x 0.015" x 1/2" Hole, Medium/Fine Grit - Low Concentration	each
812-321	5" x 0.015" x 1/2" Hole, Medium/Coarse Grit - High Concentration	each
812-324	5" x 0.015" x 1/2" Hole, Fine Grit - High Concentration	each
812-325	6" x 0.020" x 1/2" Hole, Medium/Fine Grit - Low Concentration	each
812-326	6" x 0.020" x 1/2" Hole, Medium/Coarse Grit - High Concentration	each
812-327	6" x 0.020" x 1/2" Hole, Fine Grit - High Concentration	each
812-315-5	4" x 0.012" x 5/8" hole, medium/fine grit - low concentration	each
812-316-5	4" x 0.012" x 5/8" Hole, Medium/Coarse Grit - High Concentration	each
812-317-5	4" x 0.012" x 5/8" Hole, Fine Grit - High Concentration	each



PELCO® EPOXY MOUNT KITS

Optical Clarity, High Hardness, Low Viscosity, Good Adhesion

2-Hour Epoxy Mount Kit

The PELCO® Epoxy Mount Kit uses a cold embedding material designed for metallography, ceramography, geology and petrology samples. Used for light microscopy, scanning electron microscopy and microprobe analysis. It is low viscosity, low exotherm reaction and low shrinkage.

It can be used in conjunction with vacuum impregnation to ensure complete and void-free embedding. The cured resin is extremely hard, optically clear, and has excellent bond strength. It gives excellent polish and edge retention to the sample. Polymerization time is 2 hours at 77° F (25° C). Mixing ratio is 2:1 per volume (2 parts resin to 1 part hardener).

Kit contains the following items:

813-501	PELCO® Epoxy Resin, 1 gallon (3,785ml).....	each
813-504	PELCO® Fast Cure Hardener (2-Hour), 0.5 gallon (1,892ml).....	each
813-503	PELCO® Epoxy Pumps	set/2
128-4	Mixing Sticks	pkg/100
12904-20	Tri-Stir Beakers, 100ml, w/ Pouring Spout	pkg/20
12906-20	Tri-Stir Beakers, 250ml, w/ Pouring Spout	pkg/20

24-Hour Epoxy Mount Kit

The PELCO® 24-Hour Epoxy Mount Kit has the same optical clarity, high hardness, low shrinkage and low viscosity as our 2-Hour epoxy kit, but with a much longer pot life (up to one hour) and slower curing (24 hours). This allows for embedding larger batches in one charge and better impregnation of porous samples. The longer pot life gives ample time to remove trapped gas and to avoid air bubbles in the embedding.

It can be used with vacuum or pressure impregnation to remove trapped gas. The cured resin is extremely hard, optically clear and has excellent bond strength. It gives excellent edge retention during grinding and polishing of metallographic samples. Polymerization time is 24 hours at 77°F (25°C). Mixing ratio is 3:1 per volume (3 parts resin to 1 part hardener).

Kit contains the following items:

813-501	PELCO® Epoxy Resin, 1 gallon (3,785ml).....	each
813-514	PELCO® Slow Cure Hardener (24-Hour), 0.33 gallon (1,262ml).....	each
813-503	PELCO® Epoxy Pumps	set/2
128-4	Mixing Sticks	pkg/100
12904-20	Tri-Stir Beakers, 100ml, w/ Pouring Spout	pkg/20
12906-20	Tri-Stir Beakers, 250ml, w/ Pouring Spout	pkg/20

**PELCO® EPOXY PUMP SET**

The pumps screw directly onto the gallon, 1/2 gallon or quart bottles of resin and hardener allowing for quick, exact and clean dispensing. The pumps dispense one fluid ounce per stroke. An Insert that limits the stroke to 1/2 oz. is included to allow for correct ratio of resin to hardener.

813-503 PELCO® Epoxy Pumpsset/2

**PLASTIC MIXING CUPS / RESIN CUPS**

Disposable plastic mixing cups, 120cc (4 fl oz.), pkg/25. Graduation in cc (cm³ or ml) and ounces. Particularly useful for measuring and mixing epoxy resins.

813-205 Plastic Mixing Cups, 120cc (4 oz.)..... pkg/25

**WOOD STIRRING, DEPRESSOR, APPLICATOR STICKS**

Mix, stir, apply or scrape. Hardwood sticks provide strength and a clean, smooth finish. Made of white birch with a wax finish.

- 128-4 Wood Stirring Sticks, Medium, 5/8" W x 5-1/2" L (16 x 140mm)..... pkg/100
 128-5 Wood Stirring Sticks, Small, 3/8" W x 4-1/2" L (10 x 114mm)..... pkg/1000
 128-6 Wood Stirring Sticks, Large, 3/4" W x 6" L (19 x 152mm)..... pkg/500

**CONDUCTO-MOUNT CONDUCTIVE MOUNTING POWDER**

For Use With Hot Embedding Presses

Graphite filled, conductive, compression mount material for hot embedding. Ideal for SEM, EDS/WDS and electro polishing applications. Hard embedding material with low electrical resistance and excellent edge retention. Enables imaging and analysis of clean, uncoated sample surfaces of conductive materials in the SEM, FESEM, EPMA or FIB systems. Hot embedding press is needed to use this embedding material. Embed-

ding temperature 165°-200°C (330°-425°F) with a moulding pressure of 17-28 MPA (2500-4000 PSI). Typical curing time is 5-10 minutes.

813-400 Conducto-Mount, Black 1 lb.

**ROUND SILICONE RUBBER MOLDS, REUSABLE, WHITE**

Reusable molds for cold embedding made from sturdy, yet flexible, white silicone. Special formulation ensures easy removal without the use of release agents. Smooth surface for easy identification of samples in clear resins: much smoother than rubber molds. Does not deform and holds shape to produce round embedding over and over again. All molds are 1" high with 3/4" internal depth.

- 813-172 Round Silicone Mold, White, Ø1" (25.4mm)..... pkg/10
 813-174 Round Silicone Mold, White, Ø1-1/4" (31.75mm) pkg/10
 813-176 Round Silicone Mold, White, Ø1-1/2" (38.1mm) pkg/10
 813-177 Round Silicone Mold, White, Ø2" (50.8mm)..... pkg/5

**RECTANGULAR SILICONE RUBBER MOLDS, REUSABLE, WHITE**

Available in two sizes. Both are 1" high with 3/4" internal depth. Internal dimensions are 2-1/4" x 1" and 3" x 2".

- 813-183 Rectangular Silicone Mold, White, 2-1/4" x 1" pkg/5
 813-184 Rectangular Silicone Mold, White, 3" x 2"each

**2-PART PLASTIC MOLDS**

For making cold embeddings with epoxy. Separate cap for easy removal. Use mold release before pouring resin.

- 813-165 2-Part Plastic Mold, 1" pkg/12
 813-167 2-Part Plastic Mold, 1-1/4" pkg/12
 813-169 2-Part Plastic Mold, 1-1/2" pkg/12

**SILICONE MOLD RELEASE**

This superior formulation of silicon mold release is particularly useful for easy release of cold or hot embedding molds. Cured resin embedding can be easily removed from plastic embedding mold when a thin layer of silicon mold release is sprayed on the inside of the mold.

Apply a thin coat before loading sample and embedding powder (phenolic, lucite, epoxy or diallyl phthalate) in hot embedding presses. Also prevents sticking of materials such as plastics, rubber and waxes to molds. Contains no CFC, HCFC or chlorinated solvents. Temperature range: 40°F to 500°F (5°C to 260°C).

813-206 Silicone Mold Release, 341g (12 oz.).....each

EMBEDDING SUPPLIES

Mounting Clips; PELCO® Air-Out Vacuum System; PELCO® Mini Hot Vac Desiccator



METAL SPRING MOUNTING CLIPS

Spring clips are ideal for holding thin samples for cross sectioning. Can be used for hot and cold embedding. Give additional support to facilitate flat grinding and polishing.

Size is 6.4mm H x 18mm W. Can hold a section up to 40mm.

813-210 Metal Spring Mounting Clips, Stainless Steel pkg/100



MULTICLIPS

Plastic clips for holding up to five small and thin sections. Size is 9mm H x 12.5mm W x 21mm L. Holds a thin section with a maximum thickness of 2.5mm.

813-213 Multiclips, Plastic Mounting Clips, Polyphenylene Ether pkg/25



PLASTIC MOUNTING CLIPS

For cold clear embedding applications with epoxy or polyester. Different colors for easy sample location. 6mm H x 8mm W x 11mm L. Holds a thin section with a maximum thickness of 2.5mm.

813-214 Plastic Mounting Clips, PVC..... pkg/100



PELCO® "AIR-OUT" VACUUM SYSTEM

For removal of air bubbles from the epoxy resin mixture; providing enhanced bonding and embedding quality. The PELCO® "Air-Out" Vacuum system comprises the 2246-1 large, clear Polycarbonate Desiccator; the 3436 or 3436-200 oil-free Diaphragm Pump and Silicone Vacuum Hose.

The large, clear desiccator allows for removing the air from the embedding epoxy. The large 9" plate provides room for a large number of samples for simultaneous out gassing. The oil-less pump has an 1/8hp ball bearing type motor with internal thermal protector, two gauges and 3/8" hose nipples. The pump can also be used as a compressor. Available for 115V or 230V operation.

813-600 PELCO® "Air-Out" Vacuum System, 115Veach
813-600-220 PELCO® "Air-Out" Vacuum System, 220Veach



PELCO® MINI HOT VAC VACUUM DESICCATOR

An efficient way to warm embedding plastics while removing gas bubbles. The aluminum base is placed on a laboratory heating plate (optional).

A vacuum can be drawn through the provided porthole in the base-plate using an optional vacuum pump. A digital

thermometer (included) measures the plate temperature. Can be used up to 120°C (248°F). Bell jar made out of glass, Silicone o-ring seal.

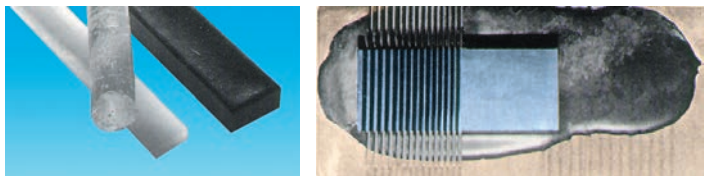
Vacuum gauge (showing inches of mercury), 3-way valve with filtered vent with a 1/2" Hose Connection (standard) to connect vacuum systems with a 1/2" ID vacuum hose. A 3/8" Hose Connection is also included for 3/8" or 1/4" ID hose. Inside dimensions are Ø6" x 3" H (15.3 x 7.6cm)

2245 PELCO® Mini Hot Vac Vacuum Desiccatoreach



FOR ADDITIONAL DESICCATORS & DESICCANT
SEE PAGES 11-12, OR VISIT

www.tedpella.com



CRYSTALBOND™ MOUNTING ADHESIVES

Wash away adhesives are ideal for temporary mounting of products that require dicing, polishing and other machining processes. They exhibit high bond strength and adhere readily to metals, glass and ceramics by melting with heat. When processing is complete, the adhesives are removed by reheating and cleaning with environmentally friendly cleaning agents.

