# **TEM GRIDS & TEM SUPPORT FILMS**



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Grids Overview

#### **TEM Grids Overview**



TED PELLA, INC.

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# **General Grid Information**

#### Thickness

PELCO® grids are usually thicker than similar mesh grids.

#### Finish

Copper, Nickel and Gold grids have a matt finish on one side and a shiny finish on the other side.

#### Packaging

100 grids per vial/tube, except for specials which are listed accordingly. Gold, Titanium, Molybdenum and Aluminum grids are packaged in 25's. All Athene and Gilder grids are packaged in black antistatic vials.

#### **Base Materials**

Material C	ode
Copper, Cu	.C
Nickel, Ni	. N
Gold, Au	.G
Aluminum, Al	.A
Molybdenum, Mo	. M
Titanium, Ti	.Т
Stainless Steel	.S
Carbon, C	.No Notation
Beryllium-Copper base material for SynapTek™	Grids

#### Hole Width, Bar Width, Pitch



From the drawing above, the hole and bar widths are shown. Sometimes "Pitch" is used in this terminology and it is the equivalent of hole width plus bar width. As Pitch decreases, so does % of transmission through the grid.



#### **PELCO®** Grids

The PELCO® grids are usually somewhat thicker than similar TEM grids, but still maintain a good definition of the grid bars. The wide rim on the PELCO® grids provides additional stiffness and minimizes interfering with the sample when picking up and handling the grids with tweezers. The popular PELCO® grids were introduced 44 years ago (1968) and have found a large international user base in all disciplines of TEM. The grids have a shiny (smooth) finish on one side and matt or dull finish on the other side. Comprehensive selection of different grid styles is offered with a standard diameter of 3.05mm. Available materials are Cu, Ni, Au, Al, Ti, Stainless Steel and Mo (for high temperature applications).

PELCO <sup>®</sup> Grids					
Square Mesh	Pitch µm	Hole µm	Bar µm	% Transmis- sion	
50	508	425	83	70	
75	339	284	55	70	
100	254	204	50	65	
150	169	125	44	60	
200	127	90	37	50	
300	85	54	31	40	
400	64	38	26	35	

Packaging: Standard Cu grids are 100 grids/vial, except specials

which are listed accordingly. Gold, Titanium, Molybdenum, Stainless

Steel and Aluminum are packaged 25 grids/vial. Special Grid Storage Boxes are available, even for the PELCO® Tabbed Grids.

#### ■ PELCO<sup>®</sup> 50 Mesh Grids



50 Mesh: Pitch	0 Mesh: Pitch 508μm; Hole Width 425μm; Bar Width 83μm; Transmission 70%		
1GC50	PELCO <sup>®</sup> Center-Marked Grids, 50 mesh, Copper	100/vial	
1GN50	PELCO <sup>®</sup> Center-Marked Grids, 50 mesh, Nickel	100/vial	
1GG50	PELCO <sup>®</sup> Center-Marked Grids, 50 mesh, Gold	25/vial	



Tabbed 50 Mesh: Pitch 508μm; Hole Width 425μm; Bar Width 83μm; Transmission 70%		
3HGC50	PELCO® Tabbed Center-Marked Grids, 50 mesh, Copper	100/vial

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Slotted 50 x 2	00 Mesh	
1GC50/200	PELCO <sup>®</sup> Slotted 50 x 200 Mesh, Center-Marked Grids, Copper	100/vial



Folding 50 Me	sh	
4GC50/50	PELCO <sup>®</sup> Folding 50/50 Mesh, Center-Marked Grids, Copper	100/vial

#### ■ PELCO<sup>®</sup> 75 Mesh Grids



75 Mesh: Pitch	339µm; Hole Width 284µm; Bar Width 55µm; Transmission 70%	
1GC75	PELCO <sup>®</sup> Center-Marked Grids, 75 mesh, Copper	100/vial
1GN75	PELCO <sup>®</sup> Center-Marked Grids, 75 mesh, Nickel	100/vial
1GG75	PELCO <sup>®</sup> Center-Marked Grids, 50 mesh, Gold	25/vial



Tabbed 75 Mesh: Pitch 339μm; Hole Width 284μm; Bar Width 55μm; Transmission 70%			
3HGC75	PELCO <sup>®</sup> Tabbed, Center-Marked Grids, 75 mesh, Copper	100/vial	
3HGN75	PELCO <sup>®</sup> Tabbed, Center-Marked Grids, 75 mesh, Nickel	100/vial	





#### ■ PELCO<sup>®</sup> 100 Mesh Grids

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00 Mesh: Pitch 254µm; Hole Width 204µm; Bar Width 50µm; Transmission 65%			
IGC100	PELCO <sup>®</sup> Center-Marked Grids, 100 mesh, Copper	100/vial	
IGN100	PELCO <sup>®</sup> Center-Marked Grids, 100 mesh, Nickel	100/vial	
IGG100	PELCO <sup>®</sup> Center-Marked Grids, 100 mesh, Gold	25/vial	

Tabbed 100 Mesh: Pitch 254µm; Hole Width 204µm; Bar Width 50µm; Transmission 65%			
3HGC100	PELCO <sup>®</sup> Tabbed Center-Marked Grids, 100 mesh, Copper	100/vial	
3HGN100	PELCO <sup>®</sup> Tabbed Center-Marked Grids, 100 mesh, Nickel	100/vial	



Slotted 100 x 400 Mesh			
1GC100/400	PELCO <sup>®</sup> Slotted, 100 x 400 Mesh, Center Marked Grids, Copper	100/vial	
1GN100/400	PELCO <sup>®</sup> Slotted, 100 x 400 Mesh, Center Marked Grids, Nickel	100/vial	

Folding 100 Me	Folding 100 Mesh		
4GC100/100	PELCO <sup>®</sup> Folding, 100/100 Mesh, Center Marked One Side Grids, Copper	100/vial	
4GN100/100	PELCO <sup>®</sup> Folding, 100/100 Mesh, Center Marked One Side Grids, Nickel	100/vial	
4GC100/300	PELCO <sup>®</sup> Folding, 100/300 Mesh, Center Marked One Side Grids, Copper	100/vial	

#### ■ PELCO<sup>®</sup> 150 Mesh Grids



150 Mesh: Pitch 169μm; Hole Width 125μm; Bar Width 44μm; Transmission 60%		
1GC150	PELCO <sup>®</sup> Center-Marked Grids, 150 mesh, Copper	100/vial
1GN150	PELCO <sup>®</sup> Center-Marked Grids, 150 mesh, Nickel	100/vial
1GG150	PELCO <sup>®</sup> Center-Marked Grids, 150 mesh, Gold	25/vial



Tabbed 150 Mesh: Pitch 169 $\mu$ m; Hole Width 125 $\mu$ m; Bar Width 44 $\mu$ m; Transmission 60%			
3HGC150	PELCO <sup>®</sup> Tabbed Center-Marked Grids, 150 mesh, Copper	100/vial	
3HGN150	PELCO <sup>®</sup> Tabbed Center-Marked Grids, 150 mesh, Nickel	100/vial	





### ■ PELCO<sup>®</sup> 200 Mesh Grids



200 Mesh: Pitch 127μm; Hole Width 90μm; Bar Width 37μm; Transmission 50%		
1GC200	PELCO <sup>®</sup> Center-Marked Grids, 200 mesh, Copper	100/vial
1GN200	PELCO <sup>®</sup> Center-Marked Grids, 200 mesh, Nickel	100/vial
1GG200	PELCO <sup>®</sup> Center-Marked Grids, 200 mesh, Gold	25/vial

Tabbed 200 Mesh: Pitch 127μm; Hole Width 90μm; Bar Width 37μm; Transmission 50%3HGC200PELCO® Tabbed Center-Marked Grids, 200 mesh, Copper100/vial3HGN200PELCO® Tabbed Center-Marked Grids, 200 mesh, Nickel100/vial

Extra Open Ar	rea 200 Mesh	
4406	PELCO <sup>®</sup> Extra Open Area Grids, 200 mesh, 3.0mm O.D., Copper	25/vial



Notch Rim 20	) Mesh	
1GC200NV	PELCO <sup>®</sup> Notchrim Grids, 200 mesh, 3.0mm O.D., Copper	100/vial

#### ■ PELCO<sup>®</sup> 300 Mesh Grids



300 Mesh: Pitch 85µm; Hole Width 54µm; Bar Width 31µm; Transmission 40%		
1GC300	PELCO <sup>®</sup> Center-Marked Grids, 300 mesh, Copper	100/vial
1GN300	PELCO <sup>®</sup> Center-Marked Grids, 300 mesh, Nickel	100/vial
1GG300	PELCO <sup>®</sup> Center-Marked Grids, 300 mesh, Gold	25/vial



Tabbed 300 Mesh: Pitch 85µm; Hole Width 54µm; Bar Width 31µm; Transmission 40%		
3HGC300	PELCO <sup>®</sup> Tabbed Center-Marked Grids, 300 mesh, Copper	100/vial
3HGN300	PELCO <sup>®</sup> Tabbed Center-Marked Grids, 300 mesh, Nickel	100/vial

#### ■ PELCO<sup>®</sup> 400 Mesh Grids



400 Mesh: Pitch 64μm; Hole Width 38μm; Bar Width 26μm; Transmission 35%		
1GC400	PELCO <sup>®</sup> Center-Marked Grids, 400 mesh, Copper	100/vial
1GN400	PELCO <sup>®</sup> Center-Marked Grids, 400 mesh, Nickel	100/vial
1GG400	PELCO <sup>®</sup> Center-Marked Grids, 400 mesh, Gold	25/vial





#### ■ PELCO<sup>®</sup> 400 Mesh Grids Continued



 
 Extra Open Area 400 Mesh

 4408
 PELCO® Extra Open Area, Center-Marked Grids, 400 mesh, Copper
 25/vial

#### ■ PELCO<sup>®</sup> 500 Mesh Grids



500 Mesh: Pitch 51µm; Hole Width 28µm; Bar Width 23µm; Transmission 30%		
1GC500	PELCO <sup>®</sup> Center-Marked Grids, 500 mesh, Copper	100/vial

