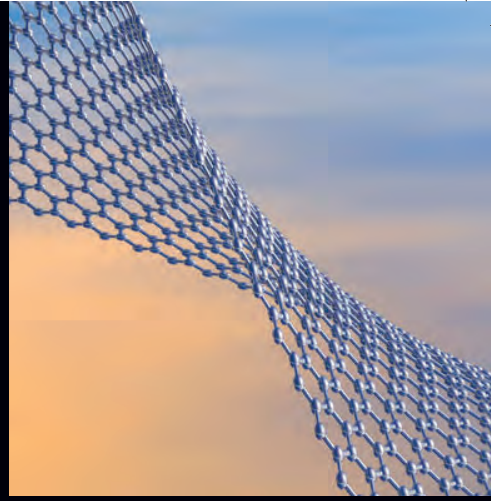
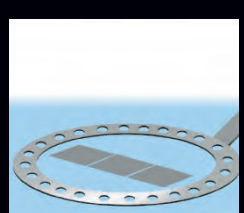
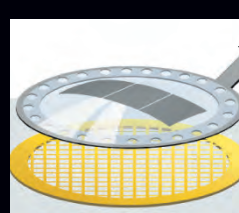
GRIDS

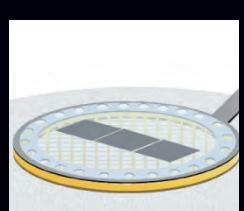
including TEM Support Films, Grid Staining, & Grid Storage

2015 EDITION









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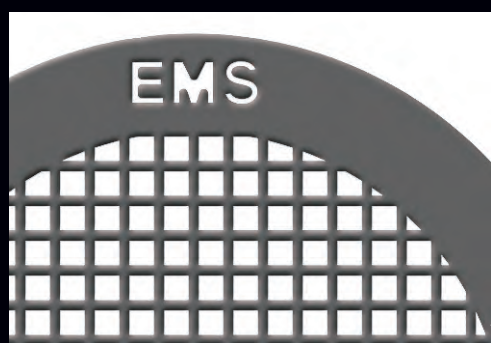
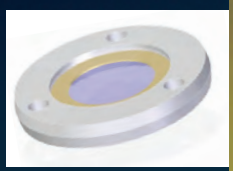


EMS has it!

CryoCapsule®

Sample Preparation Device for Correlative Light to Electron Microscopy



The CryoCapsule® is a new tool in the field of High Pressure Freezing (HPF) and correlative light and electron microscopy (CLEM). Comparable to a small petri dish, it is composed of a landmarked sapphire disc and a gold spacer ring (50µm thick) maintained together by a plastic ring [1].

The specimens are encapsulated between the support sapphire disc (carbon landmarked) and a covering sapphire disc.

The CryoCapsule® is loaded into a specific adaptor and live cell imaging can then be done directly on the specimen prior to HPF.

Post-HPF, the specimen is processed for freeze substitution[2] and room temperature sectioning.

CryoCapCell has also developed a set of tools to manipulate the CryoCapsule® [2] in most scientific environments.

CONTACT US FOR MORE INFORMATION...

Electron Microscopy Sciences

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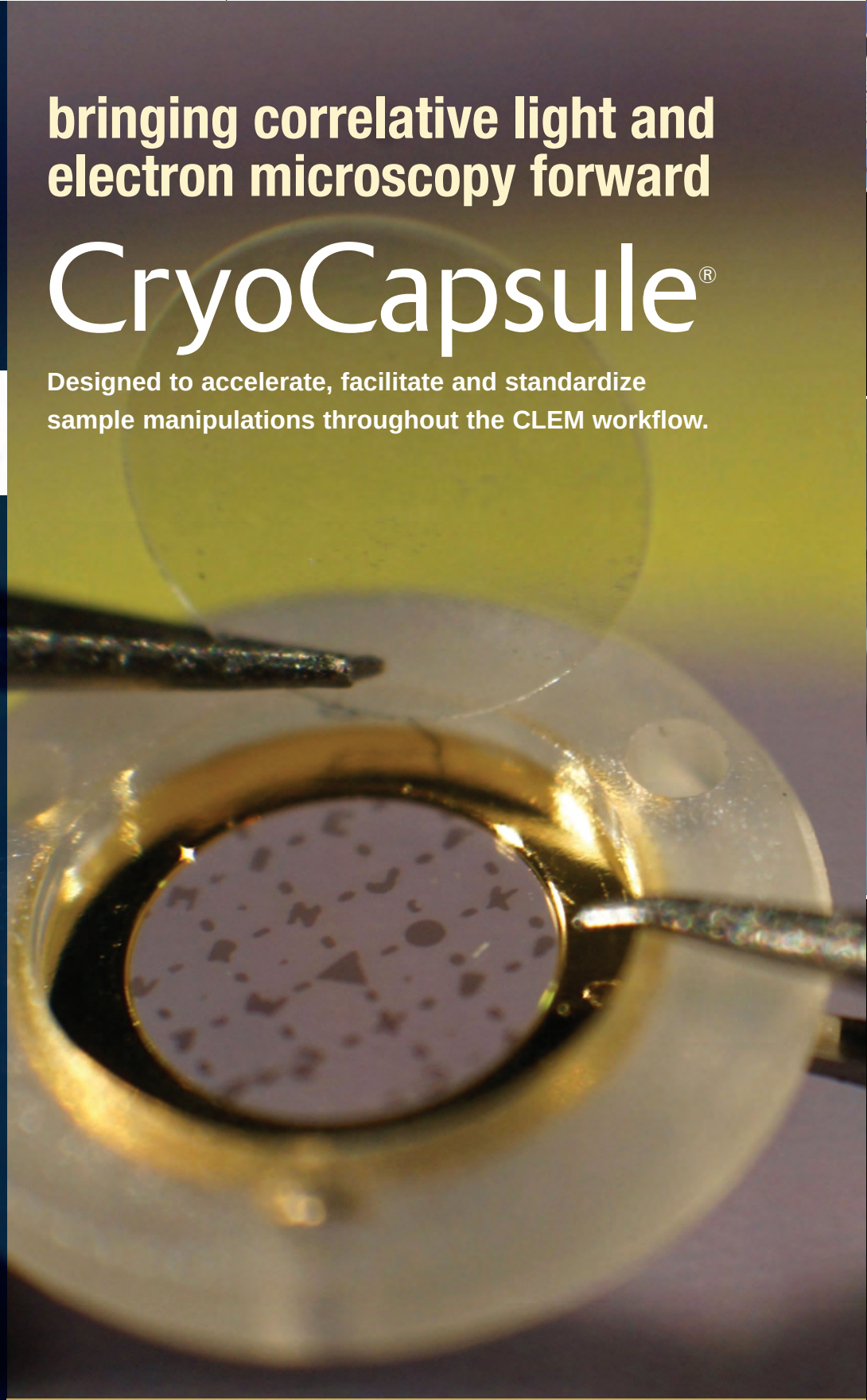
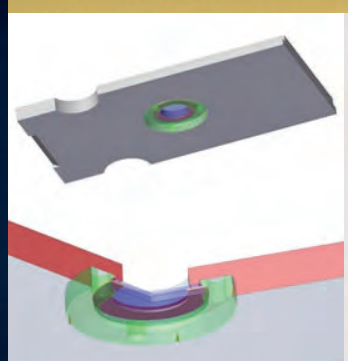
bringing correlative light and electron microscopy forward

CryoCapsule®

Designed to accelerate, facilitate and standardize sample manipulations throughout the CLEM workflow.





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1. Heiligenstein X, Heiligenstein J, Delevoye C, Hurbain I, Bardin S, Paul-Gilloteaux P, Sengmanivong L, Régnier G, Salamero J, Antony C, Raposo G. The CryoCapsule: Simplifying Correlative Light to Electron Microscopy. Traffic [Internet] 2014 [cited 2014 May 14];15:700-16.

2. Heiligenstein X, Hurbain I, Delevoye C, Salamero J, Antony C, Raposo G. Step by step manipulation of the CryoCapsule with HPM high pressure freezers. Methods Cell Biol [Internet] 2014 [cited 2014 Nov 27];124:259-74.

GRIDS

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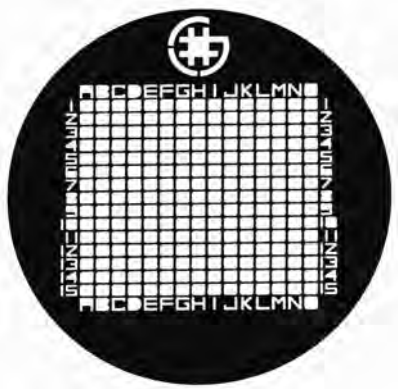

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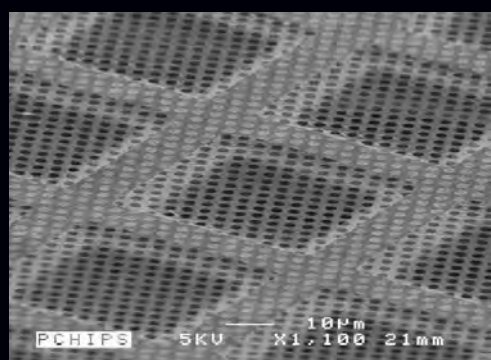

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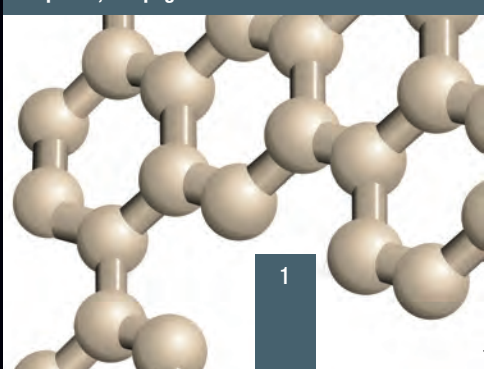
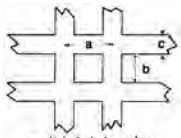


Gilder Grids

A reliable support specimen grid source. Features well-defined grid bars, maximum open area, and a matt/shiny side. Each grid is individually inspected. Newly introduced are copper grids with palladium plating. This plating offers better grid strength and avoids tarnishing.



Standard Square Mesh

Diameter: 3.05mm, **Thickness:** 0.7 mil (18µm)

Material: Copper (Cu), Nickel (Ni), Gold (Au), Copper/Palladium (Cu/Pd=CP), Molybdenum (Mo)

G100 - G400

G200TH

G200TT

G200T

[1] A thickened version of the standard, G200TH with an assymetric center. A mark on the rim allows for precise orientation of the grids.

[2] A combination of thin and thick bar grids, with a mark on the rim for orientation.

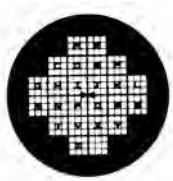
[3] The handle is designed for ease of handling and is easily removed if necessary. To remove the handle, just bend it over on a 90-degree angle.

Gilder Finder Grids

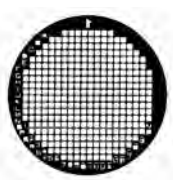
Diameter: 3.05mm, **Thickness:** 0.7 mil (18µm)

Material: Copper (Cu), Nickel (Ni), Gold (Au), Copper/Palladium (Cu/Pd=CP)

G200F1



G200F2



G200HF3

[4] Thick bars dividing regions into 6 thin bar areas, which are identified by a numeric system.

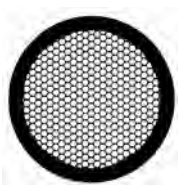
[5] Thick bars dividing regions into 9 thin bar areas, which are identified by alphabetical letters located in the center of the grid.

[6] Each of the 322 grids squares, can be identified by reference to its unique combination of base 2 binary number and alphabet symbol (A-T). 0 is a short rounded solid pillar and 1 is a longer rounded solid pillar.

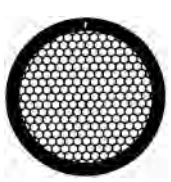
Standard Hexagonal Mesh

Diameter: 3.05mm, **Thickness:** 0.7 mil (18µm)

Material: Copper (Cu), Nickel (Ni), Gold (Au)



G100H & G200H



G150H; G300H & G400H

Type	Cat#	Packed	TECHNICAL DATA Pitch (µm)	Hole (µm)	Bar (µm)
STANDARD SQUARE MESH					
50 mesh	**G50-Cu**	100/vial	500	420	80
	G50-Ni	100/vial	500	420	80
	G50-Au	50/vial	500	420	80
75 mesh	**G75-Cu**	100/vial	340	285	55
	G75-Ni	100/vial	340	285	55
	G75-Au	50/vial	340	280	60
100 mesh	**G100-Cu**	100/vial	250	205	45
	G100-Ni	100/vial	250	205	45
	G100-CP	100/vial	250	205	45
	G100-Au	50/vial	250	200	50
	G100-Mo	25/vial	250	205	45
150 mesh	**G150-Cu**	100/vial	165	125	40
	G150-Ni	100/vial	165	125	40
	G150-CP	100/vial	165	125	40
	G150-Au	50/vial	165	125	40
175 mesh	**G175-Cu**	100/vial	145	108	37
	G175-Ni	100/vial	145	108	37
	G175-Au	50/vial	145	108	37
200 mesh	**G200-Cu**	100/vial	125	90	35
	G200-Ni	100/vial	125	90	35
	G200-CP	100/vial	125	90	35
	G200-Au	50/vial	125	90	35
	G200-Mo	25/vial	125	90	35
250 mesh	**G250-Cu**	100/vial	100	70	30
	G250-Ni	100/vial	100	70	30
	G250-Au	50/vial	100	70	30
[1]200 mesh *see description at left*	**G200TH-Cu**	100/vial	125	85	40
	G200TH-Ni	100/vial	125	85	40
[2]200 mesh *see description at left*	**G200TT-Cu**	100/vial	125	95	35-25
	G200TT-Ni	100/vial	125	95	35-25
[3]200 mesh *see description at left*	**G200T-Cu**	100/vial	125	85	40
	G200T-Ni	100/vial	125	85	40
300 mesh	**G300-Cu**	100/vial	83	58	25
	G300-Ni	100/vial	83	58	25
	G300-CP	100/vial	83	58	25
	G300-Au	50/vial	83	58	25
400 mesh	**G400-Cu**	100/vial	62	37	25
	G400-Ni	100/vial	62	37	25
	G400-CP	100/vial	62	37	25
	G400-Au	50/vial	62	37	25
GILDER FINDER GRIDS					
[4]200 mesh *see description at left*	**G200F1-Cu**	100/vial	125	100	35-12
	G200F1-Ni	100/vial	125	100	35-12
	G200F1-CP	100/vial	125	100	35-12
	G200F1-Au	50/vial	125	100	35-12
[5]200 mesh *see description at left*	**G200F2-Cu**	100/vial	125	106	25-12
	G200F2-Ni	100/vial	125	106	25-12
	G200F2-CP	100/vial	125	106	25-12
	G200F2-Au	50/vial	125	106	25-12
[6]200 mesh *see description at left*	**G200HF3-Cu**	25/vial	125	-	-
	G200HF3-Ni	25/vial	125	-	-
STANDARD HEXAGONAL MESH					
50 mesh	**G50H-Cu**	100/vial	500	430	70
	G50H-Ni	100/vial	500	430	70
	G50H-Au	50/vial	500	430	70
75 mesh	**G75H-Cu**	100/vial	340	290	50
	G75H-Ni	100/vial	340	290	50
	G75H-Au	50/vial	340	290	50
100 mesh	**G100H-Cu**	100/vial	250	215	35
	G100H-Ni	100/vial	250	215	35
	G100H-Au	50/Vial	250	205	45
200 mesh	**G200H-Cu**	100/vial	125	100	25
	G200H-Ni	100/vial	125	100	25
	G200H-Au	50/vial	125	100	25
300 mesh	**G300H-Cu**	100/vial	83	58	25
	G300H-Ni	100/vial	83	58	25
	G300H-Au	50/vial	83	58	25
400 mesh	**G400H-Cu**	100/vial	62	37	25
	G400H-Ni	100/vial	62	37	25
	G400H-Au	50/vial	62	37	25

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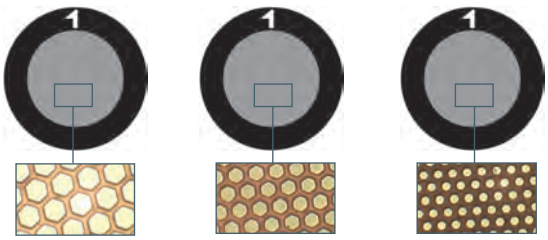
Gilder Grids (continued)

NEW High Mesh Values

There is increasing interest in the use of high mesh value TEM specimen support grids in life science, materials sciences, semiconductor and nanotechnology. We introduce three new products designed to improve support for thin specimens and membranes. These have a high hole/bar ratios giving good transmission values.

Diameter: 3.05mm, **Thickness:** 0.7 mil (18µm)
Mesh Diameter: 2mm
Material: Copper (Cu), Nickel (Ni), Gold (Au).



G1000HH Hexagonal | **G1500HH Hexagonal** | **G2000HA Circular**

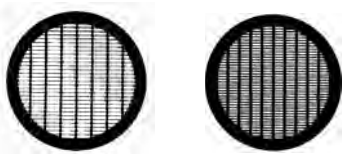
Parallel Bars

Diameter: 3.05mm, **Thickness:** 0.7 mil (18µm)
Material: Copper (Cu), Nickel (Ni), Gold (Au)

G100P & G200P | **G100PB & G200PB** | **G300P & G400P**

Rectangular

Diameter: 3.05mm,
Thickness: 0.7 mil (18µm)
Material: Copper (Cu), Nickel (Ni)

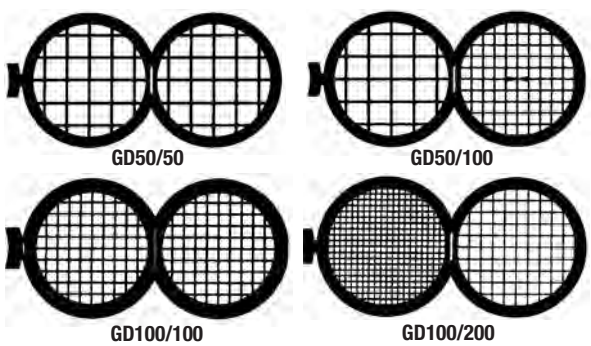


G75/300 | **G100/400**

Double Grids (Oyster)

These are used mostly in metallurgical applications for supporting thin metal foils. These grids have a curved securing tab which folds to the curvature of the 'sandwiched' grid.