Typical applications include:

- Machining advanced ceramics
- Lapping and polishing optical components
- Dicing ceramic substrates and semiconductor wafers
- Dicing ferrites, glasses and piezoelectrics
- Dicing metal and optical single crystals
- Mounting cross-sections for electron microscopy
- Backfilling components for temporary mechanical support

Crystalbond™ 509

Provides excellent adhesion and minimizes clogging of diamond tools compared to waxes. They are transparent in thin cross-sections. Soluble in acetone, odorless, non-flammable, biodegradable and may be rinsed in water.

821-1	Crystalbond™ 509-1, 90g, Light Amber.....each
821-3	Crystalbond™ 509-3, 90g, Clear .....each

Crystalbond™ 555 and 555-HMP

A low melting point adhesive for moderate stress machining processes. It is transparent in thin cross-sections and is soluble in hot water. 555 has a Flow Point of 120°F (54°C); 555-HMP is 150°F (66°C);

821-2	Crystalbond™ 555, 68g .....each
821-6	Crystalbond™ 555-HMP, 68g .....each

Crystalbond™ 590

A high strength, resilient adhesive system, ideal for doing miniature and tall parts. It is soluble in methanol or IPA.

821-4	Crystalbond™ 590, 200g .....each
-------	----------------------------------

Type	509-1 / 509-3	555 / 555-HMP	590
Trade Name	Crystalbond™	Crystalbond™	Crystalbond™
Form	Stick	Stick	Stick
Size	Ø7/8" x 7"	1/2" x 1" x 7"	5/8" x 1-1/4" x 7-1/2"
Weight	~0.2 lb/stick	~0.19 lb/stick	~0.44 lb/stick
Flow Point °F (°C)	250 (121)	120 (54) / 150 (66)	302 (150)
Viscosity, cps	6,000	500	9,000
Color	Light Amber / Clear	White	Brown
Solvent	Acetone	Hot Water	Methanol or IPA

PELCO® PRO CYANOACRYLATE SUPER GLUES

PELCO® Pro cyanoacrylate based instant or super glues are ideal for repair, sample preparation, assembly and bonding dissimilar materials. Clear, fast curing cyanoacrylate without mixing or additional heat applied.

Available in sets of small tubes with 5x2g, 20ml bottle with dispenser tip or 20g dispenser tube. A large range of different viscosities and curing times are offered.



14460	PELCO® Pro C100 Cyanoacrylate Glue, 5x2g .....each
14470	PELCO® Pro C100 Cyanoacrylate Glue, 20ml .....each
14462	PELCO® Pro F5 Cyanoacrylate Glue, 5x2g .....each
14464	PELCO® Pro C5 Cyanoacrylate Glue, 5x2g .....each
14474	PELCO® Pro C5 Cyanoacrylate Glue, 20ml .....each
14465	PELCO® Pro C300 Cyanoacrylate Glue, 5x2g .....each
14477	PELCO® Pro C1000 Cyanoacrylate Glue, 20ml .....each
14478	PELCO® Pro CA-Gel Cyanoacrylate Glue, 20g Tube .....each



PELCO® FINE CONDUCTIVE POWDERS

Silver, Carbon and Nickel Powders

High purity, high density fine conductive powders for making conductive adhesives or embedding materials. Can be mixed with epoxies for making conductive embedding material or conductive cement. Can also be mixed with cyanoacrylate gel for a super fast drying, conduc-

tive adhesive to mount specimens. Available in silver, carbon (graphite), and nickel powder.

61-310	PELCO® Silver Powder, 7-15µm, 25g .....each
61-312	PELCO® Carbon (Graphite) Powder, 200 mesh, 25g.....each
61-314	PELCO® Nickel Powder, 1-5µm, 25g.....each



MICRO ENGRAVER TOOL

Cordless, battery operated micro engraver set with diamond tip bits. Ideal for engraving and coding samples, sample mounts and embedded samples. Works on metal, glass, ceramics, plastics, epoxies and wood. Compact pen style design. Complete with two bits, allen key and two AAA batteries. Shaft diameter of bits is 2.3mm.

59028	Micro Engraver Tool .....each
-------	-------------------------------



DREMEL® ELECTRIC ENGRAVER 290-01

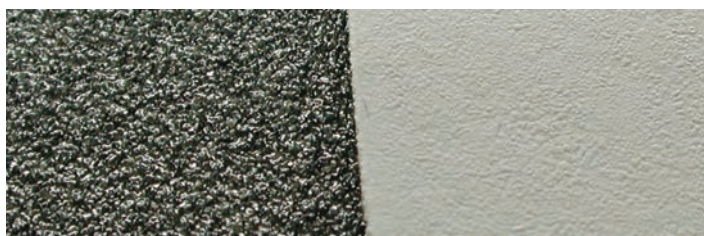
Writes like a pencil on materials from hardened steel to glass. Calibrated stroke adjustment regulates the depth of engraving from fine lines to deep marks. Ideal to write on specimen mounts, mouldings, embedded specimens, parts, tools

and more. 120VAC, 0.2 Amp, 60Hz, AC only.

59025	Electric Engraver, Dremel® 290-01 with 1 Carbide Tip ..each
59025-1	Carbide Replacement Engraver Point for 290-01.....each
59025-2	Diamond Engraver Point for 290-01 .....each

GRINDING

Silicon Carbide Grinding Discs; 3M™ Microfinishing Film; 3M™ Flexible Diamond Discs



125µm / 120 Grit

5µm / 1200 Grit

PREMIUM SILICON CARBIDE GRINDING DISCS

Premium, waterproof silicon carbide grinding discs optimized for metallographic and petrographic coarse and fine grinding of a wide variety of materials. This premium silicon carbide grinding paper features select mineral grading, tough resin bonding, flatness, and quality paper backing, resulting in durable, long-lasting paper with excellent uniform cutting properties that minimizes deformation and sample distortion. Available with plain or PSA (pressure sensitive adhesive) back with 8" (203mm) diameter. Can be used wet or dry.

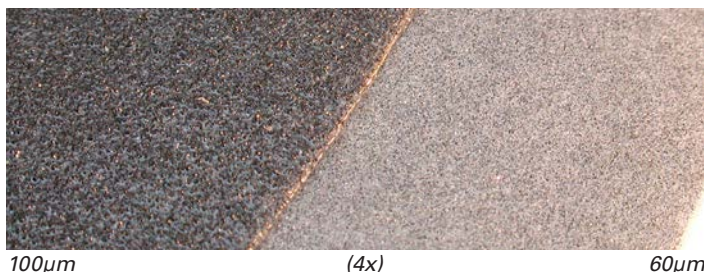
Grit sizes offered are 60-1200 grit according to the USA grading system. Sold in packages of 25.

Premium SiC Grinding Discs with Plain Back, 8" (203mm)

817-130	260µm, 60 grit	pkg/25
817-139	200µm, 80 grit	pkg/25
817-131	125µm, 120 grit	pkg/25
817-132	80µm, 180 grit	pkg/25
817-133	52µm, 240 grit	pkg/25
817-134	40µm, 320 grit	pkg/25
817-135	30µm, 400 grit	pkg/25
817-136	15µm, 600 grit	pkg/25
817-137	10µm, 800 grit	pkg/25
817-160	7µm, 1000 grit	pkg/25
817-138	5µm, 1200 grit	pkg/25

Premium SiC Grinding Discs with PSA Back, 8" (203mm)

817-100	260µm, 60 grit	pkg/25
817-109	200µm, 80 grit	pkg/25
817-101	125µm, 120 grit	pkg/25
817-102	80µm, 180 grit	pkg/25
817-103	52µm, 240 grit	pkg/25
817-104	40µm, 320 grit	pkg/25
817-105	30µm, 400 grit	pkg/25
817-106	15µm, 600 grit	pkg/25
817-107	10µm, 800 grit	pkg/25
817-108	5µm, 1200 grit	pkg/25



3M™ MICROFINISHING FILM, 8" GRINDING DISCS

3M™ Microfinishing Film is made of premium, micron-graded silicon carbide or aluminum oxide particles resin bonded on a high strength, 3 mil, polyester film backing. The particles are electrostatically oriented for better cutting action. A premium, fast cutting abrasive that provides precise, consistently

uniform, close tolerance finishing. The polyester film backing does not swell when using water. For use on metal, fiberglass, plastic wood and solid surface composites. Can be used wet or dry. A high quality, longer lasting and more precise alternative to grinding paper. Preferred grinding film for metallography, ceramography and petrographic surface preparation.