Tabbed 500 Mesh: Pitch 51μm; Hole Width 28μm; Bar Width 23μm; Transmission 30%3HGC500PELCO® Tabbed Center-Marked Grids, 500 mesh, Copper100/vial

#### ■ PELCO<sup>®</sup> Hexagonal Grids

	Hexagonal G	irids 90, 135, 180, 270, 360 Mesh	
90 Mesh	8GC90	PELCO <sup>®</sup> Hexagonal Center-Marked Grids, 90 mesh, Copper	100/vial
	8GN90	PELCO <sup>®</sup> Hexagonal Center-Marked Grids, 90 mesh, Nickel	100/vial
	8GC135	PELCO <sup>®</sup> Hexagonal Center-Marked Grids, 135 mesh, Copper	100/vial
125 Mach	8GC180	PELCO <sup>®</sup> Hexagonal Center-Marked Grids, 180 mesh, Copper	100/vial
	8GN180	PELCO <sup>®</sup> Hexagonal Center-Marked Grids, 180 mesh, Nickel	100/vial
1445555	8GC270	PELCO <sup>®</sup> Hexagonal Center-Marked Grids, 270 mesh, Copper	100/vial
	8GC360	PELCO <sup>®</sup> Hexagonal Center-Marked Grids, 360 mesh, Copper	100/vial
180 Mesh			
	Tabbed Hexa	agonal Grids 90, 135, 270 Mesh	
270 Mesh	8HGC135	PELCO <sup>®</sup> Tabbed Hexagonal Center-Marked Grids, 135 mesh, Copper	100/vial
	8HGC270	PELCO <sup>®</sup> Tabbed Hexagonal Center-Marked Grids, 270 mesh, Copper	100/vial
360 Mesh			





511	Tab-Nipper	each
511-A	Tab-Nipper, Gold Plated	each



#### PELCO<sup>®</sup> Slot Grids Grids



Slot Grids, ext	Slot Grids, extra thick (50µm)		
Slot 1x2mm (a	Slot 1x2mm (after F. Sjöstrand)		
1GC12H	PELCO <sup>®</sup> Slot Grids, 1 x 2mm, Copper	100/vial	
1GN12H	PELCO <sup>®</sup> Slot Grids, 1 x 2mm, Nickel	100/vial	
Slot 0.4x2mm (after R.F. Bils)			
1GC42S	PELCO <sup>®</sup> Slot Grids, 0.4 x 2mm, Copper	100/vial	
1GN42S	PELCO <sup>®</sup> Slot Grids, 0.4 x 2mm, Nickel	100/vial	



Tabbed Slot Grids, 1x2mm, extra thick (50µm)		
3HGC12H	Cohen-PELCO <sup>®</sup> Tabbed Slot Grids, 1 x 2mm, Copper	100/vial
3HGN12H	Cohen-PELCO <sup>®</sup> Tabbed Slot Grids, 1 x 2mm, Nickel	100/vial

#### PELCO<sup>®</sup> Hole Grids



Hole Grids, extra thick (50μm)		
1GC6H	PELCO <sup>®</sup> Hole Grids, 0.6mm, Copper	100/vial
1GC8H	PELCO <sup>®</sup> Hole Grids, 0.8mm, Copper	100/vial
1GC10H	PELCO <sup>®</sup> Hole Grids, 1.0mm, Copper	100/vial
1GG10H	PELCO <sup>®</sup> Hole Grids, 1.0mm, Gold	25/vial

Tabbed Hole G	irid, 1.0mm, extra thick (50µm)	
3HGC10H	PELCO <sup>®</sup> Tabbed Hole Grids, 1.0mm, Copper	100/vial

#### **PELCO® Special Metal Grids**

for transmission electron microscopy - packed in anti-static vials - useful for EDX analysis, high temperature and cryo applications

These grids are available in molybdenum, titanium, aluminum and stainless steel 316. The grids are made by a high precision etching process. The thickness is approximately 25µm for Mo and Al, 15µm for Ti and 12µm for stainless steel. The pattern with the 350-400µm wide rim on the PELCO<sup>®</sup> grids provide greater stiffness and improves handling of the grids. All grids have a standard diameter of 3.0 to 3.05mm. Available styles are: square mesh, hexagonal mesh, double folding grids, tabbed grids, slotted and aperture grids. The square mesh and double folding grids have a center mark. For standard grid materials such as Cu, Ni and Au, please go to the PELCO<sup>®</sup> Grids page. Packaging: Mo, Ti, Al and Stainless Steel grids are packaged in 25grids/vial.

#### PELCO® 100 Mesh Special Metal Grids



Tabbed 75 Mesh: Pitch 339μm; Hole Width 284μm; Bar Width 55μm; Transmission 70%3HGT75PELCO® Tabbed, Center-Marked Grids, 75 mesh, Titanium25/vial

Continued on next page



#### PELCO<sup>®</sup> Special Metal Grids Continued PELCO<sup>®</sup> 100 Mesh Special Metal Grids



100 Mesh: Pitch 254µm; Hole Width 204µm; Bar Width 50µm; Transmission 65%			
1GS100	PELCO <sup>®</sup> Center-Marked Grids, 100 mesh, Stainless Steel	25/vial	
1GT100	PELCO <sup>®</sup> Center-Marked Grids, 100 mesh, Titanium	25/vial	
1GM100	PELCO <sup>®</sup> Center-Marked Grids, 100 mesh, Molybdenum	25/vial	
1GA100	PELCO <sup>®</sup> Center-Marked Grids, 100 mesh, Aluminum	25/vial	

#### ■ PELCO<sup>®</sup> 200 Mesh Special Metal Grids



200 Mesh: Pite	ch 127μm; Hole Width 90μm; Bar Width 37μm; Transmission 50%	
1GS200	PELCO <sup>®</sup> Center-Marked Grids, 200 mesh, Stainless Steel	25/vial
1GT200	PELCO <sup>®</sup> Center-Marked Grids, 200 mesh, Titanium	25/vial
1GM200	PELCO <sup>®</sup> Center-Marked Grids, 200 mesh, Molybdenum	25/vial
1GA200	PELCO <sup>®</sup> Center-Marked Grids, 200 mesh, Aluminum	25/vial

#### ■ PELCO<sup>®</sup> 300 Mesh Special Metal Grids



300 Mesh: Pitch 85μm; Hole Width 54μm; Bar Width 31μm; Transmission 40%		
1GS300	PELCO <sup>®</sup> Center-Marked Grids, 300 mesh, Stainless Steel	25/vial
1GT300	PELCO <sup>®</sup> Center-Marked Grids, 300 mesh, Titanium	25/vial
1GM300	PELCO <sup>®</sup> Center-Marked Grids, 300 mesh, Molybdenum	25/vial
1GA300	PELCO <sup>®</sup> Center-Marked Grids, 300 mesh, Aluminum	25/vial
Tabbed 300 Mesh: Pitch 85µm; Hole Width 54µm; Bar Width 31µm; Transmission 40%		
3HGT300	PELCO <sup>®</sup> Tabbed Center-Marked Grids, 300 mesh, Titanium	25/vial

# ■ PELCO<sup>®</sup> 400 Mesh Special Metal Grids



400 Mesh: Pitc	h 64µm; Hole Width 38µm; Bar Width 26µm; Transmission 35%	
1GT400	PELCO <sup>®</sup> Center-Marked Grids, 400 mesh, Titanium	25/vial
1GA400	PELCO <sup>®</sup> Center-Marked Grids, 400 mesh, Aluminum	25/vial

#### ■ PELCO<sup>®</sup> Special Metal Folding Grids Center Marked On One Side



Folding 100/100 Mesh - Center Marked On One Side		
4GS100/100	PELCO <sup>®</sup> Folding, 100/100 Mesh Grids, Stainless Steel	25/vial
4GT100/100	PELCO <sup>®</sup> Folding, 100/100 Mesh Grids, Titanium	25/vial
4GM100/100	PELCO <sup>®</sup> Folding, 100/100 Mesh Grids, Molybdenum	25/vial



#### PELCO<sup>®</sup> Special Metal Grids Continued PELCO<sup>®</sup> Special Metal Folding Grids Continued



Folding 100/200 Mesh - Center Marked On One Side		
4GS100/200	PELCO <sup>®</sup> Folding, 100/200 Mesh Grids, Stainless Steel	25/vial
4GT100/200	PELCO <sup>®</sup> Folding, 100/200 Mesh Grids, Titanium	25/vial
4GM100/200	PELCO <sup>®</sup> Folding, 100/200 Mesh Grids, Molybdenum	25/vial

#### PELCO<sup>®</sup> Special Metal Hexigonal Grids



Hexagonal Grids 200, 300 Mesh		
5GM200	PELCO <sup>®</sup> Hexagonal Grids, 200 mesh, Molybdenum	25/vial
5GM300	PELCO <sup>®</sup> Hexagonal Grids, 300 mesh, Molybdenum	25/vial

#### ■PELCO<sup>®</sup> Special Metal Slot Grids



Slot 0.4x2mm		
1GS42S	PELCO <sup>®</sup> Slot Grids, 0.4 x 2mm, Stainless Steel	25/vial
1GT42S	PELCO <sup>®</sup> Slot Grids, 0.4 x 2mm, Titanium	25/vial
1GM42S	PELCO <sup>®</sup> Slot Grids, 0.4 x 2mm, Molybdenum	25/vial
1GA42S	PELCO <sup>®</sup> Slot Grids, 1 x 2mm, Aluminum	25/vial
Slot 1x2mm		
1GS12S	PELCO <sup>®</sup> Slot Grids, 0.4 x 2mm, Stainless Steel	25/vial
1GT12S	PELCO <sup>®</sup> Slot Grids, 0.4 x 2mm, Titanium	25/vial
1GM12S	PELCO <sup>®</sup> Slot Grids, 0.4 x 2mm, Molybdenum	25/vial
1GA12S	PELCO <sup>®</sup> Slot Grids, 1 x 2mm, Aluminum	25/vial