Diameter: 3.05mm, **Thickness:** 0.7 mil (18µm)
Material: Copper (Cu), Nickel (Ni), Gold (Au), Copper/Palladium (Cu/Pd=CP), Molybdenum (Mo)
Four configurations are available:



GD50/50 | **GD50/100** | **GD100/100** | **GD100/200**

Type	Cat#	Packed	TECHNICAL DATA Pitch (µm)	Hole (µm)	Bar (µm)
HIGH MESH VALUES					
G1000HH Hexagonal Mesh	**G1000HH-Cu**	25/vial	25	~19	~6
	G1000HH-Ni	25/vial	25	~19	~6
	G1000HH-Au	25/vial	25	~19	~6
G1500HH Hexagonal Mesh	**G1500HH-Cu**	15/vial	16.5	~10.5	~6
	G1500HH-Ni	15/vial	16.5	~10.5	~6
	G1500HH-Au	15/vial	16.5	~10.5	~6
G2000HA Circular Mesh	**G2000HA-Cu**	10/vial	12.5	~6.5	~6
	G2000HA-Ni	10/vial	12.5	~6.5	~6
	G2000HA-Au	10/vial	12.5	~6.5	~6
PARALLEL BARS					
G50P	**G50P-Cu**	100/vial	500	416	84
	G50P-Ni	100/vial	500	416	84
	G50P-Au	50/vial	500	416	84
G50PB	**G50PB-Cu**	100/vial	500	416	84
	G50PB-Ni	100/vial	500	416	84
	G50PB-Au	50/vial	500	416	84
G75P	**G75P-Cu**	100/vial	340	270	70
	G75P-Ni	100/vial	340	270	70
	G75P-Au	50/vial	340	270	70
G75PB	**G75PB-Cu**	100/vial	340	270	70
	G75PB-Ni	100/vial	340	270	70
	G75PB-Au	50/vial	340	270	70
G100P	**G100P-Cu**	100/vial	250	185	65
	G100P-Ni	100/vial	250	185	65
	G100P-Au	50/vial	250	185	65
G100PB	**G100PB-Cu**	100/vial	250	185	65
	G100PB-Ni	100/vial	250	185	65
	G100PB-Au	50/vial	250	185	65
G150P	**G150P-Cu**	100/vial	165	115	50
	G150P-Ni	100/vial	165	115	50
	G150P-Au	50/vial	165	115	50
G150PB	**G150PB-Cu**	100/vial	165	115	50
	G150PB-Ni	100/vial	165	115	50
	G150PB-Au	50/vial	165	115	50
G200P	**G200P-Cu**	100/vial	125	80	45
	G200P-Ni	100/vial	125	80	45
	G200P-Au	50/vial	125	80	45
G200PB	**G200PB-Cu**	100/vial	125	80	45
	G200PB-Ni	100/vial	125	80	45
	G200PB-Au	100/vial	125	80	45
G300P	**G300P-Cu**	100/vial	83	48	35
	G300P-Ni	100/vial	83	48	35
	G300P-Au	50/vial	83	48	35
G300PB	**G300PB-Cu**	100/vial	83	48	35
	G300PB-Ni	100/vial	83	48	35
	G300PB-Au	50/vial	83	48	35
G400P	**G400P-Cu**	100/vial	62	22	40
	G400P-Ni	100/vial	62	22	40
	G400P-Au	50/vial	62	22	40
G400PB	**G400PB-Cu**	100/vial	62	22	40
	G400PB-Ni	100/vial	62	22	40
	G400PB-Au	50/vial	62	22	40
RECTANGULAR					
G75/300	**G7530-Cu**	100/vial	340/83	290/58	50/25
	G7530-Ni	100/vial	340/83	290/58	50/25
G100/400	**G1040-Cu**	100/vial	250/62	205/37	45/25
	G1040-Ni	100/vial	250/62	205/37	45/25
DOUBLE-GRID (OYSTER)					
GD50/50	**GD50-Cu**	100/vial	500/500	430/430	70/70
	GD50-Ni	100/vial	500/500	430/430	70/70
GD50/100	**GD5010-Cu**	100/vial	500/250	430/195	70/55
	GD5010-Ni	100/vial	500/250	430/195	70/55
GD100/100	**GD1010-Cu**	100/vial	250/250	200/200	50/50
	GD1010-Ni	100/vial	250/250	200/200	50/50
GD100/200	**GD1020-Cu**	100/vial	250/125	200/85	50/40
	GD1020-Ni	100/vial	250/125	200/85	50/40

Gilder Grids (continued)

Single Slot Grids (Oval Hole)

Diameter: 3.05mm, **Thickness:** 50µm
Material: Copper (Cu), Nickel (Ni), Gold (Au), Molybdenum (Mo)

GS2x0.5

GS2x1

GS2/3x1

The two central bars provide increased support enabling thinner films of the formvar/carbon type to be used.

Single Slot Grids (Aperture Grids)

Diameter: 3.05mm, **Thickness:** 50µm
Material: Copper (Cu), Nickel (Ni), Gold (Au)

GA75

GA100

GA150

GA200

GA300

GA400

GA500

GA600

GA800

GA1000

GA1500

GA2000

Type	Cat#	Packed	TECHNICAL DATA Pitch (µm)	Hole (µm)	Bar (µm)
SINGLE SLOT GRIDS (OVAL HOLE)					
GS2x0.5	**G205-Cu**	100/vial	—	2000x500	—
	G205-Ni	100/vial	—	2000x500	—
	G205-Au	50/vial	—	2000x500	—
GS2x1	**G2010-Cu**	100/vial	—	2000x1000	—
	G2010-Ni	100/vial	—	2000x1000	—
	G2010-Au	50/vial	—	2000x1000	—
	G2010-Mo	25/vial	—	2000x1000	—
GS2/3x1	**G60610-Cu**	100/vial	—	~606x1000	—
	G60610-Ni	100/vial	—	~606x1000	—
	G60610-Au	50/vial	—	~606x1000	—
	G60610-Mo	100/vial	—	~606x1000	—
GS1x0.2	**G102-Cu**	100/vial	—	1000x200	—
	G102-Ni	100/vial	—	1000x200	—
	G102-Au	50/vial	—	1000x200	—
GS1.5x0.3	**G153-Cu**	100/vial	—	1500x300	—
	G153-Ni	100/vial	—	1500x300	—
	G153-Au	50/vial	—	1500x300	—
GS2x0.75	**G207-Cu**	100/vial	—	2000x750	—
	G207-Ni	100/vial	—	2000x750	—
	G207-Au	50/vial	—	2000x750	—
GS2x1.5	**G215-Cu**	100/vial	—	2000x150	—
	G215-Ni	100/vial	—	2000x150	—
	G215-Au	50/vial	—	2000x150	—
SINGLE SLOT GRIDS (APERTURE GRIDS)					
GA50	**GA50-Cu**	100/vial	—	50	—
	GA50-Ni	100/vial	—	50	—
	GA50-Au	50/vial	—	50	—
GA75	**GA75-Cu**	100/vial	—	75	—
	GA75-Ni	100/vial	—	75	—
	GA75-Au	50/vial	—	75	—
GA100	**GA100-Cu**	100/vial	—	100	—
	GA100-Ni	100/vial	—	100	—
	GA100-Au	50/vial	—	100	—
GA150	**GA150-Cu**	100/vial	—	150	—
	GA150-Ni	100/vial	—	150	—
	GA150-Au	50/vial	—	150	—
GA200	**GA200-Cu**	100/vial	—	200	—
	GA200-Ni	100/vial	—	200	—
	GA200-Au	50/vial	—	200	—
GA300	**GA300-Cu**	100/vial	—	300	—
	GA300-Ni	100/vial	—	300	—
	GA300-Au	50/vial	—	300	—
GA400	**GA400-Cu**	100/vial	—	400	—
	GA400-Ni	100/vial	—	400	—
	GA400-Au	50/vial	—	400	—
GA500	**GA500-Cu**	100/vial	—	500	—
	GA500-Ni	100/vial	—	500	—
	GA500-Au	50/vial	—	500	—
GA600	**GA600-Cu**	100/vial	—	600	—
	GA600-Ni	100/vial	—	600	—
	GA600-Au	50/vial		600	
GA800	**GA800-Cu**	100/vial	—	800	—
	GA800-Ni	100/vial	—	800	—
	GA800-Au	50/vial	—	800	—
GA1000	**GA1000-Cu**	100/vial	—	1000	—
	GA1000-Ni	100/vial	—	1000	—
	GA1000-Au	50/vial	—	1000	—
	GA1000-Mo	25/vial	—	1000	—
GA1500	**GA1500-Cu**	100/vial	—	1500	—
	GA1500-Ni	100/vial	—	1500	—
	GA1500-Au	50/vial	—	1500	—
GA2000	**GA2000-Cu**	100/vial	—	2000	—
	GA2000-Ni	100/vial	—	2000	—
	GA2000-Au	50/vial	—	2000	—

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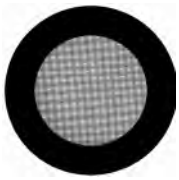
Gilder Thin Bar Grids

Thin Bar Grids have been developed using a new technology to produce ultra-fine grids with thinner cross bars than regular grids. The result is equally firm specimen support but with 40% more open area for viewing maximum specimen surface area.

Square Mesh

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni), Gold (Au)

T200-T400



T1000

Variable Mesh

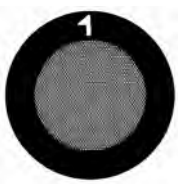
Hexagonal Mesh

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni)

T200H-T600H

NEW Revolutionary Specimen Support Grids

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni)



T601

T601H

Type	Cat#	Packed	TECHNICAL DATA Pitch (µm)	Hole (µm)	Bar (µm)
SQUARE MESH					
200 mesh	**T200-Cu**	100/vial	125	113	12
200 mesh	**T200-Ni**	100/vial	125	113	12
200 mesh	**T200-Au**	25/vial	125	113	12
300 mesh	**T300-Cu**	100/vial	83	73	10
300 mesh	**T300-Ni**	100/vial	83	73	10
300 mesh	**T300-Au**	25/vial	83	73	10
400 mesh	**T400-Cu**	100/vial	62	54	8
400 mesh	**T400-Ni**	100/vial	62	54	8
400 mesh	**T400-Au**	25/vial	62	54	8
1000 mesh	**T1000-Cu**	25/vial	25	19	6
1000 mesh	**T1000-Ni**	25/vial	25	19	6
Variable Mesh	**TVM-Cu**	100/vial	Combined:150, 200, 300, 400 mesh		
	TVM-Ni	100/vial	Same as above		
HEXAGONAL MESH					
200 mesh	**T200H-Cu**	100/vial	125	113	12
200 mesh	**T200H-Ni**	100/vial	125	113	12
300 mesh	**T300H-Cu**	100/vial	83	73	10
300 mesh	**T300H-Ni**	100/vial	83	73	10
400 mesh	**T400H-Cu**	100/vial	62	54	8
400 mesh	**T400H-Ni**	100/vial	62	54	8
600 mesh	**T600H-Cu**	100/vial	37	29	8
600 mesh	**T600H-Ni**	100/vial	37	29	8
REVOLUTIONARY SPECIMEN SUPPORT GRIDS					
600 mesh (square)	**T601-Cu**	100/vial	42	37	5
	T601-Ni	100/vial	42	37	5
600 mesh (hexagonal)	**T601H-Cu**	100/vial	42	37	5
	T601H-Ni	100/vial	42	37	5
1500 mesh (square)	**T1500-Cu**	15/vial	16.5	11.5	5
	T1500-Ni	15/vial	16.5	11.5	5
2000 mesh (square)	**T2000-Cu**	10/vial	12.5	7.5	5
	T2000-Ni	10/vial	12.5	7.5	5

In addition to our square and hexagonal mesh Gilder Thin Bar Grids, we are now able to produce a very fine mesh that values up to 2,000 lines/inch. There is an increasing need in TEM for support thin films, routinely carbon, as thin as 1.5 - 2.0nm.

The pitch (the distance from the center of one bar to the center of the next bar) dimension in all grids remains constant, which allows them to be used as a lower magnification calibration aid.

Type T600HH (hexagonal) and T600HS (square) represent our efforts to reduce the grid bar width (only 5 microns) enabling more of the specimen to be viewed. All new types, apart from one side being shiny, the other matte, have a large asymmetrical mark in the rim which gives the identification of which side the specimen is on. Grids are 3.05mm overall diameter; 2.05mm mesh area diameter.

NEW EMS Grids

Square Mesh and Oval Hole

Diameter: 3.05mm, **Thickness:** see chart
Material: Copper (Cu), Nickel (Ni), Gold (Au), Molybdenum (Mo)

200 mesh

300 mesh

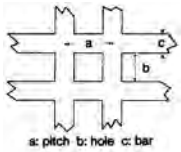
400 mesh

2x1 mm

Type	Cat#	Packed	TECHNICAL DATA Pitch (µm)	Hole (µm)	Bar (µm)	Thickness
SQUARE MESH						
200 mesh	**EMS200-Cu**	100/vial	125	95	35	Up to 27µm, +/-5µm
	EMS200-Ni	100/vial	125	95	35	Up to 27µm, +/-5µm
	EMS200-Au	50/vial	125	95	35	11µm, +/-2µm
	EMS200-Mo	25/vial	125	95	35	25µm, +/-4µm
300 mesh	**EMS300-Cu**	100/vial	83	58	25	Up to 19µm, +/-5µm
	EMS300-Ni	100/vial	83	58	25	Up to 19µm, +/-5µm
	EMS300-Au	50/vial	83	58	25	10µm, +/-2µm
	EMS300-Mo	25/vial	83	58	25	25µm, +/-4µm
400 mesh	**EMS400-Cu**	100/vial	62	37	25	Up to 19µm, +/-5µm
	EMS400-Ni	100/vial	62	37	25	Up to 19µm, +/-5µm
	EMS400-Au	50/vial	62	37	25	9µm, +/-2µm
	EMS400-Mo	25/vial	62	37	25	25µm, +/-4µm
OVAL HOLE						
2x1 mm	**EMS2010-Cu**	100/vial	—	2000x1000	—	27µm, +/-5µm
	EMS2010-Ni	100/vial	—	2000x1000	—	27µm, +/-5µm
	EMS2010-Au	50/vial	—	2000x1000	—	27 micron
	EMS2010-Mo	25/vial	—	2000x1000	—	25µm, +/-4µm

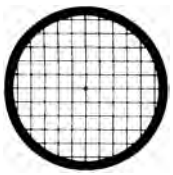
Veco Grids

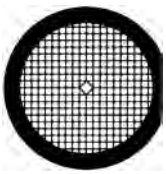
With a wide variety of styles available, Veco Grids offer superior handling characteristics. Plus, with a 0.8 mil thickness, Veco Grids are the most rigid grids available.

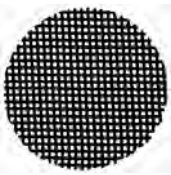


Square Mesh with Center Reference

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni), Gold (Au)

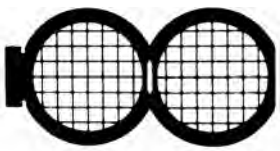

Square Mesh

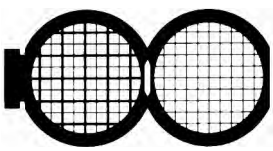

E-200

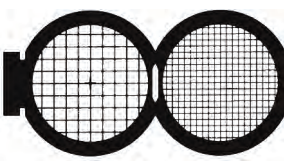

SS-200

Square Mesh Oyster Grids

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni)

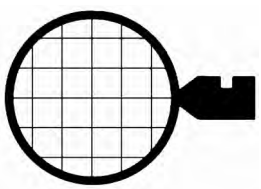

D-75

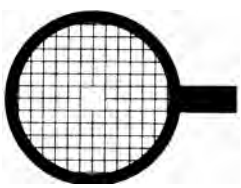

D-100/100B

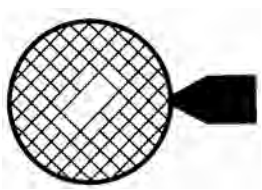

D-100K/200

Square Mesh Handle Grids

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni)


Square Mesh Handle Grid


111HDspec


100HDspec

Type	Cat#	Packed	TECHNICAL DATA Pitch (µm)	Hole (µm)	Bar (µm)
SQUARE MESH WITH CENTER REFERENCE					
50 mesh	**0050-Cu**	100/vial	500	450	50
	0050-Ni	100/vial	500	450	50
	0050-Au	50/vial	500	450	50
75 mesh	**0075-Cu**	100/vial	333	283	50
	0075-Ni	100/vial	333	283	50
	0075-Au	50/vial	333	283	50
100 mesh	**0100-Cu**	100/vial	250	200	50
	0100-Ni	100/vial	250	200	50
	0100-Au	50/vial	250	200	50
150 mesh	**0150-Cu**	100/vial	167	117	50
	0150-Ni	100/vial	167	117	50
	0150-Au	50/vial	167	117	50
200 mesh	**0200-Cu**	100/vial	125	85	40
	0200-Ni	100/vial	125	85	40
	0200-Au	50/vial	125	85	40
250 mesh	**0250-Cu**	100/vial	100	60	40
	0250-Ni	100/vial	100	60	40
300 mesh	**0300-Cu**	100/vial	83	45	38
	0300-Ni	100/vial	83	45	38
	0300-Au	50/vial	83	45	38
400 mesh	**0400-Cu**	100/vial	63	30	33
	0400-Ni	100/vial	63	30	33
	0400-Au	50/vial	63	30	33
E200	**E200-Cu**	100/vial	125	85	40
E200	**E200-Ni**	100/vial	125	85	40
SS 200	**0200-SS**	100/vial	Punched from Stainless Steel Woven 200 mesh		
SQUARE MESH OYSTER GRIDS					
D75	**D75-Cu**	100/vial	333	283	50
D75	**D75-Ni**	100/vial	333	283	50
D100/100B	**D100B-Cu**	100/vial	250x 230/270	200 190	50x 40/80
D100/100B	**D100B-Ni**	100/vial	250x 230/270	200 190	50x 40/80
D100K/200	**D1002D-Cu**	100/vial	250x 125	200/ 85	50x 40
D100K/200	**D1002D-Ni**	100/vial	250x 125	200x 85	50x 40
SQUARE MESH HANDLE GRIDS					
100 mesh	**HD100-Cu**	100/vial	250	200	50
	HD100-Ni	100/vial	250	200	50
150 mesh	**HD150-Cu**	100/vial	167	117	50
	HD150-Ni	100/vial	167	117	50
200 mesh	**HD200-Cu**	100/vial	125	85	40
	HD200-Ni	100/vial	125	85	40
300 mesh	**HD300-Cu**	100/vial	83	45	38
	HD300-Ni	100/vial	83	45	38
400 mesh	**HD400-Cu**	100/vial	63	30	33
	HD400-Ni	100/vial	63	30	33
111HDspec	**HD111S-Cu**	100/vial	—	190	—
	HD111S-Ni	100/vial	—	190	—
100HDspec	**HD100S-Cu**	100/vial	—	200	—
	HD100S-Ni	100/vial	—	200	—

TECHNICAL TIP

Removing a Charge from the Surface of Grids

Sometimes when you are trying to pick up sections, they won't adhere to the grid surface. If you don't have time to glow discharge clean the grid surfaces, try this little trick. Dip the grids in distilled water for a moment and wick off the excess with filter paper. Let them dry while you are arranging your sections. Your sections should now adhere to the grid surface. Some labs soak the grids they will use for the day in distilled water until they are needed. If this procedure fails, reclean your grids with acetone or chloroform or glow discharge clean the grid surfaces.
Jeanette Killius, NEOUCOM, Rootstown, OH.