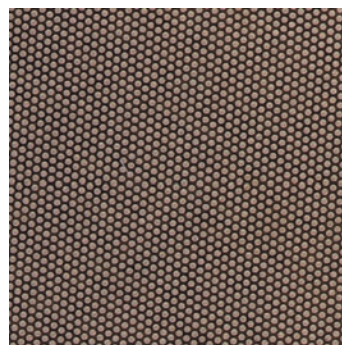
Available with plain or PSA (pressure sensitive adhesive) back with 8" (203mm) diameter. **Sold in USA only.**

3M™ Microfinishing Film, SiC Grinding Discs, 8" (203mm)

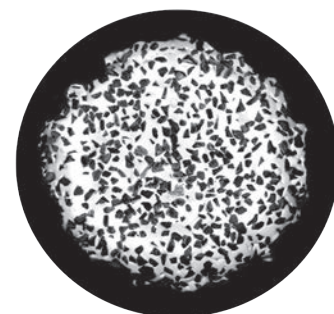
815-552	Plain Back, 80µm, 180 grit	pkg/25
---------	----------------------------	--------

3M™ Microfinishing Film, Aluminum Oxide Grinding Discs, 8" (203mm)

815-510	Plain Back, 100µm, 150 grit	pkg/25
815-512	Plain Back, 80µm, 180 grit	pkg/25
815-514	Plain Back, 60µm, 220 grit	pkg/25
815-518	Plain Back, 30µm, 400 grit	pkg/25
815-534	PSA Back, 80µm, 180 grit	pkg/25



Surface, 2x



Surface, 50x

3M™ FLEXIBLE DIAMOND DISCS, POLYESTER CARRIER FILM

Specially developed diamond discs for use on hard and extremely hard materials to achieve flat, fast action precision grinding results. Precision-graded diamond particles anchored in electroplated nickel pellets are bonded to a highly uniform and flexible backing for consistent results. The diamond discs present a cleaner alternative to diamond compounds or slurries and do not require "loading" with diamond paste. The open and raised dot pattern provides more efficient cutting action and allows for quick displacement of waste material. Ideal for grinding hard metals, steel, glass-filled composites, glass, stone, ceramics, carbides, etc. PSA (Pressure Sensitive Adhesive) back, available in 8" (203mm) diameter discs. Longer lasting and more precise alternative to silicon carbide or aluminum oxide abrasives. **Sold in USA only.**

Metal Coated Polyester Discs with PSA Back, 8" (203mm)

814-10	250µm, Green	each
814-12	125µm, Black	each
814-14	74µm, Red	each
814-16	40µm, Yellow	each
814-18	20µm, White	each
814-20	10µm, Blue	each

Resin Bond Discs with PSA Back, 8" (203mm)

814-28	30µm, Yellow	each
814-32	10µm, Blue	each
814-36	2µm, Orange	each



3M™ DIAMOND METAL BOND, METAL PLATE PLATFORM ABRASIVES

Durable, Long Lasting, Precision Cutting Discs for Heavy Stock Removal, Shaping and Lapping of Hard-to-Grind Materials

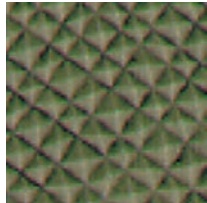
Precisely graded diamond particles electroplated on a 1/16" (1.58mm) thick metal plate (brass) with an 8" (203mm) diameter. These discs can be used on lapping machines with rigid, flat support plates and with a lubricant to prolong disc life. They can be used for flat lapping, ceramics, metallurgical testing, sharpening carbide tools, gem faceting and grinding glassy materials that generate erosive swarf. The metal bonded discs are available Plain or PSA (for secure attachments to the platen backing). **Sold in USA only.**

3M™ Diamond Metal Bond on 1/16" (1.58mm) Brass Plate, Plain Back, 8" (203mm)

814-148	140µm, 100 grit	.....each
814-146	66µm, 220 grit	.....each
814-150	45µm	.....each
814-151	30µm	.....each
814-152	15µm	.....each
814-153	6µm	.....each

3M™ Diamond Metal Bond on 1/16" (1.58mm) Brass Plate, PSA Back, 8" (203mm)

814-154	66µm, 220 grit	.....each
814-158	45µm	.....each
814-159	30µm	.....each
814-160	15µm	.....each
814-162	6µm	.....each



Magnified Surface

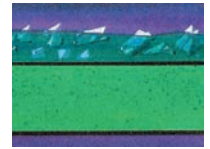
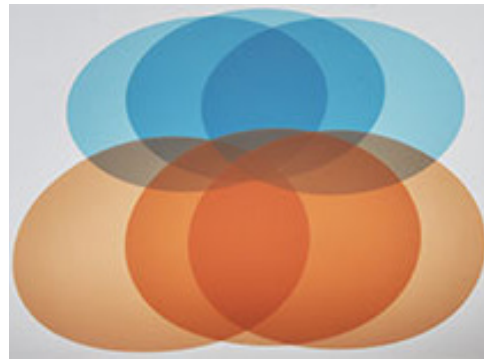
3M™ TRIZACT™ ALUMINUM OXIDE FILM, 8" DISCS

Get Your Job Done Faster with a Superior Finish

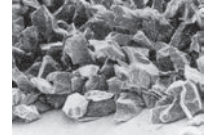
Ideal for damp finishing solid surfaces, glass defect repair and acrylic solid surface finishing. 3M™ Trizact™ consists of aluminum oxide particles having tiny precisely shaped pyramids reproduced on a polyester film backing. Also useful for: metals, plastics, composites, ceramography, metallography. The pyramids wear away evenly and continually expose new abrasives. Fewer processing steps can be taken, a higher gloss level achieved and effective surface leveling takes place. Little wear is required and there is easy "touchup". Waterproof backing. Available in 8" discs with PSA (pressure sensitive adhesive) back. **Sold in USA only.**

3M™ Trizact Film, Aluminum Oxide Discs, PSA Back, 8" (203mm)

816-206	35µm	..... pkg/5
816-204	20µm	..... pkg/5
816-202	10µm	..... pkg/5
816-200	5µm	..... pkg/5



Cross-Section Illustration



Surface Micrograph

3M™ IMPERIAL™ DIAMOND LAPPING FILM

Imperial™ Diamond Lapping Film offers a repeatable, precision finish on extremely hard materials. It combines micron-graded diamond particles, a resin bonding system and a highly uniform 3mil (0.08mm) polyester film backing for a cleaner, more consistent alternative to diamond compounds or slurries. Better than paper backing under wet conditions. Available with plain back or PSA (pressure sensitive adhesive) in 8" discs. Type 661 Imperial™ Diamond Lapping Film replaces type 651. Type 661 has a more robust, 3 mil (0.08mm) polyester backing film, while the type 651 had a 2 mil (0.05mm) backing film. **Sold in USA only.**

Applications: carbides, ceramics, high-hardness materials, fiber optic connectors, magnetic heads

3M™ Diamond Lapping Discs, Plain Back, No Hole, Type 661X, 8" (203mm)

814-422	30µm, Green	..... pkg/5
814-426	15µm, Orange	..... pkg/5
814-428	9µm, Blue	..... pkg/5
814-430	6µm, Brown	..... pkg/5
814-432	3µm, Pink	..... pkg/5
814-436	1µm, Lavender	..... pkg/5
814-438	0.5µm, Off White	..... pkg/5
814-440	0.1µm, Gray Green	..... pkg/5

3M™ Diamond Lapping Discs, PSA Back, No Hole, Type 668X, 8" (203mm)

816-462	30µm, Green	..... pkg/5
816-466	15µm, Orange	..... pkg/5
816-468	9µm, Blue	..... pkg/5
816-470	6µm, Brown	..... pkg/5
816-472	3µm, Pink	..... pkg/5
816-476	1µm, Lavender	..... pkg/5
816-478	0.5µm, Off White	..... pkg/5
816-480	0.1µm, Gray Green	..... pkg/5



3M™ ADHESIVE REMOVER

Powerful replacement for mineral spirits, solvents and other unfriendly cleaners. Ideally suited for removing used grinding/lapping/polishing discs with PSA backing from their support discs. New food-grade citrus based 3M™ adhesive remover is also very effective in removing overspray of any aerosol adhesives, grease, oil, grime, tape residue, tar, wax, etc. A solvent-free formulation that provides wipe-away convenience with no filmy residue.

Active ingredient is listed as GRAS (Generally Regarded As Safe) for food contact applications under FDA21 CFR 182.20. Flammable propellant. **Sold in USA only. Hazard shipping fees by air.**

80924	3M™ Adhesive Remover, 6.25 oz. Cans	..... case/6
80924-1	3M™ Adhesive Remover, 18.5 oz. Cans	..... each
80924-10	3M™ Adhesive Remover, 18.5 oz. Cans	..... case/6

**3M™ DIAMOND 5" LAPPING DISCS**

Diamond particles are encapsulated within ceramic beads then coated onto 3 mil polyester film. Provides a more aggressive cut, coarser finish, and longer life than standard Diamond Lapping Film. Also offers a clean and more consistent alternative to diamond compounds or slurries. Use to finish and polish hard to grind materials such as glass, ceramics, hardened metals, and composites. Best to use with water for cooling and lubrication. Available in plain and PSA (pressure sensitive adhesive) back. **Sold in USA only.**

3M™ Diamond 5" Lapping Discs, Plain Back, Type 662XWTH

816-356	9µm, Blue	pkg/5
816-358	6µm, Brown.....	pkg/5
816-360	3µm, Pink.....	pkg/5
816-364	1.5µm, Light Green.....	pkg/5
816-362	1µm, Lavender.....	pkg/5
816-366	0.5µm, Off White.....	pkg/5

3M™ Diamond 5" Lapping Discs, PSA Back, Type 666XWTH

816-398	9µm, Blue	pkg/5
816-396	6µm, Brown.....	pkg/5
816-394	3µm, Pink.....	pkg/5
816-390	0.5µm, Off White.....	pkg/5

3M™ Diamond 5" Lapping Discs, PSA Back, 3 mil Polyester Film Backing, Use with Water, Type 668X

816-400	15µm, Orange	pkg/5
---------	--------------------	-------

**3M™ DIAMOND LAPPING FILM IN 4.5" SQUARE SHEETS, TYPE 661X**

The standard of 3M's premium diamond abrasive with a 3 mil polyester backing, offering a cleaner, more consistent alternative to diamond compounds or slurries. Use to finish and polish hard to grind materials such as glass, ceramics, hardened metals, and composites. Can be used wet or dry. **Sold in USA only.**

816-322	15µm, Orange	pkg/5
816-324	6µm, Pink.....	pkg/5
816-326	3µm, Lavendar	pkg/5
816-328	1µm, Brown.....	pkg/5
816-330	0.5µm, Off White.....	pkg/5

3M™ PREMIUM Al₂O₃ & SiC LAPPING/POLISHING 8" DISCS

Premium, precision lapping 8" discs for producing a super-fine, super-consistent finish. A high strength smooth polyester film backing provides a uniform base for a coating of micrograded aluminum oxide or silicon carbide particles that are uniformly dispersed for greater finishing efficiency. A carefully controlled resin bond ensures a consistent, reliable and repeatable finish. Clean room coating and converting ensures contaminant-free products. 3mil (0.08mm) polyester film backing.