#### PELCO<sup>®</sup> Special Metal Aperture Grids



0.4mm Aperture		
1GS4H	PELCO <sup>®</sup> Aperture Grids, 0.4mm Hole, Stainless Steel	25/vial
1GT4H	PELCO <sup>®</sup> Aperture Grids, 0.4mm Hole, Titanium	25/vial
1GM4H	PELCO <sup>®</sup> Aperture Grids, 0.4mm Hole, Molybdenum	25/vial
0.6mm Apertu	re	
1GM6H	PELCO® Aperture Grids, 0.6mm Hole, Molybdenum	25/vial
1.0mm Apertu	re	
1GS10H	PELCO <sup>®</sup> Aperture Grids, 1.0mm Hole, Stainless Steel	25/vial
1GT10H	PELCO <sup>®</sup> Aperture Grids, 1.0mm Hole, Titanium	25/vial
1GM10H	PELCO <sup>®</sup> Aperture Grids, 1.0mm Hole, Molybdenum	25/vial
1GA10H	PELCO <sup>®</sup> Aperture Grids, 1.0mm Hole, Aluminum	25/vial
1.5mm Apertu	re	
1GS15H	PELCO <sup>®</sup> Aperture Grids, 1.5mm Hole, Stainless Steel	25/vial
1GT15H	PELCO <sup>®</sup> Aperture Grids, 1.5mm Hole, Titanium	25/vial
1GM15H	PELCO <sup>®</sup> Aperture Grids, 1.5mm Hole, Molybdenum	25/vial



The Gilder grids are available in 50 to an unrivalled 2000 mesh. The Gilder grids feature well defined grid bars, shiny (smooth) and matt side difference and are packaged in custom anti-static vials. They are made with precision electroplating technologies. An additional feature of the Gilder grids are the rim and centre marks to aid in the orientation on the grid and identification of each side. Most Gilder grids have a rim mark and many grids also have center marks. Wide selection of grid styles to support virtually every application with standard diameter of 3.05mm. Available materials are Cu, Ni, Au, Mo and Cu/Pd.

Packaging: Standard Cu or Ni 100grids/vial, except special configurations which are listed accordingly with packaging of 25 or 50 grids/vial.

Molybdenum is used in applications where it's hardness, expansion coefficient, high temperature and corrosive resistance characteristics are considered important. Mo typical purity 99.9%, melting point 2617°C (4742.6°F).

# ■ Gilder 50 Mesh Grids



50 Mesh: Pitch 500μm; Hole Width 420μm; Bar Width 80μm; Transmission 70%		
G50	Gilder Grids, 50 mesh, Copper	100/vial
G50N	Gilder Grids, 50 mesh, Nickel	100/vial

bottom.

#### Gilder 75 Mesh Grids

75 Mesh: Pitch	n 340µm; Hole Width 285µm; Bar Width 55µm; Transmission 66%	
G75	Gilder Grids, 75 mesh, Copper, Center & Rim Mark	100/vial
G75N	Gilder Grids, 75 mesh, Nickel, Center & Rim Mark	100/vial
G75G	Gilder Grids, 75 mesh, Gold, Center & Rim Mark	100/vial
Palladium Coated Copper Grids		
G75CUPD	Gilder Grids, 75 mesh, Cu/Pd, Center & Rim Mark	100/vial

#### Gilder 100 Mesh Grids



00 Mesh: Pitch 250µm; Hole Width 205µm; Bar Width 45µm; Transmission 67%		
G100	Gilder Grids, 100 mesh, Copper, Center & Rim Mark	100/vial
G100CUPD	Gilder Grids, 100 mesh, Cu/Pd ,Center and Rim-Mark	100/vial
G100N	Gilder Grids, 75 mesh, Nickel	100/vial
G100M	Gilder Grids 100 mesh, Molybdenum, Center & Rim Mark	25/vial

#### Gilder 150 Mesh Grids Grids



150 Mesh: Pitch 165µm; Hole Width 125µm; Bar Width 40µm; Transmission 45%		
G150	Gilder Grids, 150 mesh, Copper, Center & Rim Mark	100/vial
Palladium Coated Copper Grids		
G150CUPD	Gilder Grids, 150 mesh, Cu/Pd, Center & Rim Mark	100/vial
Thickness of Nickel grids is 35 microns ±5 microns		
G150N	Gilder Grids, 150 mesh, Nickel, Center & Rim Mark	100/vial

Fine Mesh Grids with marks: An asymmetrical mark in the rim, shown top. Center mark divides grid into 6 areas, bot-

tom.

Standard Mesh marks: An asyn	Grids with nmetrical mark	

mark for quadrant location or

older style, "reverse arrow",

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#### Gilder 200 Mesh Grids



200 Mesh: Pitch 125µm; Hole Width 90µm; Bar Width 35µm; Transmission 52%		
G200	Gilder Grids, 200 mesh, Copper, Center & Rim Mark	100/vial
Palladium Coa	ted Copper Grids	
G200CUPD	Gilder Grids, 200 mesh, Cu/Pd, Center & Rim Mark	100/vial
Thickness of N	lickel grids is 35 microns ±5 microns	
G200N	Gilder Grids, 200 mesh, Nickel, Center & Rim Mark	100/vial
200 Mesh Fine Bar: Pitch 125µm; Hole Width 113µm; Bar Width 12µm; Transmission 82%		
G200HS	Gilder Fine Bar Grids, 200 mesh, Copper, Rim Mark	100/vial
Thickness of N	lickel grids is 35 microns ±5 microns	
G200HSN	Gilder Fine Bar Grids, 200 mesh, Nickel, Rim Mark	100/vial
G200HSG	Gilder Fine Bar Grids, 200 mesh, Gold, Rim Mark	50/vial
200 Mesh Molybdenum grid overall thickness: 25µm, Pitch: 125µm, Bar Width: 35µm, Hole		
Width: 90µm		
G200M	Gilder Grids, 200 mesh, Molybdenum, Center & Rim Mark	25/vial

#### Gilder 300 Mesh Grids





300 Mesh: Pitch 83μm; Hole Width 58μm; Bar Width 25μm; Transmission 49%		
G300	Gilder Grids, 300 mesh, Copper, Center & Rim Mark	100/vial
Palladium Coat	ed Copper Grids	
G300CUPD	Gilder Grids, 300 mesh, Cu/Pd, Center & Rim Mark	100/vial
Thickness of Nickel grids is 35 microns ±5 microns		
G300N	Gilder Grids, 300 mesh, Nickel, Center & Rim Mark	100/vial
300 Mesh Fine Bar: Pitch 83µm; Hole Width 73µm; Bar Width 10µm; Transmission 77%		
G300HS	Gilder Fine Bar Grids, 300 mesh, Copper, Rim Mark	100/vial
Thickness of Nickel grids is 35 microns ±5 microns		
G300HSN	Gilder Fine Bar Grids, 300 mesh, Nickel, Rim Mark	100/vial

#### Gilder 400 Mesh Grids



400 Mesh: Pitch 62µm; Hole Width 37µm; Bar Width 25µm; Transmission 37%

G400	Gilder Grids, 400 mesh, Copper, Center & Rim Mark	100/vial
G400G	Gilder Grids, 400 mesh, Gold, Center & Rim Mark	50/vial
Palladium Coated Copper Grids		
G400CUPD	Gilder Grids, 400 mesh, Cu/Pd, Center & Rim Mark	100/vial
hickness of Nickel grids is 35 microns ±5 microns		
G400N	Gilder Grids, 400 mesh, Nickel, Center & Rim Mark	100/vial

400 Mesh Fine Bar: Pitch 62μm; Hole Width 54μm; Bar Width 8μm; Transmission 76%G400HSGilder Fine Bar Grids, 400 mesh, Copper, Rim Mark100/vial

#### Gilder 400 Lines Grids



400 Line Paralle	el Bar: Pitch 62µm; Space Width 40µm; Bar Width 22µm; Transmi	ssion 65%
G400P	Gilder Parallel Bar Grids, 400 lines, Copper, Rim Mark	50/vial

#### Gilder 600 Mesh Grids



600 Mesh Fine Bar: Pitch 42μm; Hole Width 37μm; Bar Width 5μm; Transmission 78%		
G600HS	Gilder Fine Bar Grids, 600 mesh, Copper, Rim Mark	100/vial



600 Mesh Thick-Thin: Hole Size 30μm; Bar Width 10/16μm; Transmission 65%		
G600TT	Gilder Thick-Thin Bar Grids, 600 mesh, Copper, Rim Mark	100/vial
G600TTG	Gilder Thick-Thin Bar Grids, 600 mesh, Gold, Rim Mark	50/vial

#### Gilder wGrids



l000 Mesh Fine Bar: Pitch 25μm; Hole Width 19μm; Bar Width 6μm; Transmission 57%		
G1000HS	Gilder Fine Bar Grids, 1000 mesh, Copper, Rim Mark	25/vial
G1000HSN	Gilder Fine Bar Grids, 1000 mesh, Nickel, Rim Mark	25/vial
G1000HSG	Gilder Fine Bar Grids, 1000 mesh, Gold, Rim Mark	25/vial

# Gilder 1500 Mesh Grids



1500 Mesh Fine Bar: Pitch 16.5µm; Hole Width 11.5µm; Bar Width 5µm; Transmission 49%		
G1500HS	Gilder Fine Bar Grids, 1500 mesh, Copper, Center Mark	15/vial
G1500HSN	Gilder Fine Bar Grids, 1500 mesh, Nickel, Center Mark	15/vial
G1500HSG	Gilder Fine Bar Grids, 1500 mesh, Gold, Center Mark	15/vial

#### Gilder 2000 Mesh Grids



2000 Mesh Fine Bar: Pitch 12.5µm; Hole Width 7.5µm; Bar Width 5µm; Transmission 36%		
G2000HS	Gilder Fine Bar Grids, 2000 mesh, Copper, Rim Mark	10/vial
G2000HSN	Gilder Fine Bar Grids, 2000 mesh, Nickel, Rim Mark	10/vial