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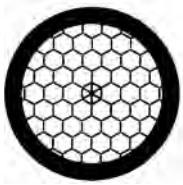
Veco Grids (continued)

Hexagonal Mesh

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni), Gold (Au)

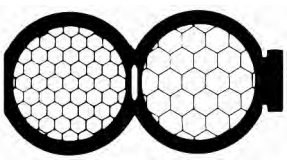
Hexagonal Mesh



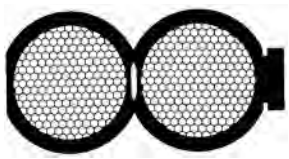
H111K Spec

Oyster Type Hexagonal Mesh

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni), Gold (Au)



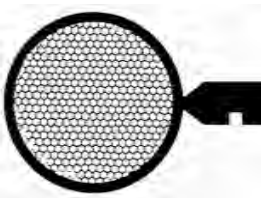
DH75/300



DH75-DH300

Handle Grids Hexagonal Mesh

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni), Gold (Au)



100-400 mesh

Parallel Bar (R)

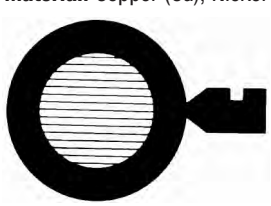
Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni)

R100-R300

RB90

Parallel Bar Handle Grids

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni)



R100-R300

			TECHNICAL DATA		
Type	Cat#	Packed	Pitch (µm)	Hole (µm)	Bar (µm)
HEXAGONAL MESH					
H75 mesh	**H075-Cu**	100/vial	333	283	50
	H075-Ni	100/vial	333	283	50
H100 mesh	**H100-Cu**	100/vial	250	200	50
	H100-Ni	100/vial	250	200	50
H150 mesh	**H150-Cu**	100/vial	167	117	50
	H150-Ni	100/vial	167	117	50
H200 mesh	**H200-Cu**	100/vial	125	85	40
	H200-Ni	100/vial	125	85	40
	H200-Au	50/vial	125	85	40
H300 mesh	**H300-Cu**	100/vial	83	45	38
	H300-Ni	100/vial	83	45	38
	H300-Au	50/vial	83	45	38
H400 mesh	**H400-Cu**	100/vial	63	30	33
	H400-Ni	100/vial	63	30	33
H111KSpec	**H111K-Cu**	100/vial	-	185	-
	H111K-Ni	100/vial	-	185	-
OYSTER TYPE HEXAGONAL MESH					
DH75/300	**D753H-Cu**	100/vial	333/83	293/45	50/38
	D753H-Ni	100/vial	333/83	293/45	50/38
DH75 mesh	**D75H-Cu**	100/vial	333	283	50
	D75H-Ni	100/vial	333	283	50
DH100 mesh	**D100H-Cu**	100/vial	250	200	50
	D100H-Ni	100/vial	250	200	50
DH200 mesh	**D200H-Cu**	100/vial	125	85	40
	D200H-Ni	100/vial	125	85	40
DH300 mesh	**D300H-Cu**	100/vial	83	45	38
	D300H-Ni	100/vial	83	45	38
HANDLE GRIDS HEXAGONAL MESH					
100 mesh	**HD100H-Cu**	100/vial	250	200	50
	HD100H-Ni	100/vial	250	200	50
150 mesh	**HD150H-Cu**	100/vial	167	117	50
	HD150H-Ni	100/vial	167	117	50
200 mesh	**HD200H-Cu**	100/vial	125	85	40
	HD200H-Ni	100/vial	125	85	40
300 mesh	**HD300H-Cu**	100/vial	83	45	38
	HD300H-Ni	100/vial	83	45	38
400 mesh	**HD400H-Cu**	100/vial	63	30	33
	HD400H-Ni	100/vial	63	30	33
PARALLEL BAR (R)					
R100	**R100-Cu**	100/vial	250	200	50
	R100-Ni	100/vial	250	200	50
R150	**R150-Cu**	100/vial	167	117	50
	R150-Ni	100/vial	167	117	50
R200	**R200-Cu**	100/vial	125	85	40
	R200-Ni	100/vial	125	85	40
R300	**R300-Cu**	100/vial	85	45	38
	R300-Ni	100/vial	85	45	38
RB90	**RB90-Cu**	100/vial	276	92	184
	RB90-Ni	100/vial	276	92	184
PARALLEL BAR HANDLE GRIDS					
R100	**HDR100-Cu**	100/vial	250	200	50
	HDR100-Ni	100/vial	250	200	50
R200	**HDR200-Cu**	100/vial	125	85	40
	HDR200-Ni	100/vial	125	85	40
R300	**HDR300-Cu**	100/vial	85	45	38
	HDR300-Ni	100/vial	85	45	38

TECHNICAL TIP

On-Grid Enhancement

The use of nickel grids is recommended for on-grid enhancement, as nickel is relatively insensitive to silver enhancement. Gold or copper grids should not be used.

Veco Grids (continued)

Parallel Bar with Divider

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni)

R100D-R300D

R100 Aspec

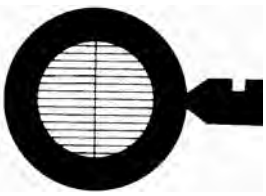
Sjostrand for Serial Sections

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni)

R100/200A

Parallel Bar with Divider Handle Grids

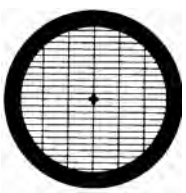
Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni)



R100D-R300D

Slotted Patterns

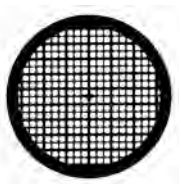
Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni)



50/75-100/400

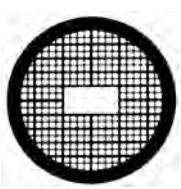
Thin and Thick Bars

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni)



100µk

100+ym



GE 200

Type	Cat#	Packed	TECHNICAL DATA Pitch (µm)	Hole (µm)	Bar (µm)
PARALLEL BAR WITH DIVIDER					
R100D	**R100D-Cu**	100/vial	250	200	50
	R100D-Ni	100/vial	250	200	50
R150D	**R150D-Cu**	100/vial	167	117	50
	R150D-Ni	100/vial	167	117	50
R200D	**R200D-Cu**	100/vial	125	85	40
	R200D-Ni	100/vial	125	85	40
R300D	**R300D-Cu**	100/vial	85	45	38
	R300D-Ni	100/vial	85	45	38
R100Aspec	**R100As-Cu**	100/vial	250	200	50
	R100As-Ni	100/vial	250	200	50
SJOSTRAND FOR SERIAL SECTIONS					
R100/200A	**R12CA-Cu**	100/vial	250/125	120/75	130/50
	R12CA-Ni	100/vial	250/125	120/75	130/50
PARALLEL BAR WITH DIVIDER HANDLE GRIDS					
R100D	**HDR100D-Cu**	100/vial	250	200	50
	HDR100D-Ni	100/vial	250	200	50
R200D	**HDR200D-Cu**	100/vial	125	85	40
	HDR200D-Ni	100/vial	125	85	40
R300D	**HDR300D-Cu**	100/vial	85	45	38
	HDR300D-Ni	100/vial	85	45	38
SLOTTED PATTERNS					
50/75	**575-Cu**	100/vial	500/333	450/283	50
	575-Ni	100/vial	500/333	450/283	50
75/300	**753-Cu**	100/vial	300/83	293/43	40
	753-Ni	100/vial	300/83	293/43	40
100/400	**1040-Cu**	100/vial	250/63	212/25	38
	1040-Ni	100/vial	250/63	212/25	38
THIN AND THICK BARS					
100µK	**100S-Cu**	100/vial	156/132	100	56/32
	100S-Ni	100/vial	156/132	100	56/32
100+ym	**100YM-Cu**	100/vial	—	100	—
	100YM-Ni	100/vial	—	100	—
GE200	**GE200-Cu**	100/vial	125/145	Slotted area 80 **Single slot: 1000x500**	45/65
	GE200-Ni	100/vial	125/145	Slotted area 80 **Single slot: 1000x500**	45/65

For more Technical Tips on Grids, see pages 6, 7

TECHNICAL TIP

Shiny Side Or Rough Side?

Retention of sections on grids during poststaining and immunocytochemical procedures frequently is of crucial impor-tance in the electron microscopy laboratory. Opinions differ regarding the side of grids most suitable for permanent adhesion. The controversy is easily solved by examination of the surfaces involved. Grids are manufactured with a dull or rough side, and a shiny or smooth side. Epoxy sections exhibit a bumpy surface when viewed in the boat. Scanning electron microscopy images of epoxy sections without embedded material also reveal an uneven surface. Let us imagine a grid to be a single sided piece of sandpaper and the section to be a double sided piece of sandpaper. Sandpaper grips another piece of sandpaper much more readily than it does a smoothly polished metal surface. For the most secure adhesion of sections to grids **SECTIONS SHOULD BE PICKED UP ON THE ROUGH SIDE OF THE GRID.**

Hildegard H. Crowley, Dept. of Biological Sciences,
University of Denver, Denver, CO. 80208

Veco Grids (continued)

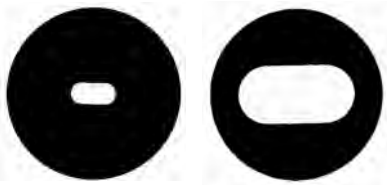
Single Hole

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni)

A600-A2000

Single Slot Oval

Diameter: 3.05mm, **Thickness:** 0.8 mil
Material: Copper (Cu), Nickel (Ni)



L0.2x1.5-L2x1.5

Special Shapes

Diameter: 3.05mm, **Thickness:** 0.8 mil, **Material:** Copper (Cu)

Z1600

EA1500

Z600

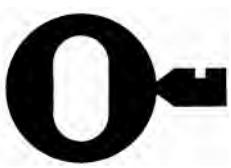
Oyster

Diameter: 3.05mm,
Thickness: 0.8 mil
Material: Copper (Cu),
Nickel (Ni)

DL2X1

Handle

Diameter: 3.05mm,
Thickness: 0.8 mil
Material: Copper (Cu),
Nickel (Ni)



HDL2X1

Rectangular

Diameter: 3.05mm,
Thickness: 0.8 mil
Material: Copper (Cu),
Nickel (Ni)

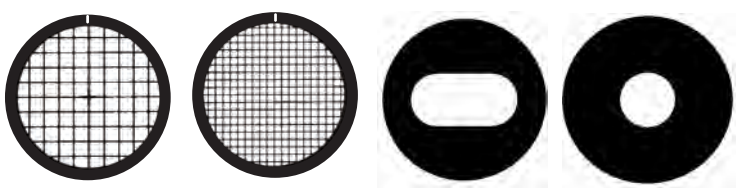
L2.X0.6-L0.2X0.5

Type	Cat#	Packed	Hole Dia. (µm)
SINGLE HOLE			
A600	**0600-Cu**	100/vial	600
	0600-Ni	100/vial	600
A800	**0800-Cu**	100/vial	800
	0800-Ni	100/vial	800
A1000	**1000-Cu**	100/vial	1000
	1000-Ni	100/vial	1000
A1500	**1500-Cu**	100/vial	1500
	1500-Ni	100/vial	1500
A2000	**2000-Cu**	100/vial	2000
	2000-Ni	100/vial	2000
SPECIAL SHAPES			
Z1600	**Z1600-Cu**	100/vial	inner:1600 outer:1900 width:150
EA1500	**EA150-Cu**	100/vial	1500
Z600	**Z600-Cu**	100/vial	inner:600 outer:900 width:150
SINGLE SLOT OVAL			
L0.2x1.5	**0215-Cu**	100/vial	200x1500
	0215-Ni	100/vial	200x1500
L2x1	**2010-Cu**	100/vial	2000x1000
	2010-Ni	100/vial	2000x1000
L2x1.5	**2015-Cu**	100/vial	2000x1500
	2015-Ni	100/vial	2000x1500
OYSTER			
DL 2x1	**DL2010-Cu**	25/vial	2000x1000
	DL2010-Ni	25/vial	2000x1000
HANDLE			
HDL2x1	**HD2010-Cu**	100/vial	2000x1000
	HD2010-Ni	100/vial	2000x1000
RECTANGULAR			
L2x0.6	**0620-Cu**	100/vial	2000x600
	0620-Ni	100/vial	2000x600
L0.2x1	**1002-Cu**	100/vial	200x1000
	1002-Ni	100/vial	200x1000
L0.2x0.5	**0502-Cu**	100/vial	200x500
	0502-Ni	100/vial	200x500

TEM Specimen Supports in Molybdenum

We have extended our range of TEM grid materials to include four types, which are now available in Molybdenum. The new products are manufactured using a process known as chemical 'milling' (etching) instead of the more familiar technique of 'electroforming' (deposition) that is used in the manufacture of copper, nickel and gold products. Molybdenum is used principally in applications where it's high temperature, hardness, expansion of coefficient and corrosion resistance characteristics are considered important. The material which is used has a purity of 99.9%.

Symbol: Mo
Atomic number: 42
Melting point: 2617.0°C (2890.15°K, 4742.6°F)
Boiling point: 4612.0°C (4885.15°K, 8333.6°F) –
Density: 10.22 g/cm^3

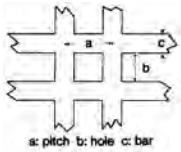


G200-Mo 200# Grid | G100-Mo 100# Grid | G2010-Mo 2x1Grid | G1000-Mo 1000 Micron Grid

Cat. No.	Overall Diameter	Rim Width	Rim Mark	Center Mark	Lines/ inch	Pitch	Bar Width	Hole Width	Overall thickness	Packed
G200-Mo	3.05mm	0.225mm	Yes	Yes	200	125 µm	35 µm	90 µm	25 µm	25/vial
G100-Mo	3.05mm	0.225mm	Yes	Yes	100	250 µm	45 µm	205 µm	25 µm	25/vial
G2010-Mo	3.05mm	N/A	N/A	N/A	N/A	N/A	N/A	2 x 1mm	50 µm	25/vial
G1000-Mo	3.05mm	N/A	N/A	N/A	N/A	N/A	N/A	1000 µm	50 µm	25/vial

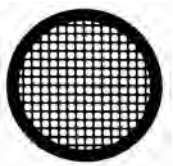
Maxtaform Grids

High Grade Maxtaform Grids with clean and smooth edges, firm support, and a large open area. Our copper grids are available with one surface coated with inert Rhodium. This coating will eliminate tarnishing, give side identification, and reduce the bar thickness.



Square Mesh and Oval Hole

Diameter: 3.05mm, **Thickness:** 0.75 mil
Material: Copper/Rhodium (Cu/Rh = CR), Nickel (Ni), Gold (Au)


100–400 mesh


100–400 mesh


2x1 mm

Type	Cat#	Packed	TECHNICAL DATA Pitch (µm)	Hole (µm)	Bar (µm)
SQUARE MESH					
100 mesh	**M100-CR**	100/vial	254	213	41
	M100-Ni	100/vial	254	213	41
150 mesh	**M150-CR**	100/vial	165	131	34
	M150-Ni	100/vial	165	131	34
	M150-Au	100/vial	165	131	34
200 mesh	**M200-CR**	100/vial	127	103	24
	M200-Ni	100/vial	127	103	24
	M200-Au	100/vial	127	103	24
300 mesh	**M300-CR**	100/vial	84	61	23
	M300-Ni	100/vial	84	61	23
	M300-Au	100/vial	84	61	23
400 mesh	**M400-CR**	100/vial	63	43	20
	M400-Ni	100/vial	63	43	20
	M400-Au	100/vial	63	43	20
OVAL HOLE					
2x1 mm	**M2010-CR**	100/vial	—	2000x1000	—
	M2010-Ni	100/vial	—	2000x1000	—
	M2010-Au	25/vial	—	2000x1000	—

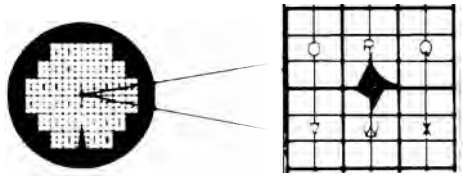
Maxtaform Finder Grids

Maxtaform grids with reference patterns are of the highest consistent quality, with a wide choice to choose from to suit all your particular needs.

London Finder

H 2, Pitch 127µ, 200 mesh

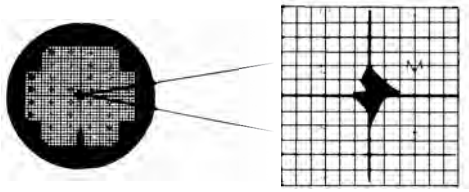
LF200-Cu	100/vial
LF200-Ni	100/vial
LF200-Au	100/vial



London Finder

H 7, Pitch 63µ, 400 mesh

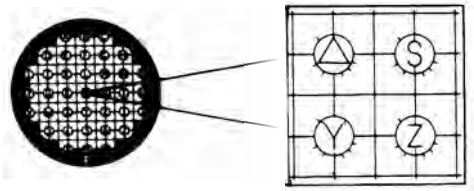
LF400-Cu	100/vial
LF400-Ni	100/vial
LF400-Au	100/vial



London Finder

H 15, Pitch 188µ, 135 mesh

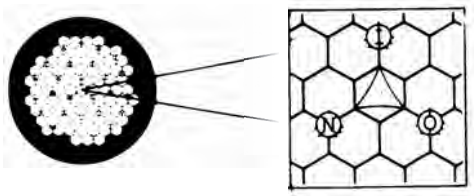
LF135-Cu	100/vial
LF135-Ni	100/vial



London Honeycomb

H 6, Pitch 235µ, Honeycomb

LH200-Cu	100/vial
LH200-Ni	100/vial



Maxtaform Specialist Grids

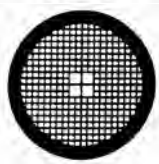
3 mm diameter. These grids fill all your special needs.

H 9, Pitch 508µ, 50 mesh

H9Spec-Cu	100/vial
H9Spec-Ni	100/vial

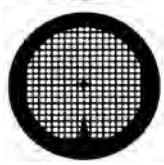
HF14, Pitch 127µ, 200 mesh

HF14Spec-Cu	100/vial
HF14Spec-Ni	100/vial



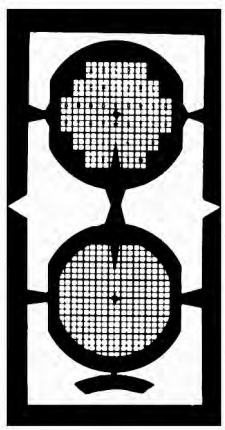
H 1, Pitch 127µ, 200 mesh

H1Spec-Cu	100/vial
H1Spec-Ni	100/vial



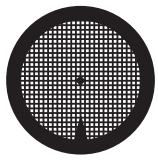
H 12 Folding, Pitch 126µ, 200 mesh

H12Spec-Cu	25/vial
H12Spec-Ni	25/vial



H 4, Pitch 63µ, 400 mesh

H4Spec-Cu	100/vial
H4Spec-Ni	100/vial



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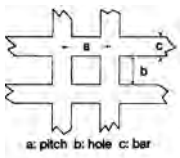
Athene Grids

EMS is pleased to now offer the Athene range of grids, renowned for decades for the highest quality standards, exceptionally refined grid bars, and good handling characteristics.