Available with plain back or PSA (pressure sensitive adhesive) in 8" discs. The aluminum oxide discs can be used for polishing steps. Use wet or dry. **Sold in USA only.**

Applications: metals, plastics, metallography, thin film discs, floppy discs, fiber optic connectors

3M™ Aluminum Oxide Lapping/Polishing Discs, Plain Back, No Hole, 8" (203mm)

815-310	30µm, Green.....	pkg/25
815-312	12µm, Yellow	pkg/25
815-314	9µm, Blue	pkg/25
815-316	5µm, Brown.....	pkg/25
815-318	3µm, Pink.....	pkg/25
815-320	1µm, Light Green.....	pkg/25
815-322	0.3µm, White.....	pkg/25
815-324	0.05µm, White.....	pkg/25

3M™ Aluminum Oxide Lapping/Polishing Discs, PSA Back, No Hole, 8" (203mm)

815-330	30µm, Green.....	pkg/25
815-332	12µm, Yellow	pkg/25
815-334	9µm, Blue	pkg/25
815-336	5µm, Brown.....	pkg/25
815-338	3µm, Pink.....	pkg/25
815-340	1µm, Light Green.....	pkg/25
815-342	0.3µm, White.....	pkg/25
815-344	0.05µm, White.....	pkg/25

3M™ Silicon Carbide Lapping Discs, Plain Back, No Hole, 8" (203mm)

815-356	30µm, Green.....	pkg/25
815-358	15µm, Gray.....	pkg/25
815-360	9µm, Gray.....	pkg/25
815-362	5µm, Light Gray	pkg/25

3M™ Silicon Carbide Lapping Discs, PSA Back, No Hole, 8" (203mm)

815-372	30µm, Green.....	pkg/25
815-374	15µm, Gray.....	pkg/25
815-376	9µm, Gray.....	pkg/25
815-378	5µm, Light Gray	pkg/25

FOR COMPLETE SELECTION OF GRINDING/
LAPPING PRODUCTS VISIT

www.tedpella.com

POLISHING CLOTHS

A selection of premium polishing cloths for coarse and fine polishing of hard, soft and composite materials. Most cloths are available with plain or PSA backing for easy mounting on the polishing discs. The plain polishing cloths need to be clamped on the polishing discs with a clamping ring. To facilitate this the plain discs are approximately 2" larger than the polishing discs so the cloth folds over the edge of the disc for clamping. 8" plain polishing cloths are 10" diameter and 10" plain polishing cloths are 12" diameter. The polishing cloths can be used with diamond compound, diamond spray or alumina suspension.

Hard Cloths:

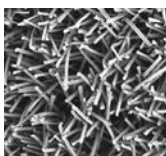
- Low resilience (woven nylon)
- Used for rough and intermediate polishing

Soft Cloths:

- High resilience
- Low nap (e.g. Rayon pile)
- Used for final polishing



50x



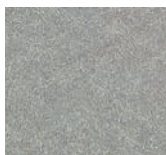
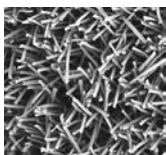
10x



Alpha-A Polishing Cloth, Plain and Adhesive Back

Popular final polish, low nap cloth used with diamond or alumina for most materials.

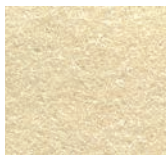
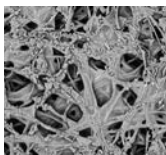
816-16	Alpha-A Polishing Cloth, 8" Plain (Actual Size 10")	pkg/10
816-17	Alpha-A Polishing Cloth, 8" PSA	pkg/10
816-18	Alpha-A Polishing Cloth, 10" Plain (Actual Size 12")	pkg/10
816-19	Alpha-A Polishing Cloth, 10" PSA	pkg/10



Alpha-B Polishing Cloth, Adhesive Back

Low nap mylar backed variation of Alpha-A for final polishing of most materials, not used with alcohol thinners.

816-24	Alpha-B Polishing Cloth, 8" PSA	pkg/10
--------	---------------------------------	--------



Met-X Polishing Cloth, Adhesive Back

Popular first polish cloth for diamond, high cutting rate with good edge retention.

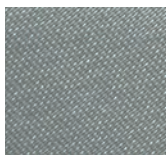
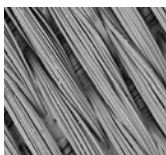
816-37	Met-X Polishing Cloth, 8" PSA	pkg/10
816-38	Met-X Polishing Cloth, 10" PSA	pkg/10



Nylon Polishing Cloth, Adhesive Back

For polishing most materials with diamond or alumina while maintaining flatness.

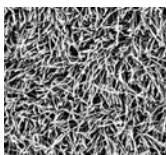
816-63	Nylon Polishing Cloth, 8" PSA	pkg/10
--------	-------------------------------	--------



Canvas Polishing Cloth, Plain Back

For rough polishing with aluminum oxide or silicon carbide powders.

816-52	Canvas Polishing Cloth, 8" Plain (Actual Size 10")	pkg/10
--------	--	--------



Selvyt Polishing Cloth, Plain Back

Cotton medium nap used for first and final polishing of metals and ceramics with alumina.

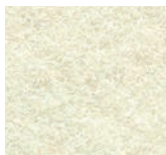
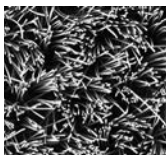
816-72	Selvyt Polishing Cloth, 8" Plain (Actual Size 10")	pkg/10
--------	--	--------



Cotton (High Grade) Polishing Cloth, Plain Back

Natural, low nap first polish cotton cloth used on soft materials with diamond, alumina and oxides.

816-92	Cotton (High Grade) Polishing Cloth, 8" Plain (Actual Size 10")	pkg/10
--------	---	--------



Rayon Velvet Polishing Cloth, Plain Back

Synthetic rayon velvet for polishing and final polishing soft materials such as gold, lead and tin with alumina.

816-109	Rayon Velvet Polishing Cloth, 8" Plain (Actual Size 10")	pkg/10
---------	--	--------

POLISHING COMPOUNDS & SUSPENSIONS

Diamond Paste; Extender Fluid; Pump Sprays; Alumina, Diamond & Silica Suspensions



DIAMOND PASTE POLISHING COMPOUND

For Cleaning & Polishing

Diamond paste ready-packed for dispensing in syringes which are color-coded. Graded sizes and compounded for good dispersion. Exceeds US standards for purity, size and

uniformity. Excellent cutting rates and provides a good smooth finish. Recommended for polishing various metals, alloys, minerals, glass, ceramics, carbides and semiconductors. Water and oil soluble. Available in 5 and 18 gram syringes and as 250ml pump spray. Set includes 5 particle sizes, (5g syringes or 250ml pump sprays) each: 0.25µm, 0.5µm, 1µm, 3µm and 6µm. Used on polishing cloths (see page 9).

895-20 Diamond Polishing Compound in Syringes, set of 5.....each

Diamond Polishing Compound in Single Replacement Syringes (5 and 18 Gram Sizes)

895-23	45µm size, 5g, red.....	each
895-23-18	45µm size, 18g, red.....	each
895-22	30µm size, 5g, red.....	each
895-22-18	30µm size, 18g, red.....	each
895-10	15µm size, 5g, blue.....	each
895-10-18	15µm size, 18g, blue.....	each
895-21	9µm size, 5g, green.....	each
895-21-18	9µm size, 18g, green.....	each
895-9	6µm size, 5g, orange.....	each
895-9-18	6µm size, 18g, orange.....	each
895-8	3µm size, 5g, yellow.....	each
895-8-18	3µm size, 18g, yellow.....	each
895-7	1µm size, 5g, light grey.....	each
895-7-18	1µm size, 18g, light grey.....	each
895-6	0.5µm size, 5g, light grey.....	each
895-6-18	0.5µm size, 18g, light grey.....	each
895-5	0.25µm size, 5g, light grey.....	each
895-5-18	0.25µm size, 18g, light grey.....	each
895-4	0.1µm size, 5g, light grey.....	each
895-4-18	0.1µm size, 18g, light grey.....	each



DIAMOND POLISHING EXTENDER FLUID

The water-based diamond extender fluid is used to dilute the diamond paste on polishing cloths to ensure even dispersion and more effective cutting action. Available in 1 pt. and 1 gal.

895-25	Extender Fluid, 1 pt.	each
895-26	Extender Fluid, 1 gal.	each



DIAMOND POLISHING PUMP SPRAYS

Ready for use in convenient spray bottle for direct application on polishing cloth. Water-based. Same high quality diamond grades as used in the syringes.

895-30	Set of 5 sizes	each
895-39	6µm size, 250ml.....	each
895-38	3µm size, 250ml.....	each
895-37	1µm size, 250ml.....	each
895-36	0.5µm size, 250ml.....	each
895-35	0.25µm size, 250ml.....	each



ALUMINA FINE POLISHING SUSPENSION

High quality, fine graded Alumina suspension (water-based) for fine and end polishing of metallographic specimens. Reduces surface distortions and gives excellent polishing results. Can be used for analytical applications where diamond polishing is not suitable (analysis of carbon).

895-59	5µm Alumina Suspension, 6 oz.	each
895-58	3µm Alumina Suspension, 6 oz.	each
895-57	1µm Alumina Suspension, 6 oz.	each
895-56	0.5µm Alumina Suspension, 6 oz.	each
895-55	0.3µm Alumina Suspension, 6 oz.	each
895-54	0.05µm Alumina Suspension, 6 oz.	each



POLYCRYSTALLINE DIAMOND PASTE

Polycrystalline diamond paste is typically used on hard to polish materials such as ceramics, tool steels, sapphire, and super alloys. It has more facets or cutting edges and keeps its cutting ability by being less friable (less likely to break or crumble) than the more common and less costly monocrystalline diamonds. Monocrystalline diamonds tend to have longer, sharper edges and are more suitable for less hard materials such as brass or soft steel.

815-224	5g syringe, 15.0µm	each
815-222	5g syringe, 9.0µm	each
815-220	5g syringe, 6.0µm	each
815-218	5g syringe, 3.0µm	each
815-216	5g syringe, 1.0µm	each
815-214	5g syringe, 0.5µm	each
815-212	5g syringe, 0.25µm	each
815-210	5g Syringe, 0.1µm	each



POLYCRYSTALLINE DIAMOND SUSPENSION

Polycrystalline diamonds are typically used on hard materials such as ceramics, tool steel, sapphire and super alloys. They have more cutting edges, are less fragile and cause less subsurface deformation. Water soluble, bottle of 250ml.

814-328	45µm, 250ml	each
814-326	30µm, 250ml	each
814-324	15µm, 250ml	each
814-322	9µm, 250ml	each
814-320	6µm, 250ml	each
814-318	3µm, 250ml	each
814-316	1µm, 250ml	each
814-314	0.5µm, 250ml	each
814-312	0.25µm, 250ml	each
814-310	0.1µm, 250ml	each



COLLOIDAL SILICA SUSPENSION

A non-crystallizing silica (SiO₂) suspension stabilized at an alkaline pH value of 9.8. The combination of very fine abrasive particles in a chemically aggressive liquid provides a chemical-mechanical polishing action. Ideal for final polishing to obtain a deformation-free surface.

815-110	Colloidal Silica Suspension, 0.06µm, 32 oz. (950ml)	each
---------	---	------



METALLOGRAPHIC SAMPLE LEVELING PRESS

The metallographic sample leveling press is used to level sample on the metal slides. Use PELCO® Plast Support Putty (shown below) between metal slide and back of the sample; use PELCO® Optical Lens Tissue (Product No. 806) between leveling press and sample surface to avoid damaging sample surface.