100/vial

#### Gilder 100 Mesh Hexagonal, Standard Grids



100 Hexagonal Mesh: Pitch 250 $\mu m$ ; Hole Width 220 $\mu m$ ; Bar Width 30 $\mu m$ ; Transmission 77%

G100HEX	Gilder Hexagonal Grids, Copper, 100 mesh	100/vial
G100HEX-AU	Gilder Hexagonal Grids, Gold, 100 mesh	50/vial
Palladium Coated Copper Grids		
G100HEX-CUPD	Gilder Hexagonal Grids, Cu/Pd, 100 mesh	100/vial
Thickness of Nickel grids is 35 microns ±5 microns		

#### Gilder 150 Mesh Hexagonal, Standard Grids



150 Hexagonal	Mesh: Pitch 165µm; Hole width 105µm; Bar width 35µm; Transm	ission 62%
G150HEX	Gilder Hexagonal Grids, 150 mesh, Copper, Rim Mark	100/vial

#### Gilder 200 Mesh Hexagonal, Standard Grids



 200 Hexagonal Mesh: Pitch 125μm; Hole Width 90μm; Bar Width 20μm; Transmission 70%

 G200HEX
 Gilder Hexagonal Grids, 200 mesh, Copper
 100/vial

 Thickness of Nickel grids is 35 microns ±5 microns
 100/vial

**G200HEX-N** Gilder Hexagonal Grids, 200 mesh, Nickel

#### ■ Gilder 300 Mesh Hexagonal, Standard Grids



300 Hexagonal Mesh: Pitch 83μm; Hole Width 58μm; Bar Width 25μm; Transmission 49%G300HEXGilder Hexagonal Grids, 300 mesh, Copper, Rim Mark100/vial

#### Gilder 200 Mesh Hexagonal, Fine Bar Grids



200 Hexagonal Mesh, Fine Bar: Pitch 125µm; Hole Width 113µm; Bar Width 12µm; Transmission 82%

G200HH	Gilder Fine Bar Hexagonal Grids, 200 mesh, Copper, Rim Mark	100/vial
Thickness of Ni	ckel grids is 35 microns ±5 microns	
G200HHN	Gilder Fine Bar Hexagonal Grids, 200 mesh, Nickel, Rim Mark	100/vial

#### Gilder 300 Mesh Hexagonal, Fine Bar Grids



300 Hexagonal Mesh, Fine Bar: Pitch 83μm; Hole Width 73μm; Bar Width 10μm;<br/>Transmission 77%G300HHGilder Fine Bar Hexagonal Grids, 300 mesh, Copper, Rim Mark100/vialThickness of Nickel grids is 35 microns ±5 micronsG300HHNGilder Fine Bar Hexagonal Grids, 300 mesh, Nickel, Rim Mark100/vial



#### Gilder 400 Mesh Hexagonal, Fine Bar Grids



400 Hexagonal Mesh, Fine Bar: Pitch 57µm; Hole Width 49µm; Bar Width 8µm; **Transmission 74%** 

G400HH	Gilder Fine Bar Hexagonal Grids, 400 mesh, Copper, Center & Rim Mark	100/vial
G400HHN	Gilder Fine Bar Hexagonal Grids, 400 mesh, Nickel, Center & Rim Mark	100/vial

#### Gilder 600 Mesh Hexagonal, Fine Bar and Finest Bar Grids



600 Hexagonal Mesh, Fine Bar: Pitch 37μm; Hole Width 29μm; Bar Width 8μm; Transmission 61%		
G600HH	Gilder Fine Bar Hexagonal Grids, 600 mesh, Copper, Center & Rim Mark	100/vial
600 Hexagonal Mesh, Finest Bar: Pitch 42μm; Hole Width 37μm; Bar Width 5μm; Transmission 78%		
G600HHS	Gilder Finest Bar Hexagonal Grids, 600 mesh, Copper, Center Mark	100/vial

#### Gilder Aperture Grids



GA200	Gilder Aperture Grids, 0.2mm hole, 3.05mm O.D., Copper	100/vial
GA400	Gilder Aperture Grids, 0.4mm hole, 3.05mm O.D., Copper	100/vial
GN400	Gilder Aperture Grids, 0.4mm hole, 3.05mm O.D., Nickel*	100/vial
GA500	Gilder Aperture Grids, 0.5mm hole, 3.05mm O.D., Copper	100/vial
GN500	Gilder Aperture Grids, 0.5mm hole, 3.05mm O.D., Nickel*	100/vial
GA600	Gilder Aperture Grids, 0.6mm hole, 3.05mm O.D., Copper	100/vial
GN600	Gilder Aperture Grids, 0.6mm hole, 3.05mm O.D., Nickel*	100/vial
GA800	Gilder Aperture Grids, 0.8mm hole, 3.05mm O.D., Copper	100/vial
GN800	Gilder Aperture Grids, 0.8mm hole, 3.05mm O.D., Nickel*	100/vial
GA1000	Gilder Aperture Grids, 1.0mm hole, 3.05mm O.D., Copper	100/vial
GN1000	Gilder Aperture Grids, 1.0mm hole, 3.05mm O.D., Nickel*	100/vial
GA1000M	Gilder Aperture Grids, 1mm hole, 3.05mm O.D., Molybdenum**	100/vial
GA1500	Gilder Aperture Grids, 1.5mm hole, 3.05mm O.D., Copper	100/vial
GN1500	Gilder Aperture Grids, 1.5mm hole, 3.05mm O.D., Nickel*	100/vial
GA2000	Gilder Aperture Grids, 2.0mm hole, 3.05mm O.D., Copper	100/vial
GN2000	Gilder Aperture Grids, 2.0mm hole, 3.05mm O.D., Nickel*	100/vial
*Nickel grids	have a thickness of 35 microns ±5 microns	

\*\*Molybdenum is used principally in applications where its hardness, expansion coefficient, high temperature and corrosive resistance characteristics are considered important. MO typical purity is 99.9%, melting point 2617°C (2890,15°K, 4742.6°F).

#### Gilder Triple Slot Grid



Three .54mm x .95mm slots in a 3.05mm copper grid. Extra bars provide better support over a large area. If a supporting film is ruptured in one area it may not effect the other 2 areas. This is an advantage compared to one slot grids.

1GC3X1	Gilder Triple Slot Grids, 3.05mm O.D., Copper	100/vial
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#### **Gilder Slot Grids**



G1X0.2CU	Gilder Slot Grids, 1 x 0.2mm, 3.05mm O.D., Copper	100/vial
G1X0.2N	Gilder Slot Grids, 1 x 0.2mm, 3.05mm O.D., Nickel*	100/vial
G1.5X0.3CU	Gilder Slot Grids, 1.5 x 0.3mm, 3.05mm O.D., Copper	100/vial
G1.5X0.3N	Gilder Slot Grids, 1.5 x 0.3mm, 3.05mm O.D., Nickel*	100/vial
G2X0.5CU	Gilder Slot Grids, 2 x 0.5mm, 3.05mm O.D., Copper	100/vial
G2X0.5N	Gilder Slot Grids, 2 x 0.5mm, 3.05mm O.D., Nickel*	100/vial
G2X0.75CU	Gilder Slot Grids, 2 x 0.75mm, 3.05mm O.D., Copper	100/vial
G2X0.75N	Gilder Slot Grids, 2 x 0.75mm, 3.05mm O.D., Nickel*	100/vial
G1X2CU	Gilder Slot Grids, 2 x 1mm, 3.05mm O.D., Copper	100/vial
G1X2N	Gilder Slot Grids, 2 x 1mm, 3.05mm O.D., Nickel*	100/vial
G1X2CU/PD	Gilder Slot Grids, 2 x 1mm, 3.05mm O.D., Copper/Palladium	100/vial
GS1X2M	Gilder Slot Grids, 2 x 1mm, 3.05mm O.D., Molybdnenum**	100/vial
G2X1.5CU	Gilder Slot Grids, 2 x 1.5mm, 3.05mm O.D., Copper	100/vial
G2X1.5N	Gilder Slot Grids, 2 x 1.5mm, 3.05mm O.D., Nickel*	100/vial
*Nickel grids h	ave a thickness of 35 microns ±5 microns	

\*\*Molybdenum is used principally in applications where its hardness, expansion coefficient, high temperature and corrosive resistance characteristics are considered important. Mo typical purity is 99.9%, melting point 2617°C (2890,15°K, 4742.6°F).

#### **Gilder Grid Size Specifications**

Square Mesh	Pitch µm Hole Width		Bar Width µm	% Transmission	Mark	
				-	Center	Rim
G50	500	420	80	70	-	-
G75	340	285	55	66	•	•
G100	250	205	45	67	•	•
G100HEX	250	220	30	77	-	-
G150	165	125	40	45	•	•
G150HEX	165	130	35	62	-	•
G200	125	90	35	52	٠	•
G200HEX	125	105	20	70	-	-
G200HH	125	113	12	82	-	•
G200HS	125	113	12	82	-	•
G300	83	58	25	49	•	•
G300HS	83	73	10	77	-	•
G300HEX	83	58	25	49	-	•
G300HH	83	73	10	77	-	•
G400	62	37	25	37	•	•
G400HS	62	54	8	76	-	•
G400HEX	62	37	25	36	-	•
G400HH	57	49	8	74	•	•
G400P	62	40	22	65	-	•
G600TT	-	30	10/16	-	•	-
G600HH	37	29	8	61	•	•
G600HHS	42	37	5	78	-	•
G600HSS	42	37	5	78	-	•
G1000HS	25	19	6	57	-	•
G1500HS	16.5	11.5	5	49	-	•
G2000HS	12.5	7.5	5	36	-	•



#### StrataTek<sup>™</sup> TEM Grids

The StrataTek<sup>™</sup> TEM grids for Transmission Electron Microscopy have a thickness of 25um and are manufactured using a micron-precision etching process of thin foils. This method produces sturdy and rigid TEM grids. Both sides have the same surface characterization. StrataTek™ grids have a slightly higher density than grids made by electroplating. Corners where bars meet tend to be rounded.

Available in coarser mesh sizes only, with configurations in square and hexagonal mesh, slot, hole and folding grids. Grids have standard diameter of 3.05mm.