Square Mesh

Diameter: 3.05mm, **Material:** Copper (Cu), Nickel (Ni), Gold (Au)


50 mesh


150 mesh


200 mesh, with center mark


300 mesh

Thin Bar with Center Mark

Diameter: 3.05mm, **Material:** Copper (Cu) Nickel (Ni)


200 mesh


300 mesh


400 mesh

Thick and Thin Bar with Center Mark

Diameter: 3.05mm, **Material:** Copper (Cu)


200 mesh


300 mesh

Hexagonal Mesh

Diameter: 3.05mm, **Material:** Copper (Cu), Nickel (Ni)


100 mesh

Slotted

Diameter: 3.05mm, **Material:** Copper (Cu)


Multiple Slots

Type	Cat#	Packed	TECHNICAL DATA Pitch (µm)	Hole (µm)	Bar (µm)
SQUARE MESH					
50 mesh	**A50-Cu**	100/vial	—	450	—
150 mesh	**A150-Cu**	100/vial	—	150	—
200 mesh	**A200-Cu**	100/vial	—	100	27
	A200-Ni	100/vial	—	100	27
300 mesh	**A300-Cu**	100/vial	—	70	—
	A300-Ni	100/vial	—	70	—
400 mesh	**A400-Cu**	100/vial	—	45	—
SQUARE MESH WITH CENTER MARK					
200 mesh	**AC200-Cu**	100/vial	—	100	27
	AC200-Au	100/vial	—	100	27
THIN BAR WITH CENTER MARK					
200 mesh	**AT200-Cu**	100/vial	—	—	10
	AT200-Ni	100/vial	—	—	10
300 mesh	**AT300-Cu**	100/vial	—	—	10
	AT300-Ni	100/vial	—	—	10
400 mesh	**AT400-Cu**	100/vial	—	—	10
THICK AND THIN BAR WITH CENTER MARK					
200 mesh	**ATT200-Cu**	100/vial	—	150	—
300 mesh	**ATT200-Cu**	100/vial	—	75	—
HEXAGONAL MESH					
100 mesh	**AH100-Cu**	100/vial	—	240	—
	AH100-Ni	100/vial	—	240	—
400 mesh	**AH400-Cu**	100/vial	—	240	—
SLOTTED					
Multiple Slots	**AS-Cu**	100/vial	350–700		

Index Grids

Alpha Numeric Index Grid

By employing a rectangular mesh the support value of the grid has been increased, offering a value intermediate between the most commonly used grid (200 Lines/") and (300 Lines/"/). Each grid rectangle is asymmetrical having different outlines in all four corners. This allows for the orientation of the grid to be determined at microscopic levels. The index feature enables the position of each grid to be identified with reference to the letters A-O along the horizontal axis and the numbers 1-15 along the vertical axis. The logo in the rim allows for precise orientation and aids in the identification of each side. Grids are available in Copper, Copper/Palladium, Nickel, and Gold.

SPECIFICATIONS:

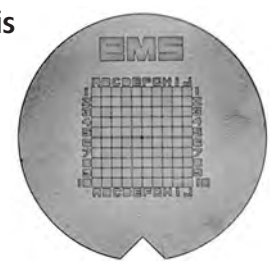
	Horizontal Axis:	Vertical Axis:
Mesh:	200 Lines/"	250 Lines/"
Pitch:	125 microns	105 microns
Bar Width:	20 microns	15 microns
Hole Width:	105 microns	90 microns
Overall Diameter:	3.05 mm	3.05 mm

CORNER OUTLINE WITH REFERENCE TO LOGO IN THE RIM:

Top Right:	Right Angle
Top Left:	Inverted Quadrant
Bottom Right:	Diagonal Line
Bottom Left:	Quadrant

G200F4-Cu	Alpha/Numeric Index Grid, Copper	100/vial
G200F4-CP	Alpha/Numeric Index Grid, Copper/Palladium	100/vial
G200F4-Ni	Alpha/Numeric Index Grid, Nickel	100/vial
G200F4-Au	Alpha/Numeric Index Grid, Gold	50/vial

Asbestos Analysis Index Grids



Our unique index grids for all of your microscopy work. These grids are manufactured in the strictest accordance to meet AHERA requirements.

SPECIFICATIONS:

Overall Diameter	3.05mm
Mesh	200 lines/"
Pitch	125 microns
Bar Width	10 microns +/- 2 microns
Hole Width	115 microns +/- 2 microns
Index Identification	Horizontal: A-J, Vertical: 1-10
EMS Logo in Rim	———————
Asymmetrical Cut Out In Rim	Allows for precise repeat location and aids in side differentiation

G200EMSIND-Cu	Asbestos Analysis Index Grids, Copper	100/vial
G200EMSIND-Ni	Asbestos Analysis Index Grids, Nickel	100/vial

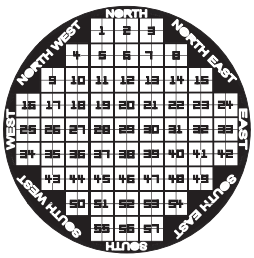
SEM Finder Grids

These new SEM grids are designed to aid in the identification and localization of SEM specimens when placed on standard SEM stubs.
The SEMF2 allows for easy characterization and analysis of particles and suspensions.
The SEMF3 uses an alpha-numeric index, allowing up to 25 predetermined specimens to be fixed and then located in a SEM.

Type SEMF1
Referring to the annular rim identifies north, south, east and west. The four quadrant markers are tapered towards the centre. 100 Radial sectors are identified by reference to decimal numbers in the annular rim and alphabet letters in the four quadrants.

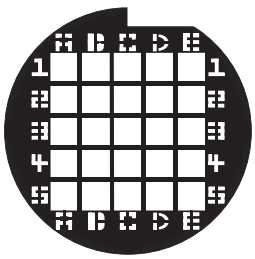
Overall Diameter:.....10 mm
Overall Thickness: .....~50 µm
Material: .....Copper, Nickel or Gold

Type SEMF2
The larger cells are identified using numbers from 1 – 57. Each large cell is sub-divided into 4, making a total of 228 identifiable cells by reference to their number and geographical location.



Overall Diameter:.....10 mm
Overall Thickness: .....~50 µm
Material: .....Copper, Nickel or Gold

Type SEMF3
25 cells are identified by reference to their alpha-numeric position. The large asymmetric cut-out feature in the rim enables the right view to be easily obtained when placing on a SEM stub.



Overall Diameter:.....10 mm
Overall Thickness: .....~50 µm
Material: .....Copper, Nickel or Gold

80101-Cu	SEMF1, Copper	10/vial
80101-Ni	SEMF1, Nickel	10/vial
80101-Au	SEMF1, Gold	5/vial
80102-Cu	SEMF2, Copper	10/vial
80102-Ni	SEMF2, Nickel	10/vial
80102-Au	SEMF2, Gold	5/vial
80103-Cu	SEMF3, Copper	10/vial
80103-Ni	SEMF3, Nickel	10/vial
80103-Au	SEMF3, Gold	5/vial

Synaptek™ Grids

Very reliable under the electron beam- Synaptek® unflexible grids, made of a special alloy (Berylium-Copper). Offers extreme stability for coating with support film. 4 mil thick (100µm), 3.05mm diameter, this standard 2x1mm oval slot grids are contamination free and reusable after cleaning.
0.5x2mm oval slots are also available.
NUM grids: Numbered grids are in random order. Numbers may be duplicated.
DOT grids: 2 dots are marked on one side of the grid for identification. Dots are visible to the naked eye.
NOTCH grids: A mark, stamped on one side of the grid to facilitate the handling of the grids. Notch is available with NUM or DOT grids.
GILDED grids: completely Gold-Plated grids, suitable for immunology research, autoradiography, as well as special needs.

DOT
2x1mm slot

NOTCH-DOT
2x1mm slot

DOT
2x0.5mm slot

NOTCH-NUM
2x1mm slot

NUM
2x1mm slot

GILDED NOTCH-NUM
2x1mm slot

NOTCH
2x1mm slot

NOTCH DOT
0.8x1.8mm slot

DOT
1.5mm hole

Cat. No.	Description	Pack
S2010-DOT	DOT, 2 x 1mm slot	100/vial
S2010-NUM	NUM, 2 x 1mm slot	100/vial
S2010-NOTCH	NOTCH, 2 x 1mm slot	100/vial
S2010-ND	NOTCH-DOT, 2 x 1mm slot	100/vial
S2010-NN	NOTCH-NUM, 2 x 1mm slot	100/vial
SG2010-NN	GILDED NOTCH-NUM, 2 x 1mm slot, Gold Plated	100/vial
S2005-DOT	DOT, 0.5 x 2mm slot	100/vial
S1808-ND	NOTCH-DOT, 0.8 x 1.8mm slot	100/vial
S1020-NI	Ni-NOTCH-DOT, 1 x 2mm slot, Nickel	100/vial
S1500-DOT	DOT, 1.5mm hole	100/vial
S1500NI-DOT	Ni-DOT, 1.5mm hole, Nickel	100/vial
S1500MO-DOT	Mo-DOT, 1.5mm hole, Molybdenum, Thickness of 75µm (3 mil)	25/vial

Beryllium Grids for Transmission Electron Microscopy

Beryllium grids are superior to all other materials for in situ analysis in transmission electron microscopes because for practical purposes they give off no detectible background radiation which could interfere with the analysis. **Purity:** 99.97%, **Size:** 3.05mm

0200-Be	Beryllium Grids 200 Mesh	each

EMBRA Grids

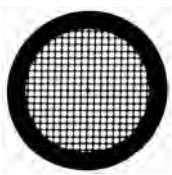
Diameter: 3.05mm, **Thickness:** 16µm for meshed and 5-20 µm for oval hole grids

Material: Copper (Cu), Nickel (Ni), Gold (Au), Stainless Steel (SS), Titanium (Ti), Molybdenum (Mo), Aluminum (Al)

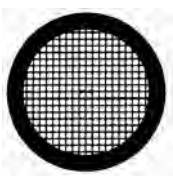
EMBRA electroformed grids combine a high open area with a rigid construction which allows for relatively easy handling. We offer these grids in a series of hard to find materials, which are not available from other manufacturers. They are as follows: Stainless Steel (SS), Titanium (Ti), Molybdenum (Mo), and Aluminum (Al)

Square Mesh

100 mesh



200 mesh



300 mesh

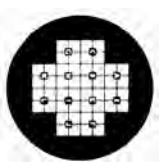
Oval Slot

0.4-2mm

2x1mm

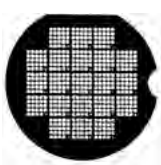
Finder

Standard 3.05mm diameter grids which have one straight and one round cut out from the rim which assists in the orientation of the grid. They are available in Copper, Nickel, and Gold Grids.



100 mesh

200 mesh

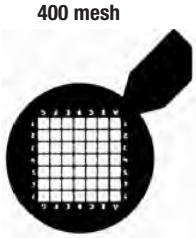


300 mesh

400 mesh

Coordinator

Standard 3.05mm grids, with a handle.
They are available in copper and nickel.



Coordinator
100 mesh

Selective Grids

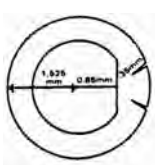
7 Hexagon

75 Mesh Freeze Fracture

150 Mesh
Tissue Processing

200 Mesh
Tissue Processing

CHIEN Grids



CHIEN Grids

Type	Cat#	Pack	Open Area
SQUARE MESH			
100 mesh	**E100-SS**	25/vial	65%
	E100-Ti	25/vial	65%
	E100-Mo	25/vial	65%
	E100-Al	25/vial	65%
200 mesh	**E200-SS**	25/vial	50%
	E200-Ti	25/vial	50%
	E200-Mo	25/vial	50%
	E200-Al	25/vial	50%
300 mesh	**E300-Ti**	25/vial	40%
	E300-Mo	25/vial	40%
	E300-Al	25/vial	40%
OVAL SLOT			
0.4x2mm	**E0420-SS**	25/vial	—
	E0420-Ti	25/vial	—
	E0420-Mo	25/vial	—
	E0420-Al	25/vial	—
2x1mm	**E2010-SS**	25/vial	—
	E2010-Ti	25/vial	—
	E2010-Mo	25/vial	—
	E2010-Al	25/vial	—
FINDER			
100 mesh	**EF100-Cu**	100/vial	—
	EF100-Ni	100/vial	—
200 mesh	**EF200-Cu**	100/vial	—
	EF200-Ni	100/vial	—
	EF200-Au	25/vial	—
300 mesh	**EF300-Cu**	100/vial	—
	EF300-Ni	100/vial	—
	EF300-Au	25/vial	—
400 mesh	**EF400-Cu**	100/vial	—
	EF400-Ni	100/vial	—
	EF400-Au	25/vial	—
COORDINATOR			
100 mesh	**EC100-Cu**	100/vial	—
	EC100-Ni	100/vial	—
200 mesh	**EC200-Cu**	100/vial	—
	EC200-Ni	100/vial	—
300 mesh	**EC300-Cu**	100/vial	—
	EC300-Ni	100/vial	—
SELECTIVE GRIDS			
7 Hexagon			
7-Hex	**E7HEX-Cu**	100/vial	—
7-Hex	**E7HEX-Ni**	100/vial	—
Freeze Fracture			
75FF	**E75FF-Cu**	100/vial	—
75FF	**E75FF-Ni**	100/vial	—
Tissue Processing			
6G150	**ETP150-Cu**	100/vial	—
6G150	**ETP150-Ni**	100/vial	—
6G200	**ETP200-Cu**	100/vial	—
6G200	**ETP200-Ni**	100/vial	—
Chien Grids			
9G20H	**EC20H-Cu**	100/vial	—
9G20H	**EC20H-Ni**	100/vial	—

* Reference: Chien R, Van de Velde R, Heusser R: Simultaneous Ultramicrotomy of multiple areas and examination of ribbons on one new grid. Proc. 43rd Annual Meeting, Elec. Micro. Soc. Amer., G W Bailey, ed, San Franciso Press, 460 (1985). Galey FR, Nilson SEG: 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, (1966), 405-410.

Support Film on grids has become a main product line for us since the demand for high quality coated grids has increased. To make your microscopy work easier and to save you a great deal of time we offer you a complete line. All of our coated grids are optically checked followed by batch testing in the EM. Packed in grid storage box.

All the grids below (except for the Beryllium Support Films) are available with the following options:

- Molybdenum grids in place of Au, Cu, or Ni
- As Silicon-free
- With ultra-thin thickness (thickness can be requested)
- Extra thick thickness

NOTE: All of our film is laid on the shiny side of the grid.

Support Film on Grids Application Guide

Which support film is best for your particular application? Are there any alternatives? What about Lacey Films?

Substrate Application	Formvar Only	Carbon Only	Formvar/ Carbon	Formvar/ SiO	Silicon SiO	Lacy Film
Diffraction Studies	—	BEST CHOICE	—	GOOD OPTION	GOOD OPTION	SUITABLE
EDS (Energy Dispersive Spectrometry)	—	GOOD OPTION	GOOD OPTION	—	—	SUITABLE
High Resolution Microscopy	—	BEST CHOICE	GOOD OPTION	GOOD OPTION	BEST CHOICE	SUITABLE
High Temp. Techniques/ Heating Stage	—	BEST CHOICE	—	—	GOOD OPTION	SUITABLE
Low Magnification Microscopy	GOOD OPTION	GOOD OPTION	BEST CHOICE	BEST CHOICE	GOOD OPTION	—
Particulate Suspension, Biological	—	BEST CHOICE	GOOD OPTION	BEST CHOICE	BEST CHOICE	SUITABLE
Particulate Suspension, Non-Biological	—	BEST CHOICE	GOOD OPTION	BEST CHOICE	BEST CHOICE	SUITABLE
Powders, Dry	—	GOOD OPTION	GOOD OPTION	BEST CHOICE	GOOD OPTION	—
Replicas, Low Temp. Techniques	GOOD OPTION	GOOD OPTION	BEST CHOICE	—	—	SUITABLE
Suspensions, Bacterial	—	BEST CHOICE	GOOD OPTION	BEST CHOICE	BEST CHOICE	SUITABLE
Suspensions, Cell Fragment	—	BEST CHOICE	BEST CHOICE	BEST CHOICE	BEST CHOICE	SUITABLE
Suspensions, Viral	—	BEST CHOICE	GOOD OPTION	GOOD OPTION	BEST CHOICE	SUITABLE
Thin Sections	GOOD OPTION	GOOD OPTION	BEST CHOICE	GOOD OPTION	BEST CHOICE	SUITABLE

1. Formvar Film Only

A thin film of pure formvar resin. The thickness range is as follows:
Standard: Approx. 10nm, **Ultra-Thin (UL):** 5-6nm, **Thick (TH):** 15-20nm, **Extra Thick (ET):** 25-50nm

Formvar Square Mesh

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
FF100-Cu-25	100 MESH	standard	25/box
FF100-Cu-50			50/box
FF150-Cu-25	150 MESH	standard	25/box
FF150-Cu-50			50/box
FF200-Cu-25	200 MESH	standard	25/box
FF200-Cu-50			50/box
FF300-Cu-25	300 MESH	standard	25/box
FF300-Cu-50			50/box
FF400-Cu-25	400 MESH	standard	25/box
FF400-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FF100-Ni-25	100 MESH	standard	25/box
FF100-Ni-50			50/box
FF150-Ni-25	150 MESH	standard	25/box
FF150-Ni-50			50/box
FF200-Ni-25	200 MESH	standard	25/box
FF200-Ni-50			50/box
FF300-Ni-25	300 MESH	standard	25/box
FF300-Ni-50			50/box
FF400-Ni-25	400 MESH	standard	25/box
FF400-Ni-50			50/box

Cat. #	Type	Thickness	Qty
FF100-Au-25	100 MESH	standard	25/box
FF100-Au-50			50/box
FF150-Au-25	150 MESH	standard	25/box
FF150-Au-50			50/box
FF200-Au-25	200 MESH	standard	25/box
FF200-Au-50			50/box
FF300-Au-25	300 MESH	standard	25/box
FF300-Au-50			50/box
FF400-Au-25	400 MESH	standard	25/box
FF400-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FF100-Cu-UL	100 MESH	ultra-thin	50/box
FF100-Cu-TH		thick	50/box
FF100-Cu-ET		extra thick	50/box
FF150-Cu-UL	150 MESH	ultra-thin	50/box
FF150-Cu-TH		thick	50/box
FF150-Cu-ET		extra thick	50/box
FF200-Cu-UL	200 MESH	ultra-thin	50/box
FF200-Cu-TH		thick	50/box
FF200-Cu-ET		extra thick	50/box
FF300-Cu-UL	300 MESH	ultra-thin	50/box
FF300-Cu-TH		thick	50/box
FF300-Cu-ET		extra thick	50/box
FF400-Cu-UL	400 MESH	ultra-thin	50/box
FF400-Cu-TH		thick	50/box
FF400-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FF100-Ni-UL	100 MESH	ultra-thin	50/box
FF100-Ni-TH		thick	50/box
FF100-Ni-ET		extra thick	50/box
FF150-Ni-UL	150 MESH	ultra-thin	50/box
FF150-Ni-TH		thick	50/box
FF150-Ni-ET		extra thick	50/box
FF200-Ni-UL	200 MESH	ultra-thin	50/box
FF200-Ni-TH		thick	50/box
FF200-Ni-ET		extra thick	50/box
FF300-Ni-UL	300 MESH	ultra-thin	50/box
FF300-Ni-TH		thick	50/box
FF300-Ni-ET		extra thick	50/box
FF400-Ni-UL	400 MESH	ultra-thin	50/box
FF400-Ni-TH		thick	50/box
FF400-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FF100-Au-UL	100 MESH	ultra-thin	50/box
FF100-Au-TH		thick	50/box
FF100-Au-ET		extra thick	50/box
FF150-Au-UL	150 MESH	ultra-thin	50/box
FF150-Au-TH		thick	50/box
FF150-Au-ET		extra thick	50/box
FF200-Au-UL	200 MESH	ultra-thin	50/box
FF200-Au-TH		thick	50/box
FF200-Au-ET		extra thick	50/box
FF300-Au-UL	300 MESH	ultra-thin	50/box
FF300-Au-TH		thick	50/box
FF300-Au-ET		extra thick	50/box
FF400-Au-UL	400 MESH	ultra-thin	50/box
FF400-Au-TH		thick	50/box
FF400-Au-ET		extra thick	50/box