813-540 Sample Leveling Press.....each



PELCO® BLACK METAL SLIDES

Black metal slides for metallographic mount support. These matt black

anodized aluminum metal support slides are ideal to support metallographic samples, cross sections and mounts for reflective light microscopy. Use PELCO® Plast Support Putty (Product No. 813-530) between sample and slide and Sample Leveling Press (shown at right) to level the sample. Size is 3" x 1" x 1/16" (76.2 x 25.4 x 1.6mm), sold in packs of 5.

813-535 PELCO® Black Metal Slides pkg/5



PELCO® PLAST SUPPORT PUTTY

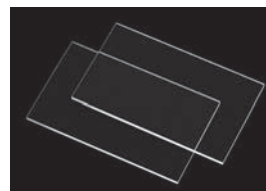
Plastic molding putty (similar to plasticene) for positioning and leveling awkwardly shaped samples for microscopy. Easy to shape, acrylic base material stays elastic and does not harden, odorless, easy to remove and reusable. Deep blue color provides good contrast with most specimens.

Applications are:

- Positioning putty for awkwardly shaped objects
- Leveling putty for polished metallographic mounts or samples for reflected light microscopy
- Positioning support for embedding
- Molding material



813-530 PELCO® Plast Support Putty for Microscopy, 1/4lb pkg/4



NEW PETROGRAPHIC MICROSCOPE SLIDES, 27 x 46mm

Plain glass slides made from the finest quality non-corrosive white glass. Edges are precision ground and polished. Each box contains 72 slides.

Size: 27 x 46 x 1.2mm (1-1/16 x 1-7/8 x 1/16")

Thin sections made from rocks, minerals, cement/concrete, construction and building materials, and bone are mounted with epoxy, Crystalbond™ or Mounting Media onto a 27 x 46 mm glass slide for routine petrography, reflected and transmitted light microscopy, EPMA, SEM/EDS, automated mineralogy, cathodoluminescence (CL) and EBSD analyses. Coverslips reduce light scattering effects due to remnant pits and scratches formed in polishing steps. Uncovered thin sections can be coated with oil, Histomount™ or clear nail polish prior to analyses.

260600 Petrographic Microscope Slides, 27 x 46mm.... box/72



COTTON BALLS

These soft cotton balls are made from 100% pure cotton. Ideal for swab etching and for making cotton swabs to clean EM parts. Sold in bags of 400.

80912 Cotton Balls, 100% purebag/400



PELCO® OPTICAL LENS TISSUE

A high quality optical lens tissue for lenses, optical instruments, electron microscopy and similar applications. Fully comparable to the Ross lens tissue paper in regards to structure, softness, properties and cleaning capabilities. It is a direct replacement for Ross lens tissue and fully compatible for all applications. The tissue is made of 100% new linen stock, free of minerals and vegetable filler. This lens tissue does not lint or scratch and will not disintegrate under vigorous manipulation and is acid-free with excellent wicking properties. Size is 114 x 127mm (4-1/2" x 5").

806 PELCO® Optical Lens Tissuebox/1000 sheets
806-1 PELCO® Optical Lens Tissue6 booklets/50 sheets each

Motic® AE2000MET Series

A powerful line of robust incident light and dual illumination metallurgical microscopes.

See page 13 or visit

www.tedpella.com



VACUUM STORAGE & DESICCANT

PELCO® Mini Hot Vac Vacuum Desiccator; PELCO® Air-Out Vacuum System; Desiccant & Desiccant Packs; Capsule Dehydrators



PELCO® MINI HOT VAC VACUUM DESICCATOR

An efficient way to warm embedding plastics while removing gas bubbles. The aluminum base is placed on a laboratory heating plate (optional).

A vacuum can be drawn through the provided porthole in the baseplate using an optional vacuum pump. A digital thermometer (included) measures the plate temperature. Can be used up to 120°C (248°F). Bell jar made out of glass, Silicone o-ring seal.

Vacuum gauge (showing inches of mercury), 3-way valve with filtered vent with a 1/2" Hose Connection (standard) to connect vacuum systems with a 1/2" ID vacuum hose. A 3/8" Hose Connection is also included for 3/8" or 1/4" ID hose. Inside dimensions are Ø6" x 3" H (15.3 x 7.6cm)

2245 PELCO® Mini Hot Vac Vacuum Desiccator.....each



PELCO® "AIR-OUT" VACUUM SYSTEM

For removal of air bubbles from the epoxy resin mixture, providing enhanced bonding and embedding quality. The PELCO® "Air-Out" Vacuum system comprises the 2246-1 large, clear Polycarbonate Desiccator; the 3436 or 3436-200 oil-free Diaphragm Pump and Silicone Vacuum Hose.

The large, clear desiccator allows for removing the air from the embedding epoxy. The large 9" plate provides room for a large number of samples for simultaneous outgassing. The oil-less pump has an 1/8hp ball bearing type motor with internal thermal protector, two gauges and 3/8" hose nipples. The pump can also be used as a compressor. Available for 115V or 230V operation.

813-600 PELCO® "Air-Out" Vacuum System, 115Veach
813-600-220 PELCO® "Air-Out" Vacuum System, 220Veach



CARTRIDGE DESICCANT

Eliminate the messy, time-consuming job of changing loose desiccant. Convenient, easy-to-handle Desiccant in a Cartridge fits into the bottom section of standard glass or plastic desiccators. The cartridge consists of a durable polyester-felt bag with a perforated Mylar® cover sealed in place. It is filled with indicating silica gel beads which change color from blue when dry to pink when moist. Saturated gel can be regenerated in a 300°F (150°C) vented oven for 3 hours or more (depending on size) until blue color returns. May be reactivated repeatedly without degradation. Individually sealed in a moisture-proof pouch.

2240-3 Cartridge Desiccant, 114mm diametereach
2244-3 Cartridge Desiccant, 197mm diametereach
2246-3 Cartridge Desiccant, 238mm diametereach

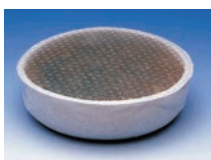


DRICAP® CAPSULE DEHYDRATORS

DRICAP® Capsules have more desiccant in less space for more drying power. Further advantages are: sift-proof, non-linting, controlled adsorption rate, can be mechanically handled, color capacity indicator, saves weight and space. They are rugged and super activated. In addition to reducing humidity, capsules can also protect against potency losses, fermentation, odor formation, color changes, corrosion, mildew, caking and condensation. The moisture-permeable cartridge shell is fabricated from clear cellulose propionate; the desiccant is activated SiO₂. The Capsules are RoHS compliant.

19953 DRICAP® Capsule Dehydrators, Type 11 pkg/100
19956 DRICAP® Capsule Dehydrators, Type 14 pkg/100

DRY-SEAL® DESICCANT PACKS FOR GLASS VACUUM DESICCATORS



Designed for the 250mm vacuum desiccators. The desiccant pack is placed in the bowl of the desiccator under the aluminum plate to preserve an anhydrous atmosphere within the evacuated desiccator. The desiccant is enclosed in fabric and perforated plastic for a dust-free environment and is supplied in a sealed foil package. May be reactivated.

2276-7 Dry-Seal® Desiccant Pack, 250mm Size.....each



ROUND VACUUM DESICCATORS (POLYPROPYLENE / POLYCARBONATE)

These desiccators have extra heavy walls to eliminate the danger of implosion. Strong and shatterproof, they will hold a vacuum of 740mm of Hg (0.09MPa) for a period of 24 hours.

Available with clear polycarbonate top and white polypropylene bottom or clear polycarbonate top and bottom, in small, medium and large.

2240	Vacuum Desiccator, Small, Clear Top/White Bottom.....each
2240-1	Vacuum Desiccator, Small, All Clear.....each
2244	Vacuum Desiccator, Medium, Clear Top/White Bottom...each
2244-1	Vacuum Desiccator, Medium, All Clear .....each
2246	Vacuum Desiccator, Large, Clear Top/White Bottom.....each
2246-1	Vacuum Desiccator, Large, All Clear.....each



ECONOMY GLASS VACUUM DESICCATORS

Sealed on flat ground flanges and made of thick wall glass. The top of the lid includes a glass stopcock with connection for a vacuum hose. The glass desiccators can also be used with desiccant to store samples in a dust-free and low moisture environment. Includes plastic plate with holes; cavity below the plate holds #19960 bulk desiccant. Use #891-7 silicon based vacuum grease on sealing surfaces for a perfect seal. Available in three sizes; small, medium and large.

2277-15	Economy Glass Vacuum Desiccator, Small, 1.5 L .....each
2277-40	Economy Glass Vacuum Desiccator, Medium, 4.0 L.....each
2277-60	Economy Glass Vacuum Desiccator, Large, 6.0 L .....each
2277-17	Replacement Stopcock for Prod. No. 2277-15.....each
2277-47	Replacement Stopcock for Prod. No. 2277-40 or -60.....each



MOTIC® SMZ-168 STEREO ZOOM MICROSCOPE

The SMZ-168 provides clear, real 3D imaging with a convenient zoom magnification range from 7.5 to 50x provided by the combination of the Greenough optical system and the standard 10x super widefield eyepieces. The long working distance of 113mm coupled to the large field of view for the standard configuration makes this an ideal system for setting up a work station for preparation, micro-assembly, forensics or quality assurance. Features top light for incident illumination (streamline base). Both halogen and LED illumination are available. The optional trinocular port accepts an optional video C-mount and SLR camera adapters.