#### StrataTek<sup>™</sup> Square Mesh Grids

12414-CU

12410-CU	StrataTek™ Square Mesh Grids, 50 mesh, Copper	100/vial
12412-CU	StrataTek <sup>™</sup> Square Mesh Grids, 75 mesh, Copper	100/vial
12414-CU	StrataTek <sup>™</sup> Square Mesh Grids, 100 mesh, Copper	100/vial

100 Mesh

#### ■ StrataTek<sup>™</sup> Hexagonal Grids





100 Mesh



12431-CU	StrataTek <sup>™</sup> Hexagonal Grids, 50 mesh, Copper	100/vial
12432-CU	StrataTek <sup>™</sup> Hexagonal Grids, 75 mesh, Copper	100/vial
12433-CU	StrataTek <sup>™</sup> Hexagonal Grids, 100 mesh, Copper	100/vial
12434-CU	StrataTek <sup>™</sup> Hexagonal Grids, 150 mesh, Copper	100/vial
12435-CU	StrataTek <sup>™</sup> Hexagonal Grids, 200 mesh, Copper	100/vial
12436-CU	StrataTek <sup>™</sup> Hexagonal Grids, 230 mesh, Copper	100/vial

#### ■ StrataTek<sup>™</sup> Slotted Grids



0.5 x 0.2mm

12461-CU	StrataTek <sup>™</sup> Slotted Grids, 2 x 1.5mm, Copper	100/vial
12463-CU	StrataTek <sup>™</sup> Slotted Grids, 2 x 0.75mm, Copper	100/vial
12465-CU	StrataTek <sup>™</sup> Slotted Grids, 1.5 x 0.3mm, Copper	100/vial
12467-CU	StrataTek <sup>™</sup> Slotted Grids, 1 x 0.2mm, Copper	100/vial
12468-CU	StrataTek <sup>™</sup> Slotted Grids, 0.5 x 0.2mm, Copper	100/vial

#### ■ StrataTek<sup>™</sup> Rectangular Mesh Grids with Middle Bar



12475-CU	StrataTek <sup>™</sup> Rectangular Mesh Grids with Middle Bar, 50 mesh, Copper	100/vial
12476-CU	StrataTek™ Rectangular Mesh Grids with Middle Bar, 75 mesh, Copper	100/vial
12477-CU	StrataTek™ Rectangular Mesh Grids with Middle Bar, 100 mesh, Copper	100/vial



# StrataTek<sup>™</sup> TEM Grids continued ■ StrataTek<sup>™</sup> Double Folding Mesh Grids



12480-CU	StrataTek <sup>™</sup> Double Folding Grids, 50/50 mesh, Copper	100/vial
12481-CU	StrataTek <sup>™</sup> Double Folding Grids, 50/100 mesh, Copper	100/vial
12483-CU	StrataTek <sup>™</sup> Double Folding Grids, 100/200 mesh, Copper	100/vial

12481-CU 50/100 Mesh

#### ■ StrataTek<sup>™</sup> Double Folding Hole Grids



2490-CU	StrataTek™ Double Folding Hole Grids, 1/1mm, Copper	100/vial
2491-CU	StrataTek <sup>™</sup> Double Folding Hole Grids, 1.5/1mm, Copper	100/vial
2492-CU	StrataTek <sup>™</sup> Double Folding Hole Grids, 1.5/1.5mm, Copper	100/vial
2493-CU	StrataTek™ Double Folding Hole Grids, 1.4/1.8mm, Copper	100/vial
2494-CU	StrataTek <sup>™</sup> Double Folding Hole Grids, 2.0/1.8mm, Copper	100/vial

#### StrataTek<sup>™</sup> Grid Size Specifications

Square Mesh	Pitch µm	Hole Width µm	Bar Width µm	% Transmission
50	530	450	80	72
75	350	300	50	73.5
100	260	230	30	78
150	180	140	40	60
Hex Mesh				
50	530	450	80	72
75	359	300	50	73.5
100	260	230	30	78
150	180	140	40	60
200	130	100	30	59
230	110	85	25	60

#### **Reference Finder Grids**

Relocating a particular grid square or area by a logical alphabetical or numeric (or both) arrangement can reduce the time spent for specimen analysis. Exact grid square definition may even be a requirement in forensic and asbestos analysis. Certainly there can be greatly increased confidence by the electron microscopist that a precise grid square can be found where a feature is of interest while moving about the other parts of the specimen on the grid.

Your need or wish can most likely be filled with one or more reference grid styles listed below.

#### Maxtaform Style H2 Grids

79750	Maxtaform Reference Finder Grids, Style H2, 200 mesh, Copper	100/vial
79751	Maxtaform Reference Finder Grids, Style H2, 200 mesh, Nickel	100/vial

#### Maxtaform Style H6 Grids



J	79755	Maxtaform Reference Finder Grids, Style H6, 235 pitch*, Copper	100/vial
Ţ.	79756	Maxtaform Reference Finder Grids, StyleH6, 235 pitch*, Nickel	100/vial
PI			

\*pitch is the complete width of one space plus one bar in  $\mu m$ 



# Micron Index I Grids



squares divided into triangles, alphanumeric

	79021C	Micron Index 1 Grids, 100 mesh, Copper	each

#### Micron, Asbestos Reference Index Grids

thick-thin bar, alphanumeric, notched





Micron, Asbestos Reference Grids, 200 mesh, Copper

# Gilder Reference Locater Grids



2 Styles	
G200F2	Gilder Reference Locater Grids, 24 blocks of 9 cells ID by letter in center, copper



t.			
ŧ	G200HF3	Gilder Reference Locater Grids, 332 cells unique by alphanumeric	25/vial
‡ _		code, copper	

#### ■ PELCO<sup>®</sup> Pinpointer Grids



7GC200	PELCO® Pinpointer Grids, 3.0mm O.D., 200 mesh, Copper	100/vial
7HGN100	PELCO <sup>®</sup> Pinpointer Grids, 3.0mm O.D., 200 mesh, Nickel	100/vial

#### Gilder Finder Grids



Each of the 60 square grids is identified using a base two binary numbering system. the six binary number symbols appear on the bottom grid bars along the horizontal axis. Zero is represented by a short pillar and one by a longer pillar. The enlarged section shown is of grid square no. 9 - a long pillar at the extreme right represents decimal 1 and a long pillar fourth from the right represents decimal 8.

Pitch= 250 $\mu$ ; Bar width vertical axis= 40 $\mu$ ; Hole width, vertical axis= 210 $\mu$ .

Gilder Finder Grids, 3.05mm O.D., 100 mesh

G100F1 Gilder	r Finder Grids, 100 mesh, Copper	100/vial
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each

25/vial

#### Maxtaform<sup>™</sup> Grids

Maxtaform<sup>™</sup> introduced "flashed" (plated one side with Rhodium) grids to give positive identification to one surface of the grid. These "High Grade" grids also eliminate tarnishing of the Cu grids with the Rhodium flashing. Maxtaform<sup>™</sup> also manufactures a range of precise indicator/reference grids.

#### ■ Maxtaform<sup>™</sup> 100 Mesh Grids



100 Mesh: Rhodium Coated Copper		
79703	Maxtaform <sup>™</sup> Grid, 100 mesh, Rh Flashed Copper	100/vial

#### ■ Maxtaform<sup>™</sup> 150 Mesh Grids



150 Mesh: Rhodium Coated Copper		
79705	Maxtaform <sup>™</sup> Grid, 150 mesh, Rh Flashed Copper	100/vial

#### ■ Maxtaform<sup>™</sup> 200 Mesh Grids



200 Mesh: Rhodium Coated Copper		
79709	Maxtaform <sup>™</sup> Grid, 200 mesh, Rh Flashed Copper	100/vial

#### ■ Maxtaform<sup>™</sup> 300 Mesh Grids



300 Mesh: Rhodium Coated Copper		
79710	Maxtaform <sup>™</sup> Grid, 300 mesh, Rh Flashed Copper	100/vial
79710-N	Maxtaform <sup>™</sup> Grid, 300 mesh, Nickel	100/vial

#### ■ Maxtaform<sup>™</sup> 400 Mesh Grids



400 Mesh: Rhodium Coated Copper		
79712	Maxtaform <sup>™</sup> Grid, 400 mesh, Rh Flashed Copper	100/vial



#### **Veco Grids**

The VECO grids are the most rigid of all mesh grids and offer superior strength while handling. These 3.05mm (.12") OD grids are manufactured by a precision electro plating process and have a thickness of 20  $\mu$ m. Shiny and matt side difference. VECO grids are available in different styles with square, thin/thick bar and hexagonal, mesh, holes and slots. Materials are Cu, Ni and Au. Packaging for the Cu and Ni grids is 100/vial and for Au grids 25/vial.

Square Mesh	Pitch µm	Hole Width µm	Bar Width µm	
100	250	200	50	
150	167	117	50	
200	125	85	40	
300	83	45	38	
400	63	30	33	
Note: Additional technical information on web site.				