Formvar Gilder Finder Grids

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
FF200F1-Cu-25	F1	standard	25/box
FF200F1-Cu-50			50/box
FF200F2-Cu-25	F2	standard	25/box
FF200F2-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FF200F1-Ni-25	F1	standard	25/box
FF200F1-Ni-50			50/box
FF200F2-Ni-25	F2	standard	25/box
FF200F2-Ni-50			50/box

Cat. #	Type	Thickness	Qty
FF200F1-Au-25	F1	standard	25/box
FF200F1-Au-50			50/box
FF200F2-Au-25	F2	standard	25/box
FF200F2-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FF200F1-Cu-UL	F1	ultra-thin	50/box
FF200F1-Cu-TH		thick	50/box
FF200F1-Cu-ET		extra thick	50/box
FF200F2-Cu-UL	F2	ultra-thin	50/box
FF200F2-Cu-TH		thick	50/box
FF200F2-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FF200F1-Ni-UL	F1	ultra-thin	50/box
FF200F1-Ni-TH		thick	50/box
FF200F1-Ni-ET		extra thick	50/box
FF200F2-Ni-UL	F2	ultra-thin	50/box
FF200F2-Ni-TH		thick	50/box
FF200F2-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FF200F1-Au-UL	F1	ultra-thin	50/box
FF200F1-Au-TH		thick	50/box
FF200F1-Au-ET		extra thick	50/box
FF200F2-Au-UL	F2	ultra-thin	50/box
FF200F2-Au-TH		thick	50/box
FF200F2-Au-ET		extra thick	50/box

Formvar London Finder Grids

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
FFLF135-Cu-25	LF135	standard	25/box
FFLF135-Cu-50			50/box
FFLF200-Cu-25	LF200	standard	25/box
FFLF200-Cu-50			50/box
FFLF400-Cu-25	LF400	standard	25/box
FFLF400-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FFLF135-Ni-25	LF135	standard	25/box
FFLF135-Ni-50			50/box
FFLF200-Ni-25	LF200	standard	25/box
FFLF200-Ni-50			50/box
FFLF400-Ni-25	LF400	standard	25/box
FFLF400-Ni-50			50/box

Cat. #	Type	Thickness	Qty
FFLF135-Au-25	LF135	standard	25/box
FFLF135-Au-50			50/box
FFLF200-Au-25	LF200	standard	25/box
FFLF400-Au-25	LF400	standard	25/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FFLF135-Cu-UL	LF135	ultra-thin	50/box
FFLF135-Cu-TH		thick	50/box
FFLF135-Cu-ET		extra thick	50/box
FFLF200-Cu-UL	LF200	ultra-thin	50/box
FFLF200-Cu-TH		thick	50/box
FFLF200-Cu-ET		extra thick	50/box
FFLF400-Cu-UL	LF400	ultra-thin	50/box
FFLF400-Cu-TH		thick	50/box
FFLF400-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FFLF135-Ni-UL	LF135	ultra-thin	50/box
FFLF135-Ni-TH		thick	50/box
FFLF135-Ni-ET		extra thick	50/box
FFLF200-Ni-UL	LF200	ultra-thin	50/box
FFLF200-Ni-TH		thick	50/box
FFLF200-Ni-ET		extra thick	50/box
FFLF400-Ni-UL	LF400	ultra-thin	50/box
FFLF400-Ni-TH		thick	50/box
FFLF400-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FFLF135-Au-UL	LF135	ultra-thin	50/box
FFLF135-Au-TH		thick	50/box
FFLF135-Au-ET		extra thick	50/box

Formvar Hexagonal Mesh

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
FF100H-Cu-25	100 MESH	standard	25/box
FF100H-Cu-50			50/box
FF200H-Cu-25	200 MESH	standard	25/box
FF200H-Cu-50			50/box
FF300H-Cu-25	300 MESH	standard	25/box
FF300H-Cu-50			50/box
FF400H-Cu-25	400 MESH	standard	25/box
FF400H-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FF100H-Ni-25	100 MESH	standard	25/box
FF100H-Ni-50			50/box
FF200H-Ni-25	200 MESH	standard	25/box
FF200H-Ni-50			50/box
FF300H-Ni-25	300 MESH	standard	25/box
FF300H-Ni-50			50/box
FF400H-Ni-25	400 MESH	standard	25/box
FF400H-Ni-50			50/box

Cat. #	Type	Thickness	Qty
FF100H-Au-25	100 MESH	standard	25/box
FF100H-Au-50			50/box
FF200H-Au-25	200 MESH	standard	25/box
FF200H-Au-50			50/box
FF300H-Au-25	300 MESH	standard	25/box
FF300H-Au-50			50/box
FF400H-Au-25	400 MESH	standard	25/box
FF400H-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FF100H-Cu-UL	100 MESH	ultra-thin	50/box
FF100H-Cu-TH		thick	50/box
FF100H-Cu-ET		extra thick	50/box
FF200H-Cu-UL	200 MESH	ultra-thin	50/box
FF200H-Cu-TH		thick	50/box
FF200H-Cu-ET		extra thick	50/box
FF300H-Cu-UL	300 MESH	ultra-thin	50/box
FF300H-Cu-TH		thick	50/box
FF300H-Cu-ET		extra thick	50/box
FF400H-Cu-UL	400 MESH	ultra-thin	50/box
FF400H-Cu-TH		thick	50/box
FF400H-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FF100H-Ni-UL	100 MESH	ultra-thin	50/box
FF100H-Ni-TH		thick	50/box
FF100H-Ni-ET		extra thick	50/box
FF200H-Ni-UL	200 MESH	ultra-thin	50/box
FF200H-Ni-TH		thick	50/box
FF200H-Ni-ET		extra thick	50/box
FF300H-Ni-UL	300 MESH	ultra-thin	50/box
FF300H-Ni-TH		thick	50/box
FF300H-Ni-ET		extra thick	50/box
FF400H-Ni-UL	400 MESH	ultra-thin	50/box
FF400H-Ni-TH		thick	50/box
FF400H-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FF100H-Au-UL	100 MESH	ultra-thin	50/box
FF100H-Au-TH		thick	50/box
FF100H-Au-ET		extra thick	50/box
FF200H-Au-UL	200 MESH	ultra-thin	50/box
FF200H-Au-TH		thick	50/box
FF200H-Au-ET		extra thick	50/box
FF300H-Au-UL	300 MESH	ultra-thin	50/box
FF300H-Au-TH		thick	50/box
FF300H-Au-ET		extra thick	50/box
FF400H-Au-UL	400 MESH	ultra-thin	50/box
FF400H-Au-TH		thick	50/box
FF400H-Au-ET		extra thick	50/box

Formvar Thin Bar Square Mesh

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
FFT200-Cu-25	200 MESH	standard	25/box
FFT200-Cu-50			50/box
FFT300-Cu-25	300 MESH	standard	25/box
FFT300-Cu-50			50/box
FFT400-Cu-25	400 MESH	standard	25/box
FFT400-Cu-50			50/box
FFT1000-Cu-25	1000 MESH	standard	25/box
FFT1000-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FFT200-Ni-25	200 MESH	standard	25/box
FFT200-Ni-50			50/box
FFT300-Ni-25	300 MESH	standard	25/box
FFT300-Ni-50			50/box
FFT400-Ni-25	400 MESH	standard	25/box
FFT400-Ni-50			50/box
FFT1000-Ni-25	1000 MESH	standard	25/box
FFT1000-Ni-50			50/box

Cat. #	Type	Thickness	Qty
FFT200-Au-25	200 MESH	standard	25/box
FFT200H-Au-50			50/box
FFT300-Au-25	300 MESH	standard	25/box
FFT300-Au-50			50/box
FFT400-Au-25	400 MESH	standard	25/box
FFT400-Au-50			50/box
FFT1000-Au-25	1000 MESH	standard	25/box
FFT1000-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FFT200-Cu-UL	200 MESH	ultra-thin	50/box
FFT200-Cu-TH		thick	50/box
FFT200-Cu-ET		extra thick	50/box
FFT300-Cu-UL	300 MESH	ultra-thin	50/box
FFT300-Cu-TH		thick	50/box
FFT300-Cu-ET		extra thick	50/box
FFT400-Cu-UL	400 MESH	ultra-thin	50/box
FFT400-Cu-TH		thick	50/box
FFT400-Cu-ET		extra thick	50/box
FFT1000-Cu-UL	1000 MESH	ultra-thin	50/box
FFT1000-Cu-TH		thick	50/box
FFT1000-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FFT200-Ni-UL	200 MESH	ultra-thin	50/box
FFT200-Ni-TH		thick	50/box
FFT200-Ni-ET		extra thick	50/box
FFT300-Ni-UL	300 MESH	ultra-thin	50/box
FFT300-Ni-TH		thick	50/box
FFT300-Ni-ET		extra thick	50/box
FFT400-Ni-UL	400 MESH	ultra-thin	50/box
FFT400-Ni-TH		thick	50/box
FFT400-Ni-ET		extra thick	50/box
FFT1000-Ni-UL	1000 MESH	ultra-thin	50/box
FFT1000-Ni-TH		thick	50/box
FFT1000-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FFT200-Au-UL	200 MESH	ultra-thin	50/box
FFT200-Au-TH		thick	50/box
FFT200-Au-ET		extra thick	50/box
FFT300-Au-UL	300 MESH	ultra-thin	50/box
FFT300-Au-TH		thick	50/box
FFT300-Au-ET		extra thick	50/box
FFT400-Au-UL	400 MESH	ultra-thin	50/box
FFT400-Au-TH		thick	50/box
FFT400-Au-ET		extra thick	50/box
FFT1000-Au-UL	1000 MESH	ultra-thin	50/box
FFT1000-Au-TH		thick	50/box
FFT1000-Au-ET		extra thick	50/box

Formvar Thin Bar Hexagonal Mesh

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
FFTH200-Cu-25	200 MESH	standard	25/box
FFTH200-Cu-50			50/box
FFTH300-Cu-25	300 MESH	standard	25/box
FFTH300-Cu-50			50/box
FFTH400-Cu-25	400 MESH	standard	25/box
FFTH400-Cu-50			50/box
FFTH600-Cu-25	600 MESH	standard	25/box
FFTH600-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FFTH200-Ni-25	200 MESH	standard	25/box
FFTH200-Ni-50			50/box
FFTH300-Ni-25	300 MESH	standard	25/box
FFTH300-Ni-50			50/box
FFTH400-Ni-25	400 MESH	standard	25/box
FFTH400-Ni-50			50/box
FFTH600-Ni-25	600 MESH	standard	25/box
FFTH600-Ni-50			50/box

Cat. #	Type	Thickness	Qty
FFTH200-Au-25	200 MESH	standard	25/box
FFTH200-Au-50			50/box
FFTH300-Au-25	300 MESH	standard	25/box
FFTH300-Au-50			50/box
FFTH400-Au-25	400 MESH	standard	25/box
FFTH400-Au-50			50/box
FFTH600-Au-25	600 MESH	standard	25/box
FFTH600-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FFTH200-Cu-UL	200 MESH	ultra-thin	50/box
FFTH200-Cu-TH		thick	50/box
FFTH200-Cu-ET		extra thick	50/box
FFTH300-Cu-UL	300 MESH	ultra-thin	50/box
FFTH300-Cu-TH		thick	50/box
FFTH300-Cu-ET		extra thick	50/box
FFTH400-Cu-UL	400 MESH	ultra-thin	50/box
FFTH400-Cu-TH		thick	50/box
FFTH400-Cu-ET		extra thick	50/box
FFTH600-Cu-UL	600 MESH	ultra-thin	50/box
FFTH600-Cu-TH		thick	50/box
FFTH600-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FFTH200-Ni-UL	200 MESH	ultra-thin	50/box
FFTH200-Ni-TH		thick	50/box
FFTH200-Ni-ET		extra thick	50/box
FFTH300-Ni-UL	300 MESH	ultra-thin	50/box
FFTH300-Ni-TH		thick	50/box
FFTH300-Ni-ET		extra thick	50/box
FFTH400-Ni-UL	400 MESH	ultra-thin	50/box
FFTH400-Ni-TH		thick	50/box
FFTH400-Ni-ET		extra thick	50/box
FFTH600-Ni-UL	600 MESH	ultra-thin	50/box
FFTH600-Ni-TH		thick	50/box
FFTH600-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FFTH200-Au-UL	200 MESH	ultra-thin	50/box
FFTH200-Au-TH		thick	50/box
FFTH200-Au-ET		extra thick	50/box
FFTH300-Au-UL	300 MESH	ultra-thin	50/box
FFTH300-Au-TH		thick	50/box
FFTH300-Au-ET		extra thick	50/box
FFTH400-Au-UL	400 MESH	ultra-thin	50/box
FFTH400-Au-TH		thick	50/box
FFTH400-Au-ET		extra thick	50/box
FFTH600-Au-UL	600 MESH	ultra-thin	50/box
FFTH600-Au-TH		thick	50/box
FFTH600-Au-ET		extra thick	50/box

Formvar Slots

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
FF205-Cu-25	2 x 0.5mm	standard	25/box
FF205-Cu-50			50/box
FF2010-Cu-25	2 x 1mm	standard	25/box
FF2010-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FF205-Ni-25	2 x 0.5mm	standard	25/box
FF205-Ni-50			50/box
FF2010-Ni-25	2 x 1mm	standard	25/box
FF2010-Ni-50			50/box

Cat. #	Type	Thickness	Qty
FF205-Au-25	2 x 0.5mm	standard	25/box
FF205-Au-50			50/box
FF2010-Au-25	2 x 1mm	standard	25/box
FF2010-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FF205-Cu-UL	2 x 0.5mm	ultra-thin	50/box
FF205-Cu-TH		thick	50/box
FF205-Cu-ET		extra thick	50/box
FF2010-Cu-UL	2 x 1mm	ultra-thin	50/box
FF2010-Cu-TH		thick	50/box
FF2010-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FF205-Ni-UL	2 x 0.5mm	ultra-thin	50/box
FF205-Ni-TH		thick	50/box
FF205-Ni-ET		extra thick	50/box
FF2010-Ni-UL	2 x 1mm	ultra-thin	50/box
FF2010-Ni-TH		thick	50/box
FF2010-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FF205-Au-UL	2 x 0.5mm	ultra-thin	50/box
FF205-Au-TH		thick	50/box
FF205-Au-ET		extra thick	50/box
FF2010-Au-UL	2 x 1mm	ultra-thin	50/box
FF2010-Au-TH		thick	50/box
FF2010-Au-ET		extra thick	50/box

Formvar Single Hole

COPPER NICKEL

Standard Thickness

Cat. #	Type	Thickness	Qty
FFGA75-Cu-25	75 micron	standard	25/box
FFGA75-Cu-50			50/box
FFGA100-Cu-25	100 micron	standard	25/box
FFGA100-Cu-50			50/box
FFGA150-Cu-25	150 micron	standard	25/box
FFGA150-Cu-50			50/box
FFGA200-Cu-25	200 micron	standard	25/box
FFGA200-Cu-50			50/box
FFGA300-Cu-25	300 micron	standard	25/box
FFGA300-Cu-50			50/box
FFGA400-Cu-25	400 micron	standard	25/box
FFGA400-Cu-50			50/box
FFGA600-Cu-25	600 micron	standard	25/box
FFGA600-Cu-50			50/box
FFGA800-Cu-25	800 micron	standard	25/box
FFGA800-Cu-50			50/box
FFGA1000-Cu-25	1000 micron	standard	25/box
FFGA1000-Cu-50			50/box
FFGA1500-Cu-25	1500 micron	standard	25/box
FFGA1500-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FFGA75-Ni-25	75 micron	standard	25/box
FFGA75-Ni-50			50/box
FFGA100-Ni-25	100 micron	standard	25/box
FFGA100-Ni-50			50/box
FFGA150-Ni-25	150 micron	standard	25/box
FFGA150-Ni-50			50/box
FFGA200-Ni-25	200 micron	standard	25/box
FFGA200-Ni-50			50/box
FFGA300-Ni-25	300 micron	standard	25/box
FFGA300-Ni-50			50/box
FFGA400-Ni-25	400 micron	standard	25/box
FFGA400-Ni-50			50/box
FFGA600-Ni-25	600 micron	standard	25/box
FFGA600-Ni-50			50/box
FFGA800-Ni-25	800 micron	standard	25/box
FFGA800-Ni-50			50/box
FFGA1000-Ni-25	1000 micron	standard	25/box
FFGA1000-Ni-50			50/box
FFGA1500-Ni-25	1500 micron	standard	25/box
FFGA1500-Ni-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FFGA75-Cu-UL	75 micron	ultra-thin	50/box
FFGA75-Cu-TH		thick	50/box
FFGA75-Cu-ET		extra thick	50/box
FFGA100-Cu-UL	100 micron	ultra-thin	50/box
FFGA100-Cu-TH		thick	50/box
FFGA100-Cu-ET		extra thick	50/box
FFGA150-Cu-UL	150 micron	ultra-thin	50/box
FFGA150-Cu-TH		thick	50/box
FFGA150-Cu-ET		extra thick	50/box
FFGA200-Cu-UL	200 micron	ultra-thin	50/box
FFGA200-Cu-TH		thick	50/box
FFGA200-Cu-ET		extra thick	50/box
FFGA300-Cu-UL	300 micron	ultra-thin	50/box
FFGA300-Cu-TH		thick	50/box
FFGA300-Cu-ET		extra thick	50/box
FFGA400-Cu-UL	400 micron	ultra-thin	50/box
FFGA400-Cu-TH		thick	50/box
FFGA400-Cu-ET		extra thick	50/box
FFGA600-Cu-UL	600 micron	ultra-thin	50/box
FFGA600-Cu-TH		thick	50/box
FFGA600-Cu-ET		extra thick	50/box
FFGA800-Cu-UL	800 micron	ultra-thin	50/box
FFGA800-Cu-TH		thick	50/box
FFGA800-Cu-ET		extra thick	50/box
FFGA1000-Cu-UL	1000 micron	ultra-thin	50/box
FFGA1000-Cu-TH		thick	50/box
FFGA1000-Cu-ET		extra thick	50/box
FFGA1500-Cu-UL	1500 micron	ultra-thin	50/box
FFGA1500-Cu-TH		thick	50/box
FFGA1500-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
FFGA75-Ni-UL	75 micron	ultra-thin	50/box
FFGA75-Ni-TH		thick	50/box
FFGA75-Ni-ET		extra thick	50/box
FFGA100-Ni-UL	100 micron	ultra-thin	50/box
FFGA100-Ni-TH		thick	50/box
FFGA100-Ni-ET		extra thick	50/box
FFGA150-Ni-UL	150 micron	ultra-thin	50/box
FFGA150-Ni-TH		thick	50/box
FFGA150-Ni-ET		extra thick	50/box
FFGA200-Ni-UL	200 micron	ultra-thin	50/box
FFGA200-Ni-TH		thick	50/box
FFGA200-Ni-ET		extra thick	50/box
FFGA300-Ni-UL	300 micron	ultra-thin	50/box
FFGA300-Ni-TH		thick	50/box
FFGA300-Ni-ET		extra thick	50/box
FFGA400-Ni-UL	400 micron	ultra-thin	50/box
FFGA400-Ni-TH		thick	50/box
FFGA400-Ni-ET		extra thick	50/box
FFGA600-Ni-UL	600 micron	ultra-thin	50/box
FFGA600-Ni-TH		thick	50/box
FFGA600-Ni-ET		extra thick	50/box
FFGA800-Ni-UL	800 micron	ultra-thin	50/box
FFGA800-Ni-TH		thick	50/box
FFGA800-Ni-ET		extra thick	50/box
FFGA1000-Ni-UL	1000 micron	ultra-thin	50/box
FFGA1000-Ni-TH		thick	50/box
FFGA1000-Ni-ET		extra thick	50/box
FFGA1500-Ni-UL	1500 micron	ultra-thin	50/box
FFGA1500-Ni-TH		thick	50/box
FFGA1500-Ni-ET		extra thick	50/box

ARTICLE OF INTEREST

A simplified method for handling EM grids is described. This new method not only offers safety and identification of your samples but offers you improved handling, temporary storage, and identification of grids bearing ultrathin sections as well as a novel method for preparing bulk samples.