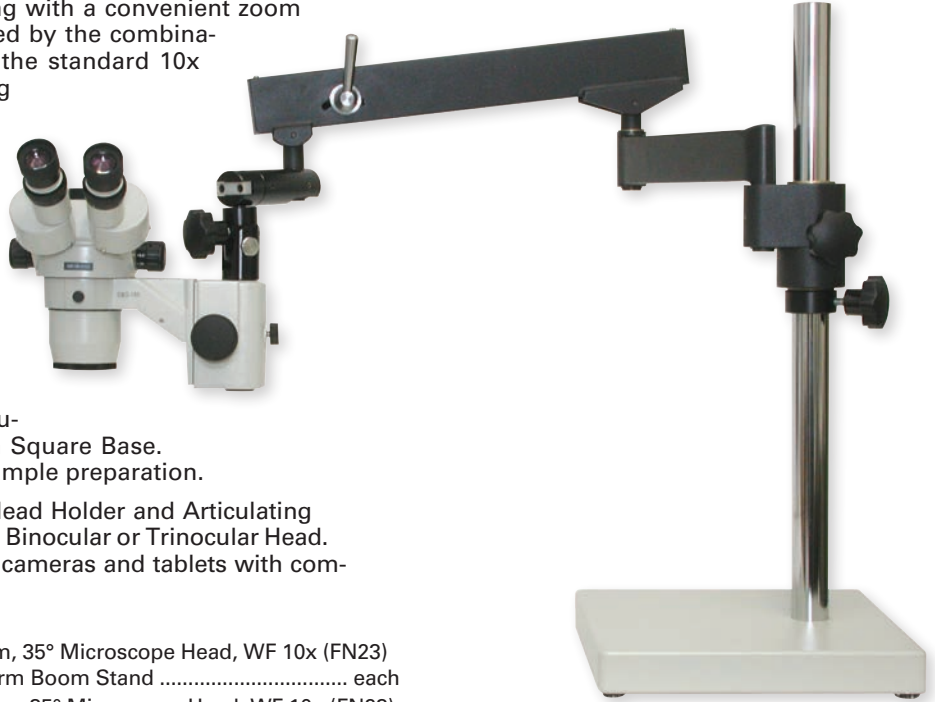
2282-10	SMZ-168BP Binocular Stereo Zoom Microscope with plain base stand, 35° head, WF 10x (FN23) eyepieces each
2282-11	SMZ-168BL Binocular Stereo Zoom Microscope with streamline base, including dual illumination, 35° head, WF 10x (FN23) eyepieces..... each
2282-12	SMZ-168TP Trinocular Stereo Zoom Microscope with plain base stand, 35° head, WF 10x (FN23) eyepieces each
2282-14	SMZ-168TL Trinocular Stereo Zoom Microscope with streamline base, including dual illumination, 35° head, WF 10x (FN23) eyepieces..... each
2282-15	SMZ-168BN LED Binocular Stereo Zoom Microscope with streamline base, including dual illumination, 35° head, WF 10x (FN23) eyepieces..... each
2282-16	SMZ-168TN LED Trinocular Stereo Zoom Microscope with streamline base, including dual illumination, 35° head, WF 10x (FN23) eyepieces..... each

MOTIC® SMZ-168 STEREO ZOOM MICROSCOPE with ARTICULATING ARM

The SMZ-168 provides clear, real 3D imaging with a convenient zoom magnification range from 7.5 to 50x provided by the combination of the Greenough optical system and the standard 10x super widefield eyepieces. The long working distance of 113mm coupled to the large field of view for the standard configuration makes this an ideal system for setting up a work station for preparation, micro-assembly, forensics or quality assurance. Features top light for incident illumination (streamline base). Both halogen and LED illumination are available. The optional trinocular port accepts an optional video C-mount and SLR camera adapters.

All the benefits of the Greenough 3-D optical system of the SMZ-168 mounted on the popular #2279-214 Articulating Boom Stand with Square Base. Excellent configuration for inspection and sample preparation.

Complete system includes: SMZ-168 Head, Head Holder and Articulating Boom Stand with Square Base. Available with Binocular or Trinocular Head. Fully compatible with Moticam® digital color cameras and tablets with complete image control.



- 2282-17 Motic® SMZ-168 Binocular Stereo Zoom, 35° Microscope Head, WF 10x (FN23) Eyepieces, Head Holder, Articulating Arm Boom Stand each
- 2282-18 Motic® SMZ-168 Trinocular Stereo Zoom, 35° Microscope Head, WF 10x (FN23) Eyepieces, Head Holder, Articulating Arm Boom Stand each



NEW MOTICAM® BTU10 & BTU8 DIGITAL COLOR CAMERAS

High resolution Moticam® digital cameras offer 1.3, 2.0, 3.0, 5.0 and 10.0 megapixel resolution and feature industrial metal cases. Focusing attention on a single position with integrated Region of Interest (ROI) selection. Saving of individual user settings for different microscopes. Live scale-bar and scale-cross. Allows users to save specific set-up for any microscope, reducing time moving the camera between different microscopes and different brands. Has superior capture interface, allowing for real-time filtering with many different choices of effects.

The Moticam® BTU10 is a 5.0 MP CMOS camera equipped with a 10.1" Android 4.4 tablet. The BTU8 is a 5.0 MP CMOS camera equipped with a 8" Android 5.0 tablet. Both are powered by a 1.66GHz (Quad Core) CPU with built-in DDR3 memory, and also equipped with WiFi (802.11 b/g/n), Bluetooth 3.1, HDMI output (1080p), built in MIC and speaker, and Micro SD card slot. C-mount adapter required.

The Moticam® 580 allows images to be captured directly onto an SD card or the camera to be connected to the computer and used like any other Moticam® with the supplied software. The 580 can also display live images at 1080p resolution through the HDMI output port and analog video through the AV output.



- 2295-BTU10 **NEW** Moticam® BTU10, Touch Screen Tablet, 10" monitor each
- 2295-BTU8 **NEW** Moticam® BTU8, Touch Screen Tablet Solution, 8" monitor..... each
- 2295-1SP Moticam® 1SP, 1.3 Megapixel Digital Color Camera..... each
- 2295-2 Moticam® 2, 2.0 Megapixel Digital Color Camera..... each
- 2295-3 Moticam® 3, 3.0 Megapixel Digital Color Camera..... each
- 2295-5P Moticam® 5+, 5.0 Megapixel Digital Color Camera (not shown)..... each
- 2295-10 Moticam® 10, 10.0 Megapixel Digital Color Camera (not shown)..... each
- 2295-580 Moticam® 580, 5.0 Megapixel Digital Color Camera and HDMI Cable each
- 2295-2X Moticam® X, 1.3 Megapixel Digital Color Camera, WiFi enabled each

MOTIC® BA310MET & BA310MET-T METALLURGICAL MICROSCOPES

The Motic® BA310MET series is an affordable and powerful line of robust incident reflected light (BA310MET) and dual illumination (BA310MET-T) metallurgical microscopes.

Designed for observing all opaque materials including minerals, metals and ceramics, the BA310MET is ideal for applications where affordability and ease of use are key demands, such as educational fields, semiconductors, engineering and material science as well as industrial quality control.

The BA310MET-T model adds a transmitted light option which allows viewing of transparent minerals and materials and greatly increases the number of industrial applications.

All models feature the powerful and adjustable Epi-Illuminator with a 12V/50W halogen bulb light source for reflective samples. The halogen bulb is easily replaced with an LED module (available in 4500K or 6000K color temperature) to increase illumination options. A built-in field diaphragm and aperture diaphragm optimizes image quality by reducing stray light and increasing contrast.



BA310MET

BA310MET-T

22570-10	BA310MET Binocular, N-WF10x/20 Eyepieces, LM Plan Achromat Objectives 5x, 10x, 20x, 50x, Halogen 12V/50W Epi-Illumination.....	each
22570-12	BA310MET Trinocular, N-WF10x/20 Eyepieces, LM Plan Achromat Objectives 5x, 10x, 20x, 50x, Halogen 12V/50W Epi-Illumination.....	each
22570-11	BA310MET-T Binocular, N-WF10x/20 Eyepieces, LM Plan Achromat Objectives 5x, 10x, 20x, 50x, Halogen 12V/50W Epi-Illumination and Quartz Halogen 6V/30W Koehler Illumination	each
22570-14	BA310MET-T Trinocular, N-WF10x/20 Eyepieces, LM Plan Achromat Objectives 5x, 10x, 20x, 50x, Halogen 12V/50W Epi-Illumination and Quartz Halogen 6V/30W Koehler Illumination.....	each

MOTIC® AE2000MET INVERTED METALLURGICAL MICROSCOPE

The Motic® AE2000MET is an inverted metallurgical microscope that offers a solution for observing large size or irregular samples that could not be fitted under an upright microscope. These include metal parts, materials, minerals, die castings and precision molds etc. This latest addition to the Motic® line is an excellent inverted microscope with cost-efficient pricing for failure analysis, material research or quality control in fields including automotive, aerospace, machinery, tooling fabrication and iron and steel industries.

A new generation of LM Plan BD long working distance objectives are fitted to the Motic® AE2000MET. Made using high quality glass and an upgraded anti-reflex coating technology, these lenses are suitable for Dark Field, Bright Field, and Polarized Light observation.

As an option, an adapter allows for mounting a range of LM Plan Metallurgical lenses for Bright Field observation only.

Kohler illumination is provided by a high-intensity 12V/50W halogen lamp which allows for the adjustment of intensity for Bright field, Dark field and Polarized light observation. The AE2000MET incorporates an energy saving “sleep mode” which turns the instrument off if not used for 15 minutes and re-powers automatically when work is resumed.



22565-12	AE2000MET Trinocular, N-WF10x/20 Eyepieces, LM Plan BD Objectives 5x, 10x, 20x, 50x, Halogen 12V/50W Koehler Illumination.....	each
2256514	AE2000MET Trinocular Body, N-WF10x/20 Eyepieces, Halogen 12V/50W Koehler Illumination; Complete Except No Objective Lens.....	each

FOR COMPLETE SELECTION OF MICROSCOPE ACCESSORIES VISIT
www.tedpella.com

SEM PIN, M4 & CYLINDER SPECIMEN MOUNTS IN ALUMINUM AND CARBON

Small, large, low profile, angled, engraved and mini pin stub specimen mounts available.



Standard 12.7mm Diameter x 8mm Pin Height

The most commonly used SEM Pin Stub Mount.

16111 12.7mm (1/2"), 8mm Pin Length
..... pkg/50, 100, 500 or 1000



18mm Diameter x 8mm Pin Height

16119 Medium 18mm (0.7") Pin Stub, 8mm Pin ..
Lengthpkg/10, 50 or 100



25.4mm Diameter x 9.5mm Pin Height

16144 Large 25.4mm (1") Pin Stub, 9.5mm ...
Pin Length..... pkg/10, 50 or 100



Mini Pin Stubs

16180 Mini Pin Stub, 6.6 x 1.3mm Head, 9.5mm Pin.... pkg/100



Low Profile Pin Stubs

Low Profile 45° SEM Pin Stubs made of aluminum with grooved edges.

16102 Low Profile 45° SEM Pin Stub, Ø12.7mm.....each



PIN & M4 MOUNT SEM SPECIMEN HOLDERS

A large selection of SEM specimen holders for SEMs, FES-EMs, and FIB systems, which are using the standard 3.2mm (1/8") pin type mount. Some of the larger holders require a larger specimen chamber and a larger stage. Depending on the available distance, Z-movement and maximum specimen height provided by the specimen stage in the SEM, pin stub extenders might be added to obtain the optimized working height. See Hitachi M4 Holders if you have a Hitachi SEM, FESEM, or FIB system. These specimen holders can also be used on JEOL SEMs if a pin mount adapter to JEOL cylinder mount is used.