# Veco 100 Mesh Center Reference Grids



100 Mesh: Pitch 250μm; Hole Width 200μm; Bar Width 50μm			
12559-CU	Veco Center Reference Grids, 100 mesh, Copper	100/vial	
12560-NI	Veco Center Reference Grids, 100 mesh, Nickel	100/vial	

#### ■ Veco 150 Mesh Center Reference Grids



150 Mesh: Pitch 167μm; Hole Width 117μm; Bar Width 50μm			
12563-CU	Veco Center Reference Grids, 150 mesh, Copper	100/vial	
12564-NI	Veco Center Reference Grids, 150 mesh, Nickel	100/vial	

#### Veco 200 Mesh Center Reference Grids



200 Mesh: Pitch 125µm; Hole Width 85µm; Bar Width 40µm		
12567-CU	Veco Center Reference Grids, 200 mesh, Copper	100/vial



#### Veco Center Reference Grids Continued

#### ■ Veco 200 Mesh Center Reference Grids Continued



200 Mesh: with	200 Mesh: with Cut Off and Center Box	
12580-NI	Veco Center Reference Grids with Cut Off and Center Box,	100/vial
	200 mesh, Nickel	

#### Veco 300 Mesh Center Reference Grids



300 Mesh: Pitch 83µm; Hole Width 45µm; Bar Width 38µm		
12571-CU	Veco Center Reference Grids, 300 mesh, Copper	100/vial
12572-NI	Veco Center Reference Grids, 300 mesh, Nickel	100/vial

#### ■ Veco 400 Mesh Center Reference Grids



400 Mesh: Pitch 63μm; Hole Width 30μm; Bar Width 33μm		
12575-CU	Veco Center Reference Grids, 400 mesh, Copper	100/vial

#### ■ wVeco Thick-Thin Bar Grids



100 Mesh Thick-Thin Grids		
12604-CU	Veco Thick-Thin Grids, 100 mesh, Copper	100/vial

#### Veco Single Slot Grids



Single Slot Grids, 1 x 0.2mm		
12670-CU	Veco Single Slot Grids, 1 x 0.2mm, Copper	100/vial



#### ■ Veco Single Slot Grids Continued



Single Slot Grids, 2 x 1mm 12676-CU Veco Single Slot Grids, 2 x 1mm, Copper 100/vial

# Veco Single Hole Grids



Single Hole Grids, 600µm		
<b>12658-CU</b> Veco Single Hole Grids, 600µm, Copper1		100/vial
12659-NI	Veco Single Hole Grids, 600µm, Nickel	100/vial



Single Hole Grids, 800µm		
<b>12661-CU</b> Veco Single Hole Grids, 800µm, Copper100		100/vial
12662-NI	Veco Single Hole Grids, 800µm, Nickel	100/vial



Single Hole Grids, 1000μm		
12664-CU	Veco Single Hole Grids, 1000µm, Copper	100/vial
12665-NI	Veco Single Hole Grids, 1000µm, Nickel	100/vial

#### **Veco Hexagonal Grids**

#### ■ Veco 100 Mesh Hexagonal Grids



100 Mesh, Hexagonal Grids		
12634-NI	Veco Hexagonal, 100 mesh, Nickel	100/vial

#### Veco 200 Mesh Hexagonal Grids



200 Mesh, Hexagonal Grids		
12637-NI	Veco Hexagonal, 200 mesh, Nickel	100/vial



#### Biology Tweezers

ຕາ INOX.	BIOLOGIE

Prod #	Description	Style	Length	Metal	Points Width x Thickness	Unit
503	DUMONT Biology	3	120mm	SS	0.08 x 0.04mm	each
503-NM	DUMONT Biology	3	120mm	NM-SS	0.08 x 0.04mm	each



#### For the complete listing of all Tweezers go to www.tedpella.com/tweezers.htm



#### **Athene Grids**

Athene grids production started 60 years ago, about 1948, and still retain the qualities which made the pioneer electron microscopists appreciative: Sharp burr-free bars and corners, and close quality inspection. Different styles have been added over the years. Styles available are square mesh, honeycomb and slots. Standard diameter is 3.05mm and materials are in Cu, Ni and Au.

#### Athene 50 Mesh Grids



50 Mesh, Holes 450μm square		
G209	Athene Grids, 50 mesh, Copper	100/vial

#### Athene 150 Mesh Grids



150 Mesh, Hole	150 Mesh, Holes 150μm square		
G201	Athene Grids, 150 mesh, Copper	100/vial	

#### Athene 200 Mesh Grids



200 Mesh, Holes 100µm square			
G202	Athene Grids, 200 mesh, Copper	100/vial	
G202N	Athene Grids, 200 mesh, Nickel	100/vial	



200 Mesh, Thin-Bar, 10µm bar width, center marked			
G2002	Athene Thin-Bar Grids, 200 mesh, Copper	100/vial	
G2002N	Athene Thin-Bar Grids, 200 mesh, Nickel	100/vial	



200 Mesh, Thick-Thin Bar, 105µm square holes, center marked			
G206	Athene Thick-Thin Bar Grids, 200 mesh, Copper	100/vial	



200 Mesh, center marked		
G2220C	Athene Center Marked Grids, 200 mesh, Copper	100/vial
G2220A	Athene Center Marked Grids, 200 mesh, Gold	50/vial



# Athene Grids continued Athene 300 Mesh Grids



300 Mesh, Holes 70μm square			
G2300C	Center Marked, Athene Grids, 300 mesh, Copper	100/vial	
G203N	Athene Grids, 300 mesh, Nickel	100/vial	

300 Mesh, Thin-Bar, 10µm bar width, center marked			
G2003	Athene Thin-Bar Grids, 300 mesh, Copper	100/vial	
G2003N	Athene Thin-Bar Grids, 300 mesh, Nickel	100/vial	



300 Mesh, Thick-Thin Bar, 75µm square holes, center marked			
G207	Athene Thick-Thin Bar Grids, 300 mesh, Copper	100/vial	

#### Athene 400 Mesh Grids



400 Mesh, Hole	00 Mesh, Holes 45µm square			
G204	Athene Grids, 400 mesh, Copper	100/vial		

400 Mesh, Thi		-Bar, 10µm bar width, center marked	
	G2004	Athene Thin-Bar Grids, 400 mesh, Copper	100/vial



400 Line, Parall	el Bar	
G2016A	Athene Parallel Bar Grids, 400 mesh, Copper	100/vial

# Athene Hexagonal Mesh Grids



100 Mesh H	100 Mesh Hexagonal, 240µm across opening			
G214	Athene Hexagonal Grids, 100 mesh, Copper	100/vial		
G214N	Athene Hexagon Grids, 100 mesh, Nickel			
400 Mesh H	lexagonal			
G2440C	Athene Hexagonal Grids, 400 mesh, Copper	100/vial		

# Athene Polyslot Grids



4 Slots		
G227	Athene Polyslot Grids, 350 to 700µm, Copper	100/vial



# **PELCO<sup>®</sup> SynapTek<sup>™</sup> Grids**

## ■ SynapTek<sup>™</sup> Grids

#### tweezers

The SynapTek<sup>™</sup> grids are made of a special alloy (beryllium copper) which makes these grids extremely sturdy and gives perfect stability for coating with a support film. These grids are easy to clean, contamination free and reusable after cleaning. The thickness of the SynapTek<sup>™</sup> grids is 100µm (4 mil), diameter is 3.05mm. Standard oval slot size is 1x2mm. The DOT type is also available with a slot size of 0.5x2mm. The gold plated SynapTek<sup>™</sup> grid (GILDED) has been developed for special applicaspecial identity marking, easy to grasp with your



Notched SynapTek<sup>™</sup> Grids permit easier grasping by tweezers.

tions such as immunology research. This innovative design may increase your confidence with grid handling.

DOT: One side of the grid is marked with 2 dots for clear identification, visible to the naked eye.

NUM: A number stamped on the grid for identification. Numbers are in random order and may be duplicated.

NOTCH: An indentation is stamped on one side of the grid to enable easy grasping by tweezers.

DOT (1 x 2	2mm slot)	
4510	SynapTek DOT Grids, 1 x 2mm slot, Beryllium-Copper	100/\
DOT (0.5 x	2mm slot)	
4511	SynapTek DOT Grids, 0.5 x 2mm slot, Beryllium-Copper	100/\
NUM (1 x 2	2mm slot)	
4512	SynapTek NUM Grids, 1 x 2mm slot, Beryllium-Copper	100/v
4514	SynapTek NOTCH Grids, 1 x 2mm slot, Beryllium-Copper	100/\
4514	SynapTek NOTCH Grids, 1 x 2mm slot, Beryllium-Copper	100/v
NOTCH-DO	OT (1 x 2mm slot)	
4516	SynapTek NOTCH-DOT Grids, 1 x 2mm slot, Beryllium-Copper	100/v
NOTCH-NI	JM (1 x 2mm slot)	
4518	SynapTek NOTCH-NUM Grids, 1 x 2mm slot, Beryllium-Copper	100/\
	OTCH NUM (1 x 2mm slot)	
4506	SynapTek GUILDED NOTCH-NUM Grids 1 x 2mm slot	100/
		100/0



#### ■ PELCO<sup>®</sup> SynapTek GridStick<sup>™</sup>

staining and storage for EM



An inexpensive device to reduce or eliminate precipitate and dirt from your electron microscopy grids during staining.



The SynapTek GridStick<sup>™</sup> is manufactured from a thin but rigid alloy that does not react with commonly used organic solvents and stains. The stick is 4mm wide by 75mm long and has a slot along its center with small undercut notches on one side to make grid removal simple. A small area on top of each stick is reserved for identification (use a fine point permanent ink pen).

Full loaded SynapTek<sup>™</sup> GridStick<sup>™</sup> with 1 x 2mm Synaptek<sup>™</sup> Grids

The SynapTek GridStick<sup>™</sup> is coated with a specially

formulated pressure-sensitive adhesive. This adhesive holds the grids in place during staining, emulsion coating, carbon coating, shadow casting and serial section collection.

The SynapTek GridStick<sup>™</sup> will fit into conventional Pasteur pipettes. The grids lie in the same plane as the solution flow, minimizing chances of breaking Formvar films and collecting surface debris.

The SynapTek GridStick<sup>™</sup> was developed in conjunction with SynapTek<sup>™</sup> Grids. Other grids may be used provided they have sufficient thickness to avoid bending when being removed from the adhesive on the SynapTek GridStick<sup>™</sup>. SynapTek<sup>™</sup> Grids are 100µm thick.



#### Complete SynapTek GridStick<sup>™</sup> Kit:

5 coated GridSticks, 10 Staining Pipettes, 2 flow-limiting Plugs and Bulbs plus Instructions.

Note: Staining Pipettes are fire polished, heat annealed, acid cleaned, blow dried with filtered compressed air and capped.