Refer to: Gorycki, M.(1992). A Simple Method for Handling Grids. Biotechnic & Histochemistry 67/5, 313-314.

TECHNICAL TIP

How do Nickel and Copper grids react with Periodic Acid?

Periodic Acid + Ni... Ni-Periodate + H_2
Periodic Acid + Cu... Cu-Periodate + H_2
In this case you should use Gold Grids.

2. Carbon Film Only

A thin film of pure carbon deposited on one side of the grid. The thickness range is as follows:
Standard: Approx. 5-6nm, **Ultra-Thin (UL):** 3-4nm, **Thick (TH):** 10nm, **Extra Thick (ET):** 20-30nm

Carbon Square Mesh

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
CF150-Cu-25	150 MESH	standard	25/box
CF150-Cu-50			50/box
CF200-Cu-25	200 MESH	standard	25/box
CF200-Cu-50			50/box
CF300-Cu-25	300 MESH	standard	25/box
CF300-Cu-50			50/box
CF400-Cu-25	400 MESH	standard	25/box
CF400-Cu-50			50/box

Cat. #	Type	Thickness	Qty
CF150-Ni-25	150 MESH	standard	25/box
CF150-Ni-50			50/box
CF200-Ni-25	200 MESH	standard	25/box
CF200-Ni-50			50/box
CF300-Ni-25	300 MESH	standard	25/box
CF300-Ni-50			50/box
CF400-Ni-25	400 MESH	standard	25/box
CF400-Ni-50			50/box

Cat. #	Type	Thickness	Qty
CF150-Au-25	150 MESH	standard	25/box
CF150-Au-50			50/box
CF200-Au-25	200 MESH	standard	25/box
CF200-Au-50			50/box
CF300-Au-25	300 MESH	standard	25/box
CF300-Au-50			50/box
CF400-Au-25	400 MESH	standard	25/box
CF400-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
CF150-Cu-UL	150 MESH	ultra-thin	50/box
CF150-Cu-TH		thick	50/box
CF150-Cu-ET		extra thick	50/box
CF200-Cu-UL	200 MESH	ultra-thin	50/box
CF200-Cu-TH		thick	50/box
CF200-Cu-ET		extra thick	50/box
CF300-Cu-UL	300 MESH	ultra-thin	50/box
CF300-Cu-TH		thick	50/box
CF300-Cu-ET		extra thick	50/box
CF400-Cu-UL	400 MESH	ultra-thin	50/box
CF400-Cu-TH		thick	50/box
CF400-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CF150-Ni-UL	150 MESH	ultra-thin	50/box
CF150-Ni-TH		thick	50/box
CF150-Ni-ET		extra thick	50/box
CF200-Ni-UL	200 MESH	ultra-thin	50/box
CF200-Ni-TH		thick	50/box
CF200-Ni-ET		extra thick	50/box
CF300-Ni-UL	300 MESH	ultra-thin	50/box
CF300-Ni-TH		thick	50/box
CF300-Ni-ET		extra thick	50/box
CF400-Ni-UL	400 MESH	ultra-thin	50/box
CF400-Ni-TH		thick	50/box
CF400-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CF150-Au-UL	150 MESH	ultra-thin	50/box
CF150-Au-TH		thick	50/box
CF150-Au-ET		extra thick	50/box
CF200-Au-UL	200 MESH	ultra-thin	50/box
CF200-Au-TH		thick	50/box
CF200-Au-ET		extra thick	50/box
CF300-Au-UL	300 MESH	ultra-thin	50/box
CF300-Au-TH		thick	50/box
CF300-Au-ET		extra thick	50/box
CF400-Au-UL	400 MESH	ultra-thin	50/box
CF400-Au-TH		thick	50/box
CF400-Au-ET		extra thick	50/box

Carbon Gilder Finder Grids

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
CF200F1-Cu-25	F1	standard	25/box
CF200F1-Cu-50			50/box
CF200F2-Cu-25	F2	standard	25/box
CF200F2-Cu-50			50/box

Cat. #	Type	Thickness	Qty
CF200F1-Ni-25	F1	standard	25/box
CF200F1-Ni-50			50/box
CF200F2-Ni-25	F2	standard	25/box
CF200F2-Ni-50			50/box

Cat. #	Type	Thickness	Qty
CF200F1-Au-25	F1	standard	25/box
CF200F1-Au-50			50/box
CF200F2-Au-25	F2	standard	25/box
CF200F2-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
CF200F1-Cu-UL	F1	ultra-thin	50/box
CF200F1-Cu-TH		thick	50/box
CF200F1-Cu-ET		extra thick	50/box
CF200F2-Cu-UL	F2	ultra-thin	50/box
CF200F2-Cu-TH		thick	50/box
CF200F2-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CF200F1-Ni-UL	F1	ultra-thin	50/box
CF200F1-Ni-TH		thick	50/box
CF200F1-Ni-ET		extra thick	50/box
CF200F2-Ni-UL	F2	ultra-thin	50/box
CF200F2-Ni-TH		thick	50/box
CF200F2-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CF200F1-Au-UL	F1	ultra-thin	50/box
CF200F1-Au-TH		thick	50/box
CF200F1-Au-ET		extra thick	50/box
CF200F2-Au-UL	F2	ultra-thin	50/box
CF200F2-Au-TH		thick	50/box
CF200F2-Au-ET		extra thick	50/box

TECHNICAL TIP

The Preparation of Adhesive Coated Grids for Picking Up Carbon Film to Make Carbon Coated Grids

The following steps should be followed in the preparation of adhesive coated grids:

1. Submerge about 2" of Scotch clear tape (3M) into 10ml of Dichloroethane (Ethylene Dichloride); shake and discard the tape.
2. The solution now becomes “grid-glue”
3. Place the grids (dull side up) on a piece of filter paper (dust-free room).
4. Take a pipette and place a drop of “grid-glue” on top of each grid.
5. Let the grids dry.
6. The grids are now ready to pick up the carbon foil and make the carbon coated grids.

For more Technical Tips on Grids, see page 21 »»»»

Carbon London Finder Grids

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
CFLF135-Cu-25	LF135	standard	25/box
CFLF135-Cu-50			50/box
CFLF200-Cu-25	LF200	standard	25/box
CFLF200-Cu-50			50/box
CFLF400-Cu-25	LF400	standard	25/box
CFLF400-Cu-50			50/box

Cat. #	Type	Thickness	Qty
CFLF135-Ni-25	LF135	standard	25/box
CFLF135-Ni-50			50/box
CFLF200-Ni-25	LF200	standard	25/box
CFLF200-Ni-50			50/box
CFLF400-Ni-25	LF400	standard	25/box
CFLF400-Ni-50			50/box

Cat. #	Type	Thickness	Qty
CFLF135-Au-25	LF135	standard	25/box
CFLF135-Au-50			50/box
CFLF200-Au-25	LF200	standard	25/box
CFLF400-Au-25	LF400	standard	25/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
CFLF135-Cu-UL	LF135	ultra-thin	50/box
CFLF135-Cu-TH		thick	50/box
CFLF135-Cu-ET		extra thick	50/box
CFLF200-Cu-UL	LF200	ultra-thin	50/box
CFLF200-Cu-TH		thick	50/box
CFLF200-Cu-ET		extra thick	50/box
CFLF400-Cu-UL	LF400	ultra-thin	50/box
CFLF400-Cu-TH		thick	50/box
CFLF400-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CFLF135-Ni-UL	LF135	ultra-thin	50/box
CFLF135-Ni-TH		thick	50/box
CFLF135-Ni-ET		extra thick	50/box
CFLF200-Ni-UL	LF200	ultra-thin	50/box
CFLF200-Ni-TH		thick	50/box
CFLF200-Ni-ET		extra thick	50/box
CFLF400-Ni-UL	LF400	ultra-thin	50/box
CFLF400-Ni-TH		thick	50/box
CFLF400-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CFLF135-Au-UL	LF135	ultra-thin	50/box
CFLF135-Au-TH		thick	50/box
CFLF135-Au-ET		extra thick	50/box

Carbon Hexagonal Mesh

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
CF100H-Cu-25	100 MESH	standard	25/box
CF100H-Cu-50			50/box
CF200H-Cu-25	200 MESH	standard	25/box
CF200H-Cu-50			50/box
CF300H-Cu-25	300 MESH	standard	25/box
CF300H-Cu-50			50/box
CF400H-Cu-25	400 MESH	standard	25/box
CF400H-Cu-50			50/box

Cat. #	Type	Thickness	Qty
CF100H-Ni-25	100 MESH	standard	25/box
CF100H-Ni-50			50/box
CF200H-Ni-25	200 MESH	standard	25/box
CF200H-Ni-50			50/box
CF300H-Ni-25	300 MESH	standard	25/box
CF300H-Ni-50			50/box
CF400H-Ni-25	400 MESH	standard	25/box
CF400H-Ni-50			50/box

Cat. #	Type	Thickness	Qty
CF100H-Au-25	100 MESH	standard	25/box
CF100H-Au-50			50/box
CF200H-Au-25	200 MESH	standard	25/box
CF200H-Au-50			50/box
CF300H-Au-25	300 MESH	standard	25/box
CF300H-Au-50			50/box
CF400H-Au-25	400 MESH	standard	25/box
CF400H-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
CF100H-Cu-UL	100 MESH	ultra-thin	50/box
CF100H-Cu-TH		thick	50/box
CF100H-Cu-ET		extra thick	50/box
CF200H-Cu-UL	200 MESH	ultra-thin	50/box
CF200H-Cu-TH		thick	50/box
CF200H-Cu-ET		extra thick	50/box
CF300H-Cu-UL	300 MESH	ultra-thin	50/box
CF300H-Cu-TH		thick	50/box
CF300H-Cu-ET		extra thick	50/box
CF400H-Cu-UL	400 MESH	ultra-thin	50/box
CF400H-Cu-TH		thick	50/box
CF400H-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CF100H-Ni-UL	100 MESH	ultra-thin	50/box
CF100H-Ni-TH		thick	50/box
CF100H-Ni-ET		extra thick	50/box
CF200H-Ni-UL	200 MESH	ultra-thin	50/box
CF200H-Ni-TH		thick	50/box
CF200H-Ni-ET		extra thick	50/box
CF300H-Ni-UL	300 MESH	ultra-thin	50/box
CF300H-Ni-TH		thick	50/box
CF300H-Ni-ET		extra thick	50/box
CF400H-Ni-UL	400 MESH	ultra-thin	50/box
CF400H-Ni-TH		thick	50/box
CF400H-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CF100H-Au-UL	100 MESH	ultra-thin	50/box
CF100H-Au-TH		thick	50/box
CF100H-Au-ET		extra thick	50/box
CF200H-Au-UL	200 MESH	ultra-thin	50/box
CF200H-Au-TH		thick	50/box
CF200H-Au-ET		extra thick	50/box
CF300H-Au-UL	300 MESH	ultra-thin	50/box
CF300H-Au-TH		thick	50/box
CF300H-Au-ET		extra thick	50/box
CF400H-Au-UL	400 MESH	ultra-thin	50/box
CF400H-Au-TH		thick	50/box
CF400H-Au-ET		extra thick	50/box

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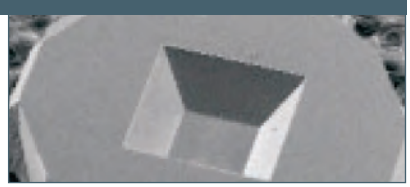
DuraSiN™ Film and Mesh products are affordably-priced, durable, nonorganic, low scatter support grids for quantitative TEM and X-ray analysis. Unlike other support films and grids, DuraSiN™ Film and Mesh products can withstand harsh chemical and temperature environments.

For more information, see page 42-43. »»»



SEM image of a DuraSiN™ Film (taken from the back side)

SEM image of a DuraSiN™ Mesh (taken from the back side)

Carbon Thin Bar Square Mesh

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
CFT200-Cu-25	200 MESH	standard	25/box
CFT200-Cu-50			50/box
CFT300-Cu-25	300 MESH	standard	25/box
CFT300-Cu-50			50/box
CFT400-Cu-25	400 MESH	standard	25/box
CFT400-Cu-50			50/box
CFT1000-Cu-25	1000 MESH	standard	25/box
CFT1000-Cu-50			50/box

Cat. #	Type	Thickness	Qty
CFT200-Ni-25	200 MESH	standard	25/box
CFT200-Ni-50			50/box
CFT300-Ni-25	300 MESH	standard	25/box
CFT300-Ni-50			50/box
CFT400-Ni-25	400 MESH	standard	25/box
CFT400-Ni-50			50/box
CFT1000-Ni-25	1000 MESH	standard	25/box
CFT1000-Ni-50			50/box

Cat. #	Type	Thickness	Qty
CFT200-Au-25	200 MESH	standard	25/box
CFT200-Au-50			50/box
CFT300-Au-25	300 MESH	standard	25/box
CFT300-Au-50			50/box
CFT400-Au-25	400 MESH	standard	25/box
CFT400-Au-50			50/box
CFT1000-Au-25	1000 MESH	standard	25/box
CFT1000-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
CFT200-Cu-UL	200 MESH	ultra-thin	50/box
CFT200-Cu-TH		thick	50/box
CFT200-Cu-ET		extra thick	50/box
CFT300-Cu-UL	300 MESH	ultra-thin	50/box
CFT300-Cu-TH		thick	50/box
CFT300-Cu-ET		extra thick	50/box
CFT400-Cu-UL	400 MESH	ultra-thin	50/box
CFT400-Cu-TH		thick	50/box
CFT400-Cu-ET		extra thick	50/box
CFT1000-Cu-UL	1000 MESH	ultra-thin	50/box
CFT1000-Cu-TH		thick	50/box
CFT1000-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CFT200-Ni-UL	200 MESH	ultra-thin	50/box
CFT200-Ni-TH		thick	50/box
CFT200-Ni-ET		extra thick	50/box
CFT300-Ni-UL	300 MESH	ultra-thin	50/box
CFT300-Ni-TH		thick	50/box
CFT300-Ni-ET		extra thick	50/box
CFT400-Ni-UL	400 MESH	ultra-thin	50/box
CFT400-Ni-TH		thick	50/box
CFT400-Ni-ET		extra thick	50/box
CFT1000-Ni-UL	1000 MESH	ultra-thin	50/box
CFT1000-Ni-TH		thick	50/box
CFT1000-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CFT200-Au-UL	200 MESH	ultra-thin	50/box
CFT200-Au-TH		thick	50/box
CFT200-Au-ET		extra thick	50/box
CFT300-Au-UL	300 MESH	ultra-thin	50/box
CFT300-Au-TH		thick	50/box
CFT300-Au-ET		extra thick	50/box
CFT400-Au-UL	400 MESH	ultra-thin	50/box
CFT400-Au-TH		thick	50/box
CFT400-Au-ET		extra thick	50/box
CFT1000-Au-UL	1000 MESH	ultra-thin	50/box
CFT1000-Au-TH		thick	50/box
CFT1000-Au-ET		extra thick	50/box

Carbon Thin Bar Hexagonal Mesh

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
CFTH200-Cu-25	200 MESH	standard	25/box
CFTH200-Cu-50			50/box
CFTH300-Cu-25	300 MESH	standard	25/box
CFTH300-Cu-50			50/box
CFTH400-Cu-25	400 MESH	standard	25/box
CFTH400-Cu-50			50/box
CFTH600-Cu-25	600 MESH	standard	25/box
CFTH600-Cu-50			50/box

Cat. #	Type	Thickness	Qty
CFTH200-Ni-25	200 MESH	standard	25/box
CFTH200-Ni-50			50/box
CFTH300-Ni-25	300 MESH	standard	25/box
CFTH300-Ni-50			50/box
CFTH400-Ni-25	400 MESH	standard	25/box
CFTH400-Ni-50			50/box
CFTH600-Ni-25	600 MESH	standard	25/box
CFTH600-Ni-50			50/box

Cat. #	Type	Thickness	Qty
CFTH200-Au-25	200 MESH	standard	25/box
CFTH200-Au-50			50/box
CFTH300-Au-25	300 MESH	standard	25/box
CFTH300-Au-50			50/box
CFTH400-Au-25	400 MESH	standard	25/box
CFTH400-Au-50			50/box
CFTH600-Au-25	600 MESH	standard	25/box
CFTH600-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
CFTH200-Cu-UL	200 MESH	ultra-thin	50/box
CFTH200-Cu-TH		thick	50/box
CFTH200-Cu-ET		extra thick	50/box
CFTH300-Cu-UL	300 MESH	ultra-thin	50/box
CFTH300-Cu-TH		thick	50/box
CFTH300-Cu-ET		extra thick	50/box
CFTH400-Cu-UL	400 MESH	ultra-thin	50/box
CFTH400-Cu-TH		thick	50/box
CFTH400-Cu-ET		extra thick	50/box
CFTH600-Cu-UL	600 MESH	ultra-thin	50/box
CFTH600-Cu-TH		thick	50/box
CFTH600-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CFTH200-Ni-UL	200 MESH	ultra-thin	50/box
CFTH200-Ni-TH		thick	50/box
CFTH200-Ni-ET		extra thick	50/box
CFTH300-Ni-UL	300 MESH	ultra-thin	50/box
CFTH300-Ni-TH		thick	50/box
CFTH300-Ni-ET		extra thick	50/box
CFTH400-Ni-UL	400 MESH	ultra-thin	50/box
CFTH400-Ni-TH		thick	50/box
CFTH400-Ni-ET		extra thick	50/box
CFTH600-Ni-UL	600 MESH	ultra-thin	50/box
CFTH600-Ni-TH		thick	50/box
CFTH600-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CFTH200-Au-UL	200 MESH	ultra-thin	50/box
CFTH200-Au-TH		thick	50/box
CFTH200-Au-ET		extra thick	50/box
CFTH300-Au-UL	300 MESH	ultra-thin	50/box
CFTH300-Au-TH		thick	50/box
CFTH300-Au-ET		extra thick	50/box
CFTH400-Au-UL	400 MESH	ultra-thin	50/box
CFTH400-Au-TH		thick	50/box
CFTH400-Au-ET		extra thick	50/box
CFTH600-Au-UL	600 MESH	ultra-thin	50/box
CFTH600-Au-TH		thick	50/box
CFTH600-Au-ET		extra thick	50/box

Carbon Slots

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
CF205-Cu-25	2 x 0.5mm	standard	25/box
CF205-Cu-50			50/box
CF2010-Cu-25	2 x 1mm	standard	25/box
CF2010-Cu-50			50/box

Cat. #	Type	Thickness	Qty
CF205-Ni-25	2 x 0.5mm	standard	25/box
CF205-Ni-50			50/box
CF2010-Ni-25	2 x 1mm	standard	25/box
CF2010-Ni-50			50/box