Visit www.tedpella.com/SEMmod_html/SEMspec1.htm for details.



NEW PELCO® EBSD SPECIMEN HOLDERS & MOUNTS

Extensive selection of multi-functional EBSD specimen holders can be used in SEMs, FESEMs and FIB systems with a standard pin or M4 stage mount. With the pre-tilted holders, there is no need to tilt the specimen stage. This avoids drift and enables quick setup for EBSD analysis. Rotate the external holder via the adjustable set screw for additional sample geometries or t-EBSD analysis. Some of the larger holders require a larger specimen chamber and a larger stage.

Visit www.tedpella.com/EBSD_html/EBSD.htm for details.



WAFER HOLDERS FOR NOTCH-STYLE WAFERS; 4-12"

Wafer holders for notch style wafers in 4", 6", 8" and 12" are made of aluminum with brass clips. Each wafer holder has two fixed clips, a notch pin and a spring-loaded clip opposite the

notch pin to secure the wafer on the holder. Extended Button (15372-10) is needed when used with the Dovetail Stage Adapters (15371 or 15397).

15393	Wafer Holder, 100mm (4"), M4.....each
15391	Wafer Holder, 150mm (6"), M4.....each
15395	Wafer Holder, 200mm (8"), M4.....each
15394	Wafer Holder, 300mm (12"), M4.....each

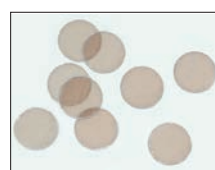


PELCO® STEM IMAGING HOLDER

The PELCO® STEM imaging holder enables STEM imaging in the SEM by using the standard Everhart-Thornley SE detector in the SEM chamber. The standard 3mm TEM grid is placed in the grid holder and located under the scanning beam. The STEM image is created by the adjustable Pt conversion plate

which must face the chamber SE-detector. Cost-effective method for STEM imaging by using the existing SE detector in the SEM chamber. The included anti-scatter sleeve, placed between the holder and the SEM pole piece, contains secondary electron from the sample surface and prevents these from being detected; the result is clear STEM imaging. Overall height with anti-scatter sleeve is 37.5mm (1-1/2") and 29.2 (1.15") without the anti-scatter sleeve. Material: vacuum grade aluminum, brass grid holder, platinum conversion plate and conductive plastic.

16412-4 PELCO® STEM Imaging Holder, M4..... each



AFM MICA DISCS

Highest quality grade V1 mica, 0.21mm (0.0085") thick. Interleaved, in packages of 10.

50	Highest Grade V1 AFM Mica Discs, 10mm..... pkg/10
50-12	Highest Grade V1 AFM Mica Discs, 12mm..... pkg/10
50-15	Highest Grade V1 AFM Mica Discs, 15mm..... pkg/10
50-20	Highest Grade V1 AFM Mica Discs, 20mm..... pkg/10

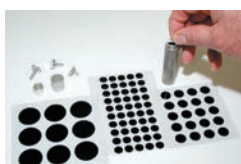


SILICON CHIP SPECIMEN SUPPORTS

Si-chips are opaque, of low electrical resistance and have surface properties equal to glass (including smoothness). They are chemically inert and make good

substrates for growing or mounting cells.

16007	4" (10cm) dia., 5 x 7mm diced Silicon Wafer, 187 chips/wafer.....each
16008	4" (10cm) dia., 5 x 5mm diced Silicon Wafer, 270 chips/wafer.....each
16006	4" (10cm) dia., 10 x 10mm diced Silicon Wafer, 55 chips/wafer.....each



PELCO TABS™ CARBON CONDUCTIVE TABS, DOUBLE COATED

The simplicity of application and smooth, clean surfaces of PELCO Tabs™ Carbon Conductive Tabs are a significant improvement compared to many of the other common adhesives that have been used in SEM mounting. Both tab sides have a thick conductive adhesive (conductive inner tab is 35µm and the adhesive is 45µm on each side for a total thickness of 125µm [5 mils]) with a liner on both sides, a transparent liner and white liner respectively. They are ready for immediate use. The top protective liner does not have to be removed until the sample is ready to be mounted. This reduces possible contamination. Outgassing is negligible.

mon adhesives that have been used in SEM mounting. Both tab sides have a thick conductive adhesive (conductive inner tab is 35µm and the adhesive is 45µm on each side for a total thickness of 125µm [5 mils]) with a liner on both sides, a transparent liner and white liner respectively. They are ready for immediate use. The top protective liner does not have to be removed until the sample is ready to be mounted. This reduces possible contamination. Outgassing is negligible.

16084-1	PELCO Tabs™, 12mm OD.....pkg/100
16084-2	PELCO Tabs™, 25mm OD.....pkg/54



CARBON CONDUCTIVE TAPE, DOUBLE COATED

These carbon tapes are conductive and may be used conveniently for SEM or EDS applications. Same material as the PELCO Tabs™, Carbon Conductive Tabs. The purity of this tape is identical to the PELCO Tabs™; only very small impurities of Al and Si may be found.

Both sides of the tape have a thick conductive adhesive (conductive inner film is 35µm and the adhesive is 45µm on each side for a total of 125µm [5 mils]) with a white liner. The double adhesive and conductive design permits quick mounting of samples without using liquid or colloidal adhesives.

Both sides of the tape have a thick conductive adhesive (conductive inner film is 35µm and the adhesive is 45µm on each side for a total of 125µm [5 mils]) with a white liner. The double adhesive and conductive design permits quick mounting of samples without using liquid or colloidal adhesives.

16073	Carbon Tape, 8mm W x 20m L.....each
16073-1	Carbon Tape, 12mm W x 20m L.....each
16073-2	Carbon Tape, 20mm W x 20m L.....each
16073-3	Carbon Tape, 25mm W x 20m L.....each
16073-4	Carbon Tape, 50mm W x 20m L.....each

PELCO® CONDUCTIVE GRAPHITE PAINT

Conductive graphite paint is ideal for mounting conductive and non-conductive SEM specimens on stubs. Non-conductive specimens may require additional conductive paths. Supplied with convenient applicator brush in cap.



PELCO® Water Based Graphite Paint

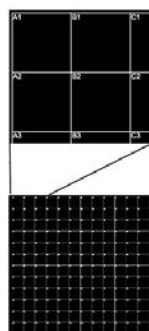
Water based graphite paint contains no hydrocarbons as solvents and will give less contamination in high vacuum. Good choice for mounting samples for FE-SEM applications. Flat surface texture. Average flake size 1µm. Service temperature: 149°C.



PELCO® Isopropanol Based Graphite Paint

Conductive graphite paint, also known as carbon cement, primarily designed for SEM sample preparation. The graphite flakes, with an average size of 1µm, are bonded by a cellulose resin with isopropanol as diluent. Good bonding properties on most materials. Graphite content is 20%. Ideal to mount samples on sample stubs or to make a conductive path to the sample surface. Let fully dry before using in the SEM. Maximum service temperature: 200° C. Use Graphite Paint Thinner/Extender (#16054) to dilute when needed.

Visit www.tedpella.com/SEMmisc_html/SEMPaint.htm for details.



PELCOTEC™ SFG12 FINDER GRID SUBSTRATE

The innovative Pelcotec™ SFG12 finder grid substrate is a flat, conductive silicon substrate with a die size of 12.5 x 12.5mm. It is covered with a 1 x 1mm raster giving a total of 12 x 12 = 144 fields. Each field has a unique label using an alphanumeric pattern. The lines and labels are precision laser etched in the silicon surface. It is the best combination of a flat specimen support and an SEM finder grid.

Specifications of the silicon substrate used: prime virgin silicon wafer, P Boron doped, <100> orientation, resistivity of 0.5-35 ohm/cm, thickness 645 µm ±55µm.

21480	Pelcotec™ Silicon SFG12 Finder Grid.....each
-------	--



PLASTIC BOX WITH SEM PIN MOUNT SPECIMEN HOLDER

For Ø12.7mm (1/2") SEM pin mounts with Ø3.2mm (1/8") pins.

16120	Plastic Box with Pin Mount Specimen Holder .....each
-------	--

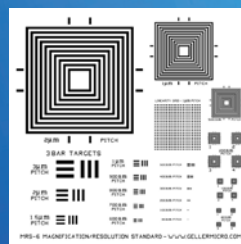


PIN STUB SEM MOUNT GRIPPERS

Stainless steel gripper tweezers/forceps specially made for handling and transporting grooved SEM pin stub mounts. Sizes available are 12.7, 25 and 32mm (1/2", 1" and 1-1/4").

1663-12	SEM Pin Mount Gripper Tweezer, SS, 45° Angle, 114mm Long, for 12.7mm Pin Stubs..... each
---------	--

Spatial Calibration & Microanalysis Standards



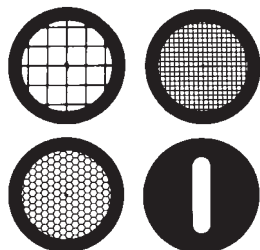
FOR COMPLETE SELECTION & PRODUCT INFORMATION VISIT

www.tedpella.com

TEM SPECIMEN SUPPORT GRIDS

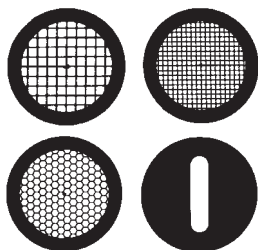
The largest and most comprehensive selection of transmission electron microscopy grids, support films and SiN membranes for all TEM applications in materials science, life science, semiconductor and nanotechnology.

Visit the web pages listed for complete selection and product details.