SynapTek GridStick<sup>™</sup> Kit ..... each 155

SynapTek<sup>™</sup> Replacement Components

155-5	SynapTek GridSticks <sup>™</sup>	Uncoated	.pkg/10

**155-7** Staining Pipettes with 2 flow limiting plugs ......pkg/20

#### ■ GridStick<sup>™</sup> Adhesive

For adhering grids to the GridStick<sup>™</sup>, includes instruc-TATED PELLA, INC. tions and coats about 200 GridSticks. **155-9** GridStick<sup>™</sup> Adhesive, 5ml ..... each

#### Grid Coating Pen

PELCO Syner



A light touch with this pen will provide a thin layer of adhesive on the grid. Layer will dry in 1-2 minutes at room temperature and is then ready to receive the sections. Pen may also be used as pretreatment before coating grids with formvar or other thin films. M (MSDS on web site)

**1556** Grid Coating Pen .....each

#### Tomography Grids

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H		Ħ	Ħ	Ħ	Ħ	Ħ	
B		H	Ħ	Η	Н		
			Ħ	Ħ	Ħ		
8		H	H	H	E		

1.5mm square coper grid, 300 mesh.

5GC300	Tomography	Grids, 300 mesł	ו, Cu	pkg/50

#### Tomography Grids with Support Films Applied

5GC300-16650	Lacey Carbon on Tomography Grids,
	300 mesh, Cupkg/50
5GC300-16625	Lacey Carbon on Tomography Grids,
	300 mesh, Cupkg/25
5GC300-16050	Carbon Film on Tomography Grids,
	300 mesh, Cupkg/50
5GC300-16025	Carbon Film on Tomography Grids,
	300 mesh, Cupkg/25

#### PELCO® Pyrolytic Carbon Grids



Pyrolytic carbon grids are offered having two hole sizes. The grids are 3mm O.D. (standard) and can be handled like any ordinary grid.

16540	PELCO <sup>®</sup> Pyrolytic Carbon Grid,
	1.5mm holepkg/10
16541	PELCO <sup>®</sup> Pyrolytic Carbon Grid,
	1.0mm holepkg/10



#### Chien Grids

- 1. Used to pick up many individual sections or ribbons and to transfer them onto another grid
- 2. It can also be formvar coated as a receiving grid for examination of a large number of sections.
- 3. When formvar coated, it will support 2 or even 3 parallel ribbons of serial sections, with no obscuring grid bars.
- 4. Hole size 50% greater than the largest slot grid.
- 5. There are two slits in the rim area which allow it to be easily

bent with forceps to make a tab, while keeping the remainder of the grid surface flat prior to picking up ribbons.

References: Chien K, Van de Velde R, Heusser R, 1985. Simultaneous ultramicrotomy of multiple areas and examination of ribbons on one new grid. Proc 43rd Annual Meeting, Elec Micr Soc Amer, G W Bailey, ed, San Francisco Press, 460.

Galey FR, Nilsson SEG, 1966. A new method for transferring sections from the liquid surface of the trough through staining solutions to the supporting film of a grid. J Ultrastruct Res, 14, 405-410.

<b>9GC20H</b> Chien One-hole Grids, 2.375r	im, 3.0mm O.D., Copper	100/vial
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#### ■ PELCO<sup>®</sup> FIB Lift-Out TEM Grids



The PELCO® Lift-Out TEM Grids have been designed for accepting TEM lamellas milled out by SEM/ FIB or FIB systems. The nominal diameter of the sturdy PELCO® FIB Lift-Out Grids is 3mm, with a typical thickness of  $35\mu m$  ( $\pm 5um$ ). These grids fit standard TEM holders and provide a full view of the thin sections attached to the posts. Available in copper with either one or two wider posts or four narrow posts. Use the single or dual wider post for attaching one or two lamellas or the four narrow post version for attaching a large amount of lamellas. High quality, cost effective lift-out grids.

10GC01	PELCO <sup>®</sup> FIB Lift-Out TEM Grids; single, wide post, copper	pkg/100
10GC02	PELCO <sup>®</sup> FIB Lift-Out TEM Grids; 2 wide posts, copper	pkg/100
10GC02T	PELCO <sup>®</sup> FIB Lift-Out TEM Grids; 2 wide posts, copper, 55µ thick	
10GC04	PELCO <sup>®</sup> FIB Lift-Out TEM Grids; 4 narrow posts, copper	pkg/100

#### Molybdenum PELCO<sup>®</sup> FIB Lift-Out TEM Grids



The typical thickness for the molybdenum lift-out grids is 50um +/-5um. Use Mo where Cu can't be tolerated. Only available with two wide posts.

10GMO2	PELCO <sup>®</sup> FIB Lift-Out TEM Grids; 2 wide posts, molybdenum	pkg/25
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#### Silicon PELCO® FIB Lift-Out TEM Grids

The thickness is 100µm which makes these grids compatible with all standard TEM holders. Perfect half circular shape which fits nicely in the TEM grid holder. Debris-free, metal-free lift-out grids which readily bond with Pt to attach the lamellas. Easy to handle. B-doped, conductive silicon minimizes charging during sample preparation and TEM imaging.

#### PELCO® FIB Lift-Out Half Grids



Made of stiff copper beryllium with a thickness of  $100\mu m (0.004'')$  and two dots on one side for easy identification. Diameter 3mm with a height of 1.5mm. Slot is 2mm wide x 0.5mm deep.

4510-HALF	PELCO <sup>®</sup> Half Grid for FIB Applications	25/vial
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#### **PELCO®** Formvar and Carbon Support Film Grids, Substrates



PELCO® Support Films of Formvar, Formvar/Carbon, Carbon, and Silicon Monoxide are available on the following 3.05mm O.D. grids: 0.4 x 2mm single slot Cu, 75 mesh Cu, 200 mesh Cu or Ni, 200 mesh Hex Mo, 300 mesh Cu or Au, 300 mesh Hex Mo, and 400 mesh Cu. Support films on the finer mesh grids can withstand considerable handling during specimen preparation. Those on slot and 75 mesh grids require more gentle handling and are ideal for those applications requiring large viewing areas without grid bar interference.

Our popular line of NetMesh<sup>™</sup> Grids (our trademarked lacey films) are available on 200 and 300 mesh grids. These robust films allow for viewing of specimens without interference from underlying support film material.

The complete PELCO® line of support films meets the requirements of most applications in all fields of electron microscopy.

#### We Offer Seven Types of Support Films

1. Formvar

200 Mesh

300 Mesh

- 2. Formvar, Stabilized with Carbon
- 3. Carbon Type-B
- 4. Carbon Type-A
- 5. Pure Carbon Film
- 6. Silicon Monoxide

#### 7. Lacey Support Films - NetMesh<sup>™</sup> Grids

Mesh	Prod. No.	Descriiption	Unit
200 M	01700-F	Formvar, 200 mesh, Copper	pkg/50
300 M	01701-F	Formvar, 300 mesh, Copper	pkg/50
400 M	01702-F	Formvar, 400 mesh, Copper	pkg/50
200 M	01703G	Formvar, 200 mesh thick grid, Gold	pkg/25
300 M	01704G	Formvar, 300 mesh, Gold	pkg/25
400 M	01702G	Formvar 400, mesh thick grid, Gold	pkg/25
0.4 x 2mm	01706	Formvar, 0.4 x 2mm, slot, Copper	pkg/25
1 x 2mm	01705	Formvar 1 x 2mm, slot, Copper	pkg/25
1 x 2mm	01705-F	Formvar 1x2mm, slot, Copper	pkg/50
1 x 2mm	01707	Formvar, 1 x 2mm, Synaptec <sup>™</sup> , dot slot, Copper	pkg/25
1 x 2mm	01707-F	Formvar, 1 x 2mm, Synaptec <sup>™</sup> , dot slot, Copper	pkg/50

**1.** Formvar: A film of pure Formvar, with no stabilizing coating. These films are useful for your customized coating of stabilizing material or for the support of thin sections.



200		competition, coppetition
300 M	01701-F	Formvar, 300 mesh, Copper
400 M	01702-F	Formvar, 400 mesh, Copper
200 M	01703G	Formvar, 200 mesh thick grid, Gold
300 M	01704G	Formvar, 300 mesh, Gold
400 M	01702G	Formvar 400, mesh thick grid, Gold
0.4 x 2mm	01706	Formvar, 0.4 x 2mm, slot, Copper
1 x 2mm	01705	Formvar 1 x 2mm, slot, Copper
1 x 2mm	01705-F	Formvar 1x2mm, slot, Copper
1 x 2mm	01707	Formvar, 1 x 2mm, Synaptec™, dot slot, Copper
1 x 2mm	01707-F	Formvar, 1 x 2mm, Synaptec™, dot slot, Copper
<u>.</u>		



■ 2. Formvar, Stabilized with Carbon: A Formvar film covered with a "light" layer of carbon. The heat and electrical conducting properties of carbon help to stabilize the Formvar films when exposed to the electron beam. This is a resilient, all-purpose specimen support film, ideal for mounting thin sections and for applications using lower ranges of magnification. The 200M-TH grids (Prod. No. 01803 and 01803-F) are thicker and more rigid than normal and useful for many applications - particularly where frequent grid handling is involved.

75 Mesh	Mesh	Prod. No.	Description	Unit
	75 M	01802-F	Formvar/Carbon, 75 mesh, Copper approx. grid hole size: 292µm	pkg/50
200 Mesh	200 M	01800	Formvar/Carbon, 200 mesh, Copper	pkg/25
	200 M	01800-F	Formvar/Carbon, 200 mesh, Copper	pkg/50
	200 M	01801	Formvar/Carbon, 200 mesh, Copper	pkg/100
200 Maab	200 M -TH	01803	Formvar/Carbon, 200 mesh TH, Copper	pkg/25
300 Wesh	200 M -TH	01803-F	Formvar/Carbon, 200 mesh TH, Copper	pkg/50
	200 M	01800N	Formvar/Carbon, 200 mesh, Nickel approx. grid hole size: 97µm	pkg/25
400 Mesh	200 M	01800N-F	Formvar/Carbon, 200 mesh, Nickel approx. grid hole size: 97µm	pkg/50
	300 M	01753-F	Formvar/Carbon, 300 mesh, Copper <i>approx. grid hole size: 63µm</i>	pkg/50
0.4 x 2mm Slot	400 M	01754-F	Formvar/Carbon, 400 mesh, Copper <i>approx. grid hole size: 42µm</i>	pkg/50
	0.4 x 2mm	01806	Formvar/Carbon, 0.4 x 2mm Slot, Copper	pkg/25
	TH= Thicker	Grids		

**3.** Carbon Type-B: A Formvar film coated with a "heavier" layer of carbon. This is the strongest and most versatile support film we produce. It is stable in the EM under all operating conditions including high magnification with high beam intensity. The films can withstand vigorous specimen preparation techniques. If the carbon surface is hydrophobic, specimen suspensions can be applied to the Formvar surface.