Cat. #	Type	Thickness	Qty
CF205-Au-25	2 x 0.5mm	standard	25/box
CF205-Au-50			50/box
CF2010-Au-25	2 x 1mm	standard	25/box
CF2010-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
CFT205-Cu-UL	2 x 0.5mm	ultra-thin	50/box
CFT205-Cu-TH		thick	50/box
CFT205-Cu-ET		extra thick	50/box
CFT2010-Cu-UL	2 x 1mm	ultra-thin	50/box
CFT2010-Cu-TH		thick	50/box
CFT2010-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CFT205-Ni-UL	2 x 0.5mm	ultra-thin	50/box
CFT205-Ni-TH		thick	50/box
CFT205-Ni-ET		extra thick	50/box
CFT2010-Ni-UL	2 x 1mm	ultra-thin	50/box
CFT2010-Ni-TH		thick	50/box
CFT2010-Ni-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CFT205-Au-UL	2 x 0.5mm	ultra-thin	50/box
CFT205-Au-TH		thick	50/box
CFT205-Au-ET		extra thick	50/box
CFT2010-Au-UL	2 x 1mm	ultra-thin	50/box
CFT2010-Au-TH		thick	50/box
CFT2010-Au-ET		extra thick	50/box

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Carbon Single Hole

COPPER NICKEL

Standard Thickness

Cat. #	Type	Thickness	Qty
CFGA75-Cu-25	75 micron	standard	25/box
CFGA75-Cu-50			50/box
CFGA100-Cu-25	100 micron	standard	25/box
CFGA100-Cu-50			50/box
CFGA150-Cu-25	150 micron	standard	25/box
CFGA150-Cu-50			50/box
CFGA200-Cu-25	200 micron	standard	25/box
CFGA200-Cu-50			50/box
CFGA300-Cu-25	300 micron	standard	25/box
CFGA300-Cu-50			50/box
CFGA400-Cu-25	400 micron	standard	25/box
CFGA400-Cu-50			50/box
CFGA600-Cu-25	600 micron	standard	25/box
CFGA600-Cu-50			50/box
CFGA800-Cu-25	800 micron	standard	25/box
CFGA800-Cu-50			50/box
CFGA1000-Cu-25	1000 micron	standard	25/box
CFGA1000-Cu-50			50/box
CFGA1500-Cu-25	1500 micron	standard	25/box
CFGA1500-Cu-50			50/box

Cat. #	Type	Thickness	Qty
CFGA75-Ni-25	75 micron	standard	25/box
CFGA75-Ni-50			50/box
CFGA100-Ni-25	100 micron	standard	25/box
CFGA100-Ni-50			50/box
CFGA150-Ni-25	150 micron	standard	25/box
CFGA150-Ni-50			50/box
CFGA200-Ni-25	200 micron	standard	25/box
CFGA200-Ni-50			50/box
CFGA300-Ni-25	300 micron	standard	25/box
CFGA300-Ni-50			50/box
CFGA400-Ni-25	400 micron	standard	25/box
CFGA400-Ni-50			50/box
CFGA600-Ni-25	600 micron	standard	25/box
CFGA600-Ni-50			50/box
CFGA800-Ni-25	800 micron	standard	25/box
CFGA800-Ni-50			50/box
CFGA1000-Ni-25	1000 micron	standard	25/box
CFGA1000-Ni-50			50/box
CFGA1500-Ni-25	1500 micron	standard	25/box
CFGA1500-Ni-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
CFGA75-Cu-UL	75 micron	ultra-thin	50/box
CFGA75-Cu-TH		thick	50/box
CFGA75-Cu-ET		extra thick	50/box
CFGA100-Cu-UL	100 micron	ultra-thin	50/box
CFGA100-Cu-TH		thick	50/box
CFGA100-Cu-ET		extra thick	50/box
CFGA150-Cu-UL	150 micron	ultra-thin	50/box
CFGA150-Cu-TH		thick	50/box
CFGA150-Cu-ET		extra thick	50/box
CFGA200-Cu-UL	200 micron	ultra-thin	50/box
CFGA200-Cu-TH		thick	50/box
CFGA200-Cu-ET		extra thick	50/box
CFGA300-Cu-UL	300 micron	ultra-thin	50/box
CFGA300-Cu-TH		thick	50/box
CFGA300-Cu-ET		extra thick	50/box
CFGA400-Cu-UL	400 micron	ultra-thin	50/box
CFGA400-Cu-TH		thick	50/box
CFGA400-Cu-ET		extra thick	50/box
CFGA600-Cu-UL	600 micron	ultra-thin	50/box
CFGA600-Cu-TH		thick	50/box
CFGA600-Cu-ET		extra thick	50/box
CFGA800-Cu-UL	800 micron	ultra-thin	50/box
CFGA800-Cu-TH		thick	50/box
CFGA800-Cu-ET		extra thick	50/box
CFGA1000-Cu-UL	1000 micron	ultra-thin	50/box
CFGA1000-Cu-TH		thick	50/box
CFGA1000-Cu-ET		extra thick	50/box
CFGA1500-Cu-UL	1500 micron	ultra-thin	50/box
CFGA1500-Cu-TH		thick	50/box
CFGA1500-Cu-ET		extra thick	50/box

Cat. #	Type	Thickness	Qty
CFGA75-Ni-UL	75 micron	ultra-thin	50/box
CFGA75-Ni-TH		thick	50/box
CFGA75-Ni-ET		extra thick	50/box
CFGA100-Ni-UL	100 micron	ultra-thin	50/box
CFGA100-Ni-TH		thick	50/box
CFGA100-Ni-ET		extra thick	50/box
CFGA150-Ni-UL	150 micron	ultra-thin	50/box
CFGA150-Ni-TH		thick	50/box
CFGA150-Ni-ET		extra thick	50/box
CFGA200-Ni-UL	200 micron	ultra-thin	50/box
CFGA200-Ni-TH		thick	50/box
CFGA200-Ni-ET		extra thick	50/box
CFGA300-Ni-UL	300 micron	ultra-thin	50/box
CFGA300-Ni-TH		thick	50/box
CFGA300-Ni-ET		extra thick	50/box
CFGA400-Ni-UL	400 micron	ultra-thin	50/box
CFGA400-Ni-TH		thick	50/box
CFGA400-Ni-ET		extra thick	50/box
CFGA600-Ni-UL	600 micron	ultra-thin	50/box
CFGA600-Ni-TH		thick	50/box
CFGA600-Ni-ET		extra thick	50/box
CFGA800-Ni-UL	800 micron	ultra-thin	50/box
CFGA800-Ni-TH		thick	50/box
CFGA800-Ni-ET		extra thick	50/box
CFGA1000-Ni-UL	1000 micron	ultra-thin	50/box
CFGA1000-Ni-TH		thick	50/box
CFGA1000-Ni-ET		extra thick	50/box
CFGA1500-Ni-UL	1500 micron	ultra-thin	50/box
CFGA1500-Ni-TH		thick	50/box
CFGA1500-Ni-ET		extra thick	50/box

ARTICLE OF INTEREST

A simplified method for handling EM grids is described. This new method not only offers safety and identification of your samples but offers you improved handling, temporary storage, and identification of grids bearing ultrathin sections as well as a novel method for preparing bulk samples.

Refer to: Gorycki, M.(1992). A Simple Method for Handling Grids. Biotechnic & Histochemistry 67/5, 313-314.

TECHNICAL TIP

How do Nickel and Copper grids react with Periodic Acid?

Periodic Acid + Ni... Ni-Periodate + H_2
Periodic Acid + Cu... Cu-Periodate + H_2
In this case you should use Gold Grids.

3. Formvar/Carbon Film

A formvar coated grid, stabilized with evaporated carbon film. This type of coating is excellent for specimen support, especially for ultra thin sections. The thickness range is as follows:

Standard Option A: 10nm Formvar and 1nm Carbon

Standard Option B (SB): 10nm Formvar and 3-4nm Carbon

Standard Option C (SC): 10nm Formvar and 20-30nm Carbon

Ultra-Thin Option A (UA): 5-6nm Formvar and 1nm Carbon

Ultra-Thin Option B (UB): 5-6nm Formvar and 3-4nm Carbon

Ultra-Thin Option C (UC): 5-6nm Formvar and 20-30nm Carbon

Thick Option A (TA): 15-20nm Formvar and 1nm Carbon

Thick Option B (TB): 15-20nm Formvar and 3-4nm Carbon

Thick Option C (TC): 15-20nm Formvar and 20-30nm Carbon

Extra Thick Option A (EA): 25-50nm Formvar and 1nm Carbon

Extra Thick Option B (EB): 25-50nm Formvar and 3-4nm Carbon

Extra Thick Option C (EC): 25-50nm Formvar and 20-30nm Carbon

Formvar/Carbon Square Mesh

COPPER | NICKEL | GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty	Cat. #	Type	Thickness	Qty	Cat. #	Type	Thickness	Qty
FCF100-Cu-25	100 MESH	standard 'A'	25/box	FCF100-Ni-25	100 MESH	standard 'A'	25/box	FCF100-Au-25	100 MESH	standard 'A'	25/box
FCF100-Cu-50			50/box	FCF100-Ni-50			50/box	FCF100-Au-50			50/box
FCF150-Cu-25	150 MESH	standard 'A'	25/box	FCF150-Ni-25	150 MESH	standard 'A'	25/box	FCF150-Au-25	150 MESH	standard 'A'	25/box
FCF150-Cu-50			50/box	FCF150-Ni-50			50/box	FCF150-Au-50			50/box
FCF200-Cu-25	200 MESH	standard 'A'	25/box	FCF200-Ni-25	200 MESH	standard 'A'	25/box	FCF200-Au-25	200 MESH	standard 'A'	25/box
FCF200-Cu-50			50/box	FCF200-Ni-50			50/box	FCF200-Au-50			50/box
FCF300-Cu-25	300 MESH	standard 'A'	25/box	FCF300-Ni-25	300 MESH	standard 'A'	25/box	FCF300-Au-25	300 MESH	standard 'A'	25/box
FCF300-Cu-50			50/box	FCF300-Ni-50			50/box	FCF300-Au-50			50/box
FCF400-Cu-25	400 MESH	standard 'A'	25/box	FCF400-Ni-25	400 MESH	standard 'A'	25/box	FCF400-Au-25	400 MESH	standard 'A'	25/box
FCF400-Cu-50			50/box	FCF400-Ni-50			50/box	FCF400-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty	Cat. #	Type	Thickness	Qty	Cat. #	Type	Thickness	Qty
FCF100-Cu-SB	100 MESH	standard 'B'	50/box	FCF100-Ni-SB	100 MESH	standard 'B'	50/box	FCF100-Au-SB	100 MESH	standard 'B'	50/box
FCF100-Cu-SC		standard 'C'	50/box	FCF100-Ni-SC		standard 'C'	50/box	FCF100-Au-SC		standard 'C'	50/box
FCF100-Cu-UA		ultra-thin 'A'	50/box	FCF100-Ni-UA		ultra-thin 'A'	50/box	FCF100-Au-UA		ultra-thin 'A'	50/box
FCF100-Cu-UB		ultra-thin 'B'	50/box	FCF100-Ni-UB		ultra-thin 'B'	50/box	FCF100-Au-UB		ultra-thin 'B'	50/box
FCF100-Cu-UC		ultra-thin 'C'	50/box	FCF100-Ni-UC		ultra-thin 'C'	50/box	FCF100-Au-UC		ultra-thin 'C'	50/box
FCF100-Cu-TA		thick 'A'	50/box	FCF100-Ni-TA		thick 'A'	50/box	FCF100-Au-TA		thick 'A'	50/box
FCF100-Cu-TB		thick 'B'	50/box	FCF100-Ni-TB		thick 'B'	50/box	FCF100-Au-TB		thick 'B'	50/box
FCF100-Cu-TC		thick 'C'	50/box	FCF100-Ni-TC		thick 'C'	50/box	FCF100-Au-TC		thick 'C'	50/box
FCF100-Cu-EA		extra thick 'A'	50/box	FCF100-Ni-EA		extra thick 'A'	50/box	FCF100-Au-EA		extra thick 'A'	50/box
FCF100-Cu-EB		extra thick 'B'	50/box	FCF100-Ni-EB		extra thick 'B'	50/box	FCF100-Au-EB		extra thick 'B'	50/box
FCF100-Cu-EC		extra thick 'C'	50/box	FCF100-Ni-EC		extra thick 'C'	50/box	FCF100-Au-EC		extra thick 'C'	50/box
FCF150-Cu-SB	150 MESH	standard 'B'	50/box	FCF150-Ni-SB	150 MESH	standard 'B'	50/box	FCF150-Au-SB	150 MESH	standard 'B'	50/box
FCF150-Cu-SC		standard 'C'	50/box	FCF150-Ni-SC		standard 'C'	50/box	FCF150-Au-SC		standard 'C'	50/box
FCF150-Cu-UA		ultra-thin 'A'	50/box	FCF150-Ni-UA		ultra-thin 'A'	50/box	FCF150-Au-UA		ultra-thin 'A'	50/box
FCF150-Cu-UB		ultra-thin 'B'	50/box	FCF150-Ni-UB		ultra-thin 'B'	50/box	FCF150-Au-UB		ultra-thin 'B'	50/box
FCF150-Cu-UC		ultra-thin 'C'	50/box	FCF150-Ni-UC		ultra-thin 'C'	50/box	FCF150-Au-UC		ultra-thin 'C'	50/box
FCF150-Cu-TA		thick 'A'	50/box	FCF150-Ni-TA		thick 'A'	50/box	FCF150-Au-TA		thick 'A'	50/box
FCF150-Cu-TB		thick 'B'	50/box	FCF150-Ni-TB		thick 'B'	50/box	FCF150-Au-TB		thick 'B'	50/box
FCF150-Cu-TC		thick 'C'	50/box	FCF150-Ni-TC		thick 'C'	50/box	FCF150-Au-TC		thick 'C'	50/box
FCF150-Cu-EA		extra thick 'A'	50/box	FCF150-Ni-EA		extra thick 'A'	50/box	FCF150-Au-EA		extra thick 'A'	50/box
FCF150-Cu-EB		extra thick 'B'	50/box	FCF150-Ni-EB		extra thick 'B'	50/box	FCF150-Au-EB		extra thick 'B'	50/box
FCF150-Cu-EC		extra thick 'C'	50/box	FCF150-Ni-EC		extra thick 'C'	50/box	FCF150-Au-EC		extra thick 'C'	50/box
FCF200-Cu-SB	200 MESH	standard 'B'	50/box	FCF200-Ni-SB	200 MESH	standard 'B'	50/box	FCF200-Au-SB	200 MESH	standard 'B'	50/box
FCF200-Cu-SC		standard 'C'	50/box	FCF200-Ni-SC		standard 'C'	50/box	FCF200-Au-SC		standard 'C'	50/box
FCF200-Cu-UA		ultra-thin 'A'	50/box	FCF200-Ni-UA		ultra-thin 'A'	50/box	FCF200-Au-UA		ultra-thin 'A'	50/box
FCF200-Cu-UB		ultra-thin 'B'	50/box	FCF200-Ni-UB		ultra-thin 'B'	50/box	FCF200-Au-UB		ultra-thin 'B'	50/box
FCF200-Cu-UC		ultra-thin 'C'	50/box	FCF200-Ni-UC		ultra-thin 'C'	50/box	FCF200-Au-UC		ultra-thin 'C'	50/box
FCF200-Cu-TA		thick 'A'	50/box	FCF200-Ni-TA		thick 'A'	50/box	FCF200-Au-TA		thick 'A'	50/box
FCF200-Cu-TB		thick 'B'	50/box	FCF200-Ni-TB		thick 'B'	50/box	FCF200-Au-TB		thick 'B'	50/box
FCF200-Cu-TC		thick 'C'	50/box	FCF200-Ni-TC		thick 'C'	50/box	FCF200-Au-TC		thick 'C'	50/box
FCF200-Cu-EA		extra thick 'A'	50/box	FCF200-Ni-EA		extra thick 'A'	50/box	FCF200-Au-EA		extra thick 'A'	50/box
FCF200-Cu-EB		extra thick 'B'	50/box	FCF200-Ni-EB		extra thick 'B'	50/box	FCF200-Au-EB		extra thick 'B'	50/box
FCF200-Cu-EC		extra thick 'C'	50/box	FCF200-Ni-EC		extra thick 'C'	50/box	FCF200-Au-EC		extra thick 'C'	50/box

continues »»»

Formvar/Carbon Square Mesh (continued)

COPPER NICKEL GOLD

NEW Thickness Ranges (continued)

Cat. #	Type	Thickness	Qty	Cat. #	Type	Thickness	Qty	Cat. #	Type	Thickness	Qty
FCF300-Cu-SB	300 MESH	standard 'B'	50/box	FCF300-Ni-SB	300 MESH	standard 'B'	50/box	FCF300-Au-SB	300 MESH	standard 'B'	50/box
FCF300-Cu-SC		standard 'C'	50/box	FCF300-Ni-SC		standard 'C'	50/box	FCF300-Au-SC		standard 'C'	50/box
FCF300-Cu-UA		ultra-thin 'A'	50/box	FCF300-Ni-UA		ultra-thin 'A'	50/box	FCF300-Au-UA		ultra-thin 'A'	50/box
FCF300-Cu-UB		ultra-thin 'B'	50/box	FCF300-Ni-UB		ultra-thin 'B'	50/box	FCF300-Au-UB		ultra-thin 'B'	50/box
FCF300-Cu-UC		ultra-thin 'C'	50/box	FCF300-Ni-UC		ultra-thin 'C'	50/box	FCF300-Au-UC		ultra-thin 'C'	50/box
FCF300-Cu-TA		thick 'A'	50/box	FCF300-Ni-TA		thick 'A'	50/box	FCF300-Au-TA		thick 'A'	50/box
FCF300-Cu-TB		thick 'B'	50/box	FCF300-Ni-TB		thick 'B'	50/box	FCF300-Au-TB		thick 'B'	50/box
FCF300-Cu-TC		thick 'C'	50/box	FCF300-Ni-TC		thick 'C'	50/box	FCF300-Au-TC		thick 'C'	50/box
FCF300-Cu-EA		extra thick 'A'	50/box	FCF300-Ni-EA		extra thick 'A'	50/box	FCF300-Au-EA		extra thick 'A'	50/box
FCF300-Cu-EB		extra thick 'B'	50/box	FCF300-Ni-EB		extra thick 'B'	50/box	FCF300-Au-EB		extra thick 'B'	50/box
FCF300-Cu-EC		extra thick 'C'	50/box	FCF300-Ni-EC		extra thick 'C'	50/box	FCF300-Au-EC		extra thick 'C'	50/box
FCF400-Cu-SB	400 MESH	standard 'B'	50/box	FCF400-Ni-SB	400 MESH	standard 'B'	50/box	FCF400-Au-SB	400 MESH	standard 'B'	50/box
FCF400-Cu-SC		standard 'C'	50/box	FCF400-Ni-SC		standard 'C'	50/box	FCF400-Au-SC		standard 'C'	50/box
FCF400-Cu-UA		ultra-thin 'A'	50/box	FCF400-Ni-UA		ultra-thin 'A'	50/box	FCF400-Au-UA		ultra-thin 'A'	50/box
FCF400-Cu-UB		ultra-thin 'B'	50/box	FCF400-Ni-UB		ultra-thin 'B'	50/box	FCF400-Au-UB		ultra-thin 'B'	50/box
FCF400-Cu-UC		ultra-thin 'C'	50/box	FCF400-Ni-UC		ultra-thin 'C'	50/box	FCF400-Au-UC		ultra-thin 'C'	50/box
FCF400-Cu-TA		thick 'A'	50/box	FCF400-Ni-TA		thick 'A'	50/box	FCF400-Au-TA		thick 'A'	50/box
FCF400-Cu-TB		thick 'B'	50/box	FCF400-Ni-TB		thick 'B'	50/box	FCF400-Au-TB		thick 'B'	50/box
FCF400-Cu-TC		thick 'C'	50/box	FCF400-Ni-TC		thick 'C'	50/box	FCF400-Au-TC		thick 'C'	50/box
FCF400-Cu-EA		extra thick 'A'	50/box	FCF400-Ni-EA		extra thick 'A'	50/box	FCF400-Au-EA		extra thick 'A'	50/box
FCF400-Cu-EB		extra thick 'B'	50/box	FCF400-Ni-EB		extra thick 'B'	50/box	FCF400-Au-EB		extra thick 'B'	50/box
FCF400-Cu-EC		extra thick 'C'	50/box	FCF400-Ni-EC		extra thick 'C'	50/box	FCF400-Au-EC		extra thick 'C'	50/box