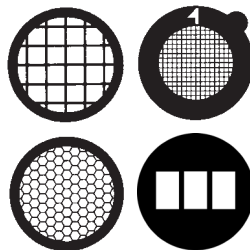
PELCO® Grids

Comprehensive selection of easy handling, wide rim, sturdy grids. Mesh, Hexagonal, Slot and Hole
www.tedpella.com/grids_html/Pelco-TEM-Grids.htm



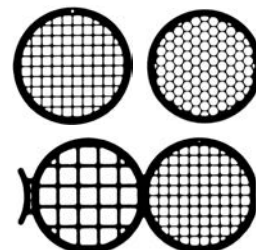
PELCO® Special Metal Grids

Stainless Steel, Titanium, Molybdenum, Aluminum
www.tedpella.com/grids_html/Pelco-Special-Metal-Grids.htm



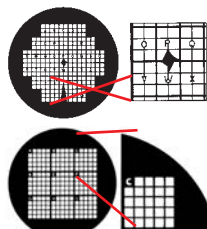
Gilder Grids

Large selection of well defined thin bar grids up to 2000 Mesh. Mesh, Hexagonal, Slot and Hole
www.tedpella.com/grids_html/gilder.htm



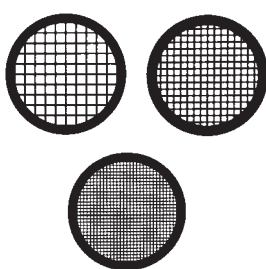
StrataTek™ Grids

Affordable, sturdy, medium mesh grids. Mesh, Honeycomb, Slot and Hole
www.tedpella.com/grids_html/StrataTek.htm



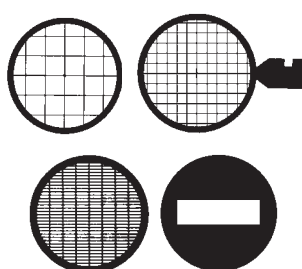
Reference / Finder Grids

Wide selection of reference, locator and micron index grids.
www.tedpella.com/grids_html/ref-find.htm



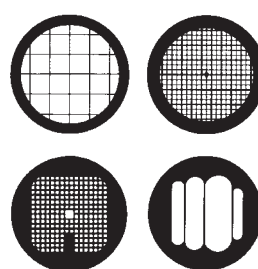
Maxtaform Grids

Selection of Rh coated grids.
www.tedpella.com/grids_html/maxtafrm.htm



Veco Grids

Selection of rigid grids. Mesh, Honeycomb and Slot
www.tedpella.com/grids_html/vec01.htm



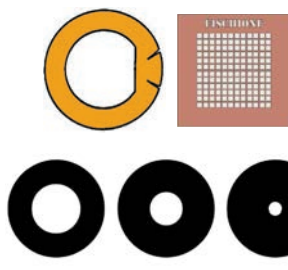
Athene Grids

Selection of unique grids. Mesh, Honeycomb and Slot
www.tedpella.com/grids_html/athene.htm



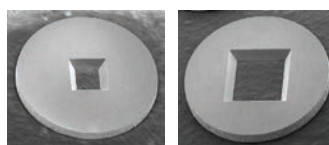
SynapTek™ Grids

Thicker, notch type, slotted grids. SynapTek™ GridStick™ for staining.
www.tedpella.com/grids_html/synaptek.htm



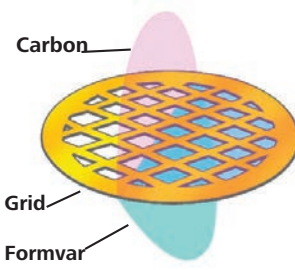
Specialty Grids

Pyrolytic Carbon, Tomography and Chien Grids.
www.tedpella.com/grids_html/tomography.htm



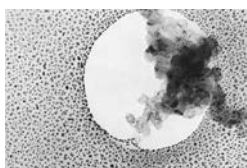
Silicon Nitride Membranes

www.tedpella.com/grids_html/silicon-nitride.htm



Support Film Grids

Formvar Substrates, Carbon Support Films, NetMesh Grids, Lacey Support Films.
www.tedpella.com/Support_Films_html/Support_Films_and_Substrates_Overview.htm

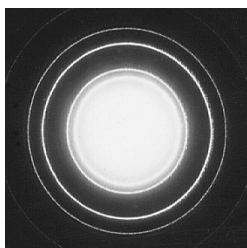


COMBINED TEM TEST SPECIMEN - GOLD / GRAPHITIZED CARBON

A holey carbon film is shadowed with gold and graphitized carbon particles are deposited. These particles viewed over the holes may be used for assessment of factors limiting the microscope performance. The evaporated gold forms small polycrystalline islands and within these islands lattice fringes can be resolved.

This specimen is also used for contamination measurement rates in the electron microscope by noting the deposition rate of carbon within the holes found in the gold film.

638 Combined TEM Test Specimen on 3mm grid.....each



DIFRACTION STANDARD - CAMERA LENGTH

The nominal value of the effective camera length of an EM operating in the selected area mode is not sufficiently accurate for calculations of lattice spacing. The actual value of camera length must be calibrated at the same accelerating voltage and

objective lens setting by reference to a known substance with well defined diffraction spacings. A normal specimen is evaporated film of aluminum with a thickness of around 31nm. Very small crystallite size yields ring patterns suitable for calibration. The specimen is supplied with a list of the principal lattice spacings. Made on a G400, 400 square mesh copper Gilder grid.

619 Evaporated Aluminum on 3mm grideach

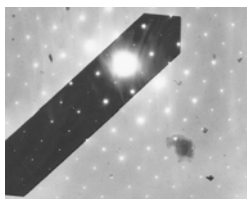
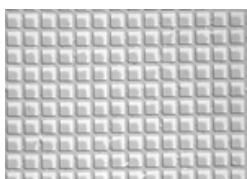


IMAGE ROTATION

When changing from a selected area image of a specimen to a diffraction pattern, the strength of the intermediate lens is changed, producing an image rotation between the image and the diffraction pattern. This rotation is seen by photographing a

crystal whose shape gives a clear indication of orientation. A molybdenum trioxide crystal is suitable for this purpose. Supported on a G400, 400 square mesh copper Gilder grid.

625 Molybdenum Trioxide on 3mm grid.....each

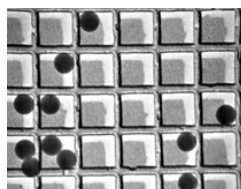


500NM MAGNIFICATION CALIBRATION DIFRACTION GRATING REPLICA

Carbon replica with Au/Pd shadowing on a cross line grating with well-defined trench type grooves. Pitch or

"d" spacing for parallel line grating is 500nm. The trench type groove makes it easy to measure the pitch. Typically, cross line grating is used up to 100,000x with 2,000 lines/mm in both directions. Instructions included. Made on a G400, 400 square mesh copper grid.

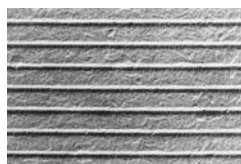
677 500nm Grating Replica, Cross line, 2000 l/mm, on 3mm grid.... each



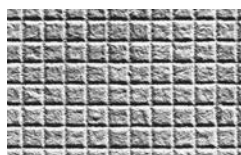
500NM DIFRACTION GRATING REPLICA WITH LATEX SPHERES

Two-in-one; this standard for calibration provides a double-check of the accuracy of magnification calibration. It is particularly useful at higher magnification; up to 150,000x. The latex sphere size is 261nm and the carbon cross line grating replica with Au/Pd shadowing has a pitch or "d" spacing of 500nm or 2000 lines/mm. Replica has well-defined trench type grooves, which makes it easy to measure the 500nm pitch. Supplied on a G400, 400 square mesh copper grid.

673 500nm Diffraction Grating Replica with Latex Spheres, 2000 l/mm, on 3mm grid each



606

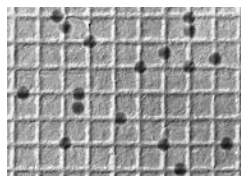


607

500NM DIFRACTION GRATING REPLICA WITH LATEX SPHERES

Two-in-one; this standard for calibration provides a double-check of the accuracy of magnification calibration. It is particularly useful at higher magnification; up to 150,000x. The latex sphere size is 261nm and the carbon cross line grating replica with Au/Pd shadowing has a pitch or "d" spacing of 500nm or 2000 lines/mm. Replica has well-defined trench type grooves, which makes it easy to measure the 500nm pitch. Supplied on a G400, 400 square mesh copper grid.

606 Grating Replica, Parallel, 2160 l/mm, on 3mm grid..... each
 607 Grating Replica, Waffle, 2160 l/mm, on 3mm grid..... each



DIFRACTION GRATING REPLICA WITH LATEX SPHERES

Two-in-one; this standard for calibration provides a double-check of the accuracy of magnification calibration. It is particularly useful at higher magnification. The latex sphere size is 0.261 μ m and the

carbon grating replica with Au/Pd shadowing is 2160 lines/mm. Supplied on a G400, 400 square mesh copper Gilder grid.

603 Diffraction Grating Replica and Latex Calibration Standard each



GOLD SHADOWED LATEX




















These are latex particles of 0.204 μ m diameter shadowed with a fairly heavy coating of gold. The gold forms islands of strongly scattering material and produces a suitable test object for STEM.

628-B Gold Shadowed Latex, 3.05mm grid each

Ted Pella, Inc. is the exclusive distributor in the Americas for the complete line of high quality compact desktop vacuum coating systems manufactured by Cressington Scientific Instruments. The Cressington products range comprises 108 series sputter coaters for standard SEM sample coating, the 108 series carbon coaters for standard EDS coating, the 208HR High Resolution Turbo Sputter Coater for field emission SEM (FESEM) applications, and the 208C High Vacuum Turbo Carbon Coater for TEM/EBSD/EPMA applications.

Dedicated thickness measurement systems offer precise control over the desired coating thickness. A rotary-tilting stage enables better uniformity and a more conformal coating on topographic samples or coating of a larger number of samples. Cressington takes pride in building compact bench-top systems that have excellent quality and are easy to use.

Visit www.tedpella.com/cressington_html/Cressington-Introduction.htm for complete selection and product details.

Sputter Coaters						Carbon Coaters		
								
Model	108 Manual	108 Auto	108 Auto/SE	208HR		108C Auto	108C Auto/SE	208C
Sample Table	holds 12 SEM pin stubs; height adjustable through 60mm					holds 12 SEM pin stubs; height adjustable through 60mm		
Product Number	6002, 6006	7002, 7006	7008, 7008-220	8000, 8002, 8004, 8008		9602, 9602-220	9603, 9603-220	9620, 9624
Coating Material	Au, Au:Pd, Pt, Pt:Pd, Pd, Cu, Ag			Cr, Pt:Pd, Ir, Au, Au:Pd, Pt, W, Ta, Others		Double-Tip Carbon Rods (2 step; Ø6.15mm)		
Chamber OD x H (mm)	120 x 120	120 x 120	150 x 165	150 x 165, 165 x 250		120 x 120	150 x 165	150 x 165, 165 x 250
Target Shutter	No	No	Yes	Yes		N/A	N/A	N/A
Sample Stage Movement	 RT		 RT or RPT	 RPT		Static	 RT or RPT	 RT or RPT
Thickness Measurement System	 MTM-10	 MTM-10 or MTM-20	 MTM-10 or MTM-20	 MTM-20		 MTM-10	 MTM-10	 MTM-10
Source	DC Magnetron					Bradley-type Carbon Rod Source		