Mesh	Prod. No.	Description	Unit
200 M	01810	Carbon Type-B, 200 mesh, Copper	pkg/25
200 M	01811	Carbon Type-B, 200 mesh, Copper <i>approx. grid hole size: 97µm</i>	pkg/100
200 M	01910-F	Carbon Type-B, 200 mesh, Micron Reference, Copper	pkg/50
200 M	01808M	Carbon Type-B, 200 mesh Hexagonal, Molybdenum	pkg/25
300 M	01813	Carbon Type-B, 300 mesh, Copper	pkg/25
300 M	01813-F	Carbon Type-B, 300 mesh, Copper	pkg/50
300 M	01810G-F	Carbon Type-B, 300 mesh, Gold <i>approx. grid hole size: 63µm</i>	pkg/50
300 M	01813M	Carbon Type-B, 300 mesh, Molybdenum	pkg/25
300 M	01809M	Carbon Type-B, 300 mesh, Hexagonal, Molybdenum	pkg/25
400 M	01814-F	Carbon Type-B, 400 mesh, Copper approx. grid hole size: 42µm	pkg/50
0.4 x 2mm	01816	Carbon Type-B, Triple Slot, Copper	pkg/25



■ 4. Carbon Type-A: Carbon support films with a removable Formvar on the opposite side of the grid. When the Formvar is removed, by dipping in solvent, a pure carbon film remains. (Note: The Ultrathin Carbon Film on a Holey Carbon Support Film, Prod. No. 01824, has no Formvar backing.) These films are stable under all EM operating conditions and are for use where the presence of a Formvar layer cannot be tolerated. Pure carbon films tend to be more delicate than those with a Formvar backing and require more delicate handling during specimen preparation than most other support films.



#### (a) Carbon Type-A: Carbon support film of 15 to 25nm thickness. •



Mesh	Prod. No.	Description	Unit
00 M	01820	Carbon Type-A, 300 mesh, Copper	pkg/25
00 M	01821	Carbon Type-A, 300 mesh, Copper approx. grid hole size: 63µm	pkg/100

#### (b) Ultrathin Carbon Type-A: Carbon support film of approximately 3nm thickness. O



Mesh	Prod. No.	Descriiption	Unit
400 M	01822	Ultrathin Carbon Type-A, 400 mesh, Copper	pkg/25
400 M	01822-F	Ultrathin Carbon Type-A, 400 mesh, Copper <i>approx. grid hole size: 42µm</i>	pkg/50

# (c) Ultrathin Carbon Film on a Holey Carbon Support Film: Pure carbon support films with no Formvar backing. This new product has an even thinner carbon film which is mounted on a carbon holey film. The carbon support layer lying over the holes is less than 3nm in thickness and is the thinnest support film available. It is particularly useful for high resolution microscopy of low contrast particles and is also ideal for use with the Energy Filtering TEM.



 $0.26 \mu m$  dia. Latex on Ultrathin Carbon Film on a Holey Carbon Support Film, - example of application.

300 Mesh

Mesh	Prod. No.	Descriiption	Unit
300 M	01824G	Ultrathin Carbon Film on Holey Carbon Support Film, 300 mesh, Gold	pkg/25
400 M	01824	Ultrathin Carbon Film on Holey Carbon Support Film, 400 mesh, Copper	pkg/100

**5.** Pure Carbon Film: Carbon films with a thickness of 15-25nm with no Formvar used during manufacturing. Completely free of Formvar. Carbon films are thin and highly transparent to electrons. They exhibit very fine grain and minimal interference with specimen structure. Films are ready to use upon receipt. The pure carbon films tend to be more delicate than support films with a Formvar backing and require more delicate handling during specimen preparation.



Mesh	Prod. No.	Descriiption	Unit
200 M	01840	Carbon Film Only on 200 mesh, Copper	pkg/25
200 M	01840-F	Carbon Film Only on 200 mesh, Copper	pkg/50
200 M	01840N	Carbon Film Only on 200 mesh, Nickel	pkg/25
200 M	01840N-F	Carbon Film Only on 200 mesh, Nickel	pkg/50
200 M	01840G	Carbon Film Only on 200 mesh, Gold	pkg/25
200 M	01840G-F	Carbon Film Only on 200 mesh, Gold	pkg/50

 $\mathbf{O}$  = Tech Note on web page



■ 6. Silicon Monoxide: Silicon monoxide produces a highly resilient support film which can withstand vigorous specimen preparation techniques. It has low background contrast, is stable under the electron beam and is less hydrophobic than carbon. We offer two types of silicon monoxide support films:

(a) Formvar Stabilized with Silicon Monoxide: A Formvar film coated with a "light" layer of silicon monoxide.



Mesh	Prod. No.	Descriiption	Unit
200 M	01830	Silicon Monoxide/Formvar, 200 mesh, Copper	pkg/25
		approx. grid hole size: 97µm	

(b) Silicon Monoxide Type-A: Silicon monoxide on a removable Formvar backing.



Mesh	Prod. No.	Descriiption	Unit
300 M	01829	Silicon Monoxide Type-A, Removable Formvar, 300 mesh, Copper	pkg/25

■ 7. Lacey Support Films - NetMesh<sup>™</sup> Grids: Lacey Support Film A lacey network support film. The holes in the lacey support film vary in size from less than a quarter micron to more than 10 microns making them ideal for any type of specimen. Lacey support films are strong and withstand vigorous specimen preparation treatment. The specimen material is supported by the film network but lies across or protrudes into the holes of the mesh. This allows high definition imaging without the effects of underlying support material. Lacey films can be used for specimens ranging from large crystals and other particulate material to virus particles. Smaller particles, such as viruses or bacteria, tend to adhere around the inner edges of the holes, an ideal situation for high resolution microscopy. Lacey films are also ideal for selected area electron diffraction imaging. We offer three types of lacey film:



Lacey Support Film



0.26µm dia. Latex on a Lacey Support Film, example of application

Molybdenum Trioxide Crystal on a Lacey Support Film, example of application

(a) Lacey Formvar Stabilized with Carbon: A Lacey Formvar film with the lacey structure enforced by a heavy coating of carbon. Holes are completely open.

Mesh	Prod. No.	Descriiption	Unit
200 M	01881	Lacey Formvar/Carbon, 200 mesh, Copper	pkg/25
200 M	01881-F	Lacey Formvar/Carbon, 200 mesh, Copper <i>approx. grid hole size: 97µm</i>	pkg/50
300 M	01883	Lacey Formvar/Carbon, 300 mesh, Copper	pkg/25
300 M	01883-F	Lacey Formvar/Carbon, 300 mesh, Copper <i>approx. grid hole size: 63µm</i>	pkg/50

(b) Lacey Carbon Type-A: A Lacey carbon film with a removable Formvar backing on the opposite side of the grid. When the Formvar is removed, by dipping in solvent, the Lacey carbon film remains. These films are stable under all EM operating conditions and for use where the presence of Formvar can not be tolerated. Pure Lacey Carbon is more delicate than those with Formvar backing and require more careful handling during specimen preparation.



Mesh	Prod. No.	Descriiption	Unit
300 M	01890	Lacey Carbon Type-A, 300 mesh, Copper	pkg/25
300 M	01890-F	Lacey Carbon Type-A, 300 mesh, Copper <i>approx. grid hole size: 63µm</i>	pkg/50

Tech Note on web page

continued on next page

200 Mesh

300 Mesh

#### 7. Lacey Support Films - NetMesh<sup>™</sup> Grids continued

(c) Lacey Silicon Monoxide on Formvar: A Lacey formvar film with lacey structure enforced by a silicon monoxide coating. Holes are completely open.

300 Mesh



Mesh	Prod. No	Description	Unit
300 M	01887-F	Lacey Silicon Monoxide on formvar, 300 mesh, Copper <i>approx. grid hole size: 63µm</i>	pkg/50

#### Support Film Grids, Substrate Application Guide

This Support Film Application Guide will help you determine what support film to use for your particular transmission electron microscopy project. Once you have decided which substrate best suits your needs, you can go to previous pages for a listing of available Support Films and product numbers.

B= Best G= Good Alternative; -= Not Suitable Substrate Application	Formvar Only Carbon	Formvar Stab. with Carbon	Silicon Monoxide on Formvar	Silicon Monoxide on Type-A	Carbon Type-A	Carbon Type-B	Is Lacey Film suitable for this application?
Applications requiring pure Formvar	В	-	-	-	-	-	No
Bacterial Suspensions	-	G	В	В	В	В	Yes
Cell fragment suspensions	-	В	В	В	В	В	Yes
Diffraction studies	-	-	G	G	В	В	Yes
EDS (energy dispersive spectrometry)	-	G	-	-	В	В	Yes
High resolution microscopy	-	-	G	В	В	В	Yes (Type A)
High temperature techniques/ heating stage	-	-	-	G	G	-	No
Low magnification microscop	G	В	В	G	G	В	No
Particulate suspension, biological	-	G	В	В	В	В	Yes
Particulate suspension, non-biological	-	G	В	В	В	В	Yes
Powders, dry	-	G	В	G	G	В	No
Replicas & low temperature techniques	G	В	-	-	G	В	Yes (Type A)
Thin sections	G	В	G	В	G	В	Yes

**Grid Box Return Policy.** If you have empty grid boxes (Prod. No. 160) that you would like to return for credit, you may do so. Use return Prod. No. 160-R, making sure that the boxes are clean and in good condition (no scratches or markings) and your account will be credited \$.50 for each box returned.



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