Formvar/Carbon Gilder Finder Grids

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty	Cat. #	Type	Thickness	Qty	Cat. #	Type	Thickness	Qty
FCF200F1-Cu-25	F1	standard 'A'	25/box	FCF200F1-Ni-25	F1	standard 'A'	25/box	FCF200F1-Au-25	F1	standard 'A'	25/box
FCF200F1-Cu-50			50/box	FCF200F1-Ni-50			50/box	FCF200F1-Au-50			50/box
FCF200F2-Cu-25	F2	standard 'A'	25/box	FCF200F2-Ni-25	F2	standard 'A'	25/box	FCF200F2-Au-25	F2	standard 'A'	25/box
FCF200F2-Cu-50			50/box	FCF200F2-Ni-50			50/box	FCF200F2-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty	Cat. #	Type	Thickness	Qty	Cat. #	Type	Thickness	Qty
FCF200F1-Cu-SB	F1	standard 'B'	50/box	FCF200F1-Ni-SB	F1	standard 'B'	50/box	FCF200F1-Au-SB	F1	standard 'B'	50/box
FCF200F1-Cu-SC		standard 'C'	50/box	FCF200F1-Ni-SC		standard 'C'	50/box	FCF200F1-Au-SC		standard 'C'	50/box
FCF200F1-Cu-UA		ultra-thin 'A'	50/box	FCF200F1-Ni-UA		ultra-thin 'A'	50/box	FCF200F1-Au-UA		ultra-thin 'A'	50/box
FCF200F1-Cu-UB		ultra-thin 'B'	50/box	FCF200F1-Ni-UB		ultra-thin 'B'	50/box	FCF200F1-Au-UB		ultra-thin 'B'	50/box
FCF200F1-Cu-UC		ultra-thin 'C'	50/box	FCF200F1-Ni-UC		ultra-thin 'C'	50/box	FCF200F1-Au-UC		ultra-thin 'C'	50/box
FCF200F1-Cu-TA		thick 'A'	50/box	FCF200F1-Ni-TA		thick 'A'	50/box	FCF200F1-Au-TA		thick 'A'	50/box
FCF200F1-Cu-TB		thick 'B'	50/box	FCF200F1-Ni-TB		thick 'B'	50/box	FCF200F1-Au-TB		thick 'B'	50/box
FCF200F1-Cu-TC		thick 'C'	50/box	FCF200F1-Ni-TC		thick 'C'	50/box	FCF200F1-Au-TC		thick 'C'	50/box
FCF200F1-Cu-EA		extra thick 'A'	50/box	FCF200F1-Ni-EA		extra thick 'A'	50/box	FCF200F1-Au-EA		extra thick 'A'	50/box
FCF200F1-Cu-EB		extra thick 'B'	50/box	FCF200F1-Ni-EB		extra thick 'B'	50/box	FCF200F1-Au-EB		extra thick 'B'	50/box
FCF200F1-Cu-EC		extra thick 'C'	50/box	FCF200F1-Ni-EC		extra thick 'C'	50/box	FCF200F1-Au-EC		extra thick 'C'	50/box
FCF200F2-Cu-SB	F2	standard 'B'	50/box	FCF200F2-Ni-SB	F2	standard 'B'	50/box	FCF200F2-Au-SB	F2	standard 'B'	50/box
FCF200F2-Cu-SC		standard 'C'	50/box	FCF200F2-Ni-SC		standard 'C'	50/box	FCF200F2-Au-SC		standard 'C'	50/box
FCF200F2-Cu-UA		ultra-thin 'A'	50/box	FCF200F2-Ni-UA		ultra-thin 'A'	50/box	FCF200F2-Au-UA		ultra-thin 'A'	50/box
FCF200F2-Cu-UB		ultra-thin 'B'	50/box	FCF200F2-Ni-UB		ultra-thin 'B'	50/box	FCF200F2-Au-UB		ultra-thin 'B'	50/box
FCF200F2-Cu-UC		ultra-thin 'C'	50/box	FCF200F2-Ni-UC		ultra-thin 'C'	50/box	FCF200F2-Au-UC		ultra-thin 'C'	50/box
FCF200F2-Cu-TA		thick 'A'	50/box	FCF200F2-Ni-TA		thick 'A'	50/box	FCF200F2-Au-TA		thick 'A'	50/box
FCF200F2-Cu-TB		thick 'B'	50/box	FCF200F2-Ni-TB		thick 'B'	50/box	FCF200F2-Au-TB		thick 'B'	50/box
FCF200F2-Cu-TC		thick 'C'	50/box	FCF200F2-Ni-TC		thick 'C'	50/box	FCF200F2-Au-TC		thick 'C'	50/box
FCF200F2-Cu-EA		extra thick 'A'	50/box	FCF200F2-Ni-EA		extra thick 'A'	50/box	FCF200F2-Au-EA		extra thick 'A'	50/box
FCF200F2-Cu-EB		extra thick 'B'	50/box	FCF200F2-Ni-EB		extra thick 'B'	50/box	FCF200F2-Au-EB		extra thick 'B'	50/box
FCF200F2-Cu-EC		extra thick 'C'	50/box	FCF200F2-Ni-EC		extra thick 'C'	50/box	FCF200F2-Au-EC		extra thick 'C'	50/box

Guide to Thickness Ranges

Standard Option A: 10nm Formvar and 1nm Carbon
Standard Option B (SB): 10nm Formvar and 3-4nm Carbon
Standard Option C (SC): 10nm Formvar and 20-30nm Carbon
Ultra-Thin Option A (UA): 5-6nm Formvar and 1nm Carbon
Ultra-Thin Option B (UB): 5-6nm Formvar and 3-4nm Carbon
Ultra-Thin Option C (UC): 5-6nm Formvar and 20-30nm Carbon

Thick Option A (TA): 15-20nm Formvar and 1nm Carbon
Thick Option B (TB): 15-20nm Formvar and 3-4nm Carbon
Thick Option C (TC): 15-20nm Formvar and 20-30nm Carbon
Extra Thick Option A (EA): 25-50nm Formvar and 1nm Carbon
Extra Thick Option B (EB): 25-50nm Formvar and 3-4nm Carbon
Extra Thick Option C (EC): 25-50nm Formvar and 20-30nm Carbon

Formvar/Carbon London Finder Grids

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
FCFLF135-Cu-25	LF135	standard 'A'	25/box
FCFLF135-Cu-50			50/box
FCFLF200-Cu-25	LF200	standard 'A'	25/box
FCFLF200-Cu-50			50/box
FCFLF400-Cu-25	LF400	standard 'A'	25/box
FCFLF400-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FCFLF135-Ni-25	LF135	standard 'A'	25/box
FCFLF135-Ni-50			50/box
FCFLF200-Ni-25	LF200	standard 'A'	25/box
FCFLF200-Ni-50			50/box
FCFLF400-Ni-25	LF400	standard 'A'	25/box
FCFLF400-Ni-50			50/box

Cat. #	Type	Thickness	Qty
FCFLF135-Au-25	LF135	standard 'A'	25/box
FCFLF135-Au-50			50/box
FCFLF200-Au-25	LF200	standard 'A'	25/box
FCFLF400-Au-25	LF400	standard 'A'	25/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FCFLF135-Cu-SB	LF135	standard 'B'	50/box
FCFLF135-Cu-SC		standard 'C'	50/box
FCFLF135-Cu-UA		ultra-thin 'A'	50/box
FCFLF135-Cu-UB		ultra-thin 'B'	50/box
FCFLF135-Cu-UC		ultra-thin 'C'	50/box
FCFLF135-Cu-TA		thick 'A'	50/box
FCFLF135-Cu-TB		thick 'B'	50/box
FCFLF135-Cu-TC		thick 'C'	50/box
FCFLF135-Cu-EA		extra thick 'A'	50/box
FCFLF135-Cu-EB		extra thick 'B'	50/box
FCFLF135-Cu-EC		extra thick 'C'	50/box
FCFLF200-Cu-SB	LF200	standard 'B'	50/box
FCFLF200-Cu-SC		standard 'C'	50/box
FCFLF200-Cu-UA		ultra-thin 'A'	50/box
FCFLF200-Cu-UB		ultra-thin 'B'	50/box
FCFLF200-Cu-UC		ultra-thin 'C'	50/box
FCFLF200-Cu-TA		thick 'A'	50/box
FCFLF200-Cu-TB		thick 'B'	50/box
FCFLF200-Cu-TC		thick 'C'	50/box
FCFLF200-Cu-EA		extra thick 'A'	50/box
FCFLF200-Cu-EB		extra thick 'B'	50/box
FCFLF200-Cu-EC		extra thick 'C'	50/box
FCFLF400-Cu-SB	LF400	standard 'B'	50/box
FCFLF400-Cu-SC		standard 'C'	50/box
FCFLF400-Cu-UA		ultra-thin 'A'	50/box
FCFLF400-Cu-UB		ultra-thin 'B'	50/box
FCFLF400-Cu-UC		ultra-thin 'C'	50/box
FCFLF400-Cu-TA		thick 'A'	50/box
FCFLF400-Cu-TB		thick 'B'	50/box
FCFLF400-Cu-TC		thick 'C'	50/box
FCFLF400-Cu-EA		extra thick 'A'	50/box
FCFLF400-Cu-EB		extra thick 'B'	50/box
FCFLF400-Cu-EC		extra thick 'C'	50/box

Cat. #	Type	Thickness	Qty
FCFLF135-Ni-SB	LF135	standard 'B'	50/box
FCFLF135-Ni-SC		standard 'C'	50/box
FCFLF135-Ni-UA		ultra-thin 'A'	50/box
FCFLF135-Ni-UB		ultra-thin 'B'	50/box
FCFLF135-Ni-UC		ultra-thin 'C'	50/box
FCFLF135-Ni-TA		thick 'A'	50/box
FCFLF135-Ni-TB		thick 'B'	50/box
FCFLF135-Ni-TC		thick 'C'	50/box
FCFLF135-Ni-EA		extra thick 'A'	50/box
FCFLF135-Ni-EB		extra thick 'B'	50/box
FCFLF135-Ni-EC		extra thick 'C'	50/box
FCFLF200-Ni-SB	LF200	standard 'B'	50/box
FCFLF200-Ni-SC		standard 'C'	50/box
FCFLF200-Ni-UA		ultra-thin 'A'	50/box
FCFLF200-Ni-UB		ultra-thin 'B'	50/box
FCFLF200-Ni-UC		ultra-thin 'C'	50/box
FCFLF200-Ni-TA		thick 'A'	50/box
FCFLF200-Ni-TB		thick 'B'	50/box
FCFLF200-Ni-TC		thick 'C'	50/box
FCFLF200-Ni-EA		extra thick 'A'	50/box
FCFLF200-Ni-EB		extra thick 'B'	50/box
FCFLF200-Ni-EC		extra thick 'C'	50/box
FCFLF400-Ni-SB	LF400	standard 'B'	50/box
FCFLF400-Ni-SC		standard 'C'	50/box
FCFLF400-Ni-UA		ultra-thin 'A'	50/box
FCFLF400-Ni-UB		ultra-thin 'B'	50/box
FCFLF400-Ni-UC		ultra-thin 'C'	50/box
FCFLF400-Ni-TA		thick 'A'	50/box
FCFLF400-Ni-TB		thick 'B'	50/box
FCFLF400-Ni-TC		thick 'C'	50/box
FCFLF400-Ni-EA		extra thick 'A'	50/box
FCFLF400-Ni-EB		extra thick 'B'	50/box
FCFLF400-Ni-EC		extra thick 'C'	50/box

Cat. #	Type	Thickness	Qty
FCFLF135-Au-SB	LF135	standard 'B'	50/box
FCFLF135-Au-SC		standard 'C'	50/box
FCFLF135-Au-UA		ultra-thin 'A'	50/box
FCFLF135-Au-UB		ultra-thin 'B'	50/box
FCFLF135-Au-UC		ultra-thin 'C'	50/box
FCFLF135-Au-TA		thick 'A'	50/box
FCFLF135-Au-TB		thick 'B'	50/box
FCFLF135-Au-TC		thick 'C'	50/box
FCFLF135-Au-EA		extra thick 'A'	50/box
FCFLF135-Au-EB		extra thick 'B'	50/box
FCFLF135-Au-EC		extra thick 'C'	50/box

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Formvar/Carbon Hexagonal Mesh

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
FCF100H-Cu-25	100 MESH	standard 'A'	25/box
FCF100H-Cu-50			50/box
FCF200H-Cu-25	200 MESH	standard 'A'	25/box
FCF200H-Cu-50			50/box
FCF300H-Cu-25	300 MESH	standard 'A'	25/box
FCF300H-Cu-50			50/box
FCF400H-Cu-25	400 MESH	standard 'A'	25/box
FCF400H-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FCF100H-Ni-25	100 MESH	standard 'A'	25/box
FCF100H-Ni-50			50/box
FCF200H-Ni-25	200 MESH	standard 'A'	25/box
FCF200H-Ni-50			50/box
FCF300H-Ni-25	300 MESH	standard 'A'	25/box
FCF300H-Ni-50			50/box
FCF400H-Ni-25	400 MESH	standard 'A'	25/box
FCF400H-Ni-50			50/box

Cat. #	Type	Thickness	Qty
FCF100H-Au-25	100 MESH	standard 'A'	25/box
FCF100H-Au-50			50/box
FCF200H-Au-25	200 MESH	standard 'A'	25/box
FCF200H-Au-50			50/box
FCF300H-Au-25	300 MESH	standard 'A'	25/box
FCF300H-Au-50			50/box
FCF400H-Au-25	400 MESH	standard 'A'	25/box
FCF400H-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FCF100H-Cu-SB	100 MESH	standard 'B'	50/box
FCF100H-Cu-SC		standard 'C'	50/box
FCF100H-Cu-UA		ultra-thin 'A'	50/box
FCF100H-Cu-UB		ultra-thin 'B'	50/box
FCF100H-Cu-UC		ultra-thin 'C'	50/box
FCF100H-Cu-TA		thick 'A'	50/box
FCF100H-Cu-TB		thick 'B'	50/box
FCF100H-Cu-TC		thick 'C'	50/box
FCF100H-Cu-EA		extra thick 'A'	50/box
FCF100H-Cu-EB		extra thick 'B'	50/box
FCF100H-Cu-EC		extra thick 'C'	50/box
FCF200H-Cu-SB	200 MESH	standard 'B'	50/box
FCF200H-Cu-SC		standard 'C'	50/box
FCF200H-Cu-UA		ultra-thin 'A'	50/box
FCF200H-Cu-UB		ultra-thin 'B'	50/box
FCF200H-Cu-UC		ultra-thin 'C'	50/box
FCF200H-Cu-TA		thick 'A'	50/box
FCF200H-Cu-TB		thick 'B'	50/box
FCF200H-Cu-TC		thick 'C'	50/box
FCF200H-Cu-EA		extra thick 'A'	50/box
FCF200H-Cu-EB		extra thick 'B'	50/box
FCF200H-Cu-EC		extra thick 'C'	50/box
FCF300H-Cu-SB	300 MESH	standard 'B'	50/box
FCF300H-Cu-SC		standard 'C'	50/box
FCF300H-Cu-UA		ultra-thin 'A'	50/box
FCF300H-Cu-UB		ultra-thin 'B'	50/box
FCF300H-Cu-UC		ultra-thin 'C'	50/box
FCF300H-Cu-TA		thick 'A'	50/box
FCF300H-Cu-TB		thick 'B'	50/box
FCF300H-Cu-TC		thick 'C'	50/box
FCF300H-Cu-EA		extra thick 'A'	50/box
FCF300H-Cu-EB		extra thick 'B'	50/box
FCF300H-Cu-EC		extra thick 'C'	50/box
FCF400H-Cu-SB	400 MESH	standard 'B'	50/box
FCF400H-Cu-SC		standard 'C'	50/box
FCF400H-Cu-UA		ultra-thin 'A'	50/box
FCF400H-Cu-UB		ultra-thin 'B'	50/box
FCF400H-Cu-UC		ultra-thin 'C'	50/box
FCF400H-Cu-TA		thick 'A'	50/box
FCF400H-Cu-TB		thick 'B'	50/box
FCF400H-Cu-TC		thick 'C'	50/box
FCF400H-Cu-EA		extra thick 'A'	50/box
FCF400H-Cu-EB		extra thick 'B'	50/box
FCF400H-Cu-EC		extra thick 'C'	50/box

Cat. #	Type	Thickness	Qty
FCF100H-Ni-SB	100 MESH	standard 'B'	50/box
FCF100H-Ni-SC		standard 'C'	50/box
FCF100H-Ni-UA		ultra-thin 'A'	50/box
FCF100H-Ni-UB		ultra-thin 'B'	50/box
FCF100H-Ni-UC		ultra-thin 'C'	50/box
FCF100H-Ni-TA		thick 'A'	50/box
FCF100H-Ni-TB		thick 'B'	50/box
FCF100H-Ni-TC		thick 'C'	50/box
FCF100H-Ni-EA		extra thick 'A'	50/box
FCF100H-Ni-EB		extra thick 'B'	50/box
FCF100H-Ni-EC		extra thick 'C'	50/box
FCF200H-Ni-SB	200 MESH	standard 'B'	50/box
FCF200H-Ni-SC		standard 'C'	50/box
FCF200H-Ni-UA		ultra-thin 'A'	50/box
FCF200H-Ni-UB		ultra-thin 'B'	50/box
FCF200H-Ni-UC		ultra-thin 'C'	50/box
FCF200H-Ni-TA		thick 'A'	50/box
FCF200H-Ni-TB		thick 'B'	50/box
FCF200H-Ni-TC		thick 'C'	50/box
FCF200H-Ni-EA		extra thick 'A'	50/box
FCF200H-Ni-EB		extra thick 'B'	50/box
FCF200H-Ni-EC		extra thick 'C'	50/box
FCF300H-Ni-SB	300 MESH	standard 'B'	50/box
FCF300H-Ni-SC		standard 'C'	50/box
FCF300H-Ni-UA		ultra-thin 'A'	50/box
FCF300H-Ni-UB		ultra-thin 'B'	50/box
FCF300H-Ni-UC		ultra-thin 'C'	50/box
FCF300H-Ni-TA		thick 'A'	50/box
FCF300H-Ni-TB		thick 'B'	50/box
FCF300H-Ni-TC		thick 'C'	50/box
FCF300H-Ni-EA		extra thick 'A'	50/box
FCF300H-Ni-EB		extra thick 'B'	50/box
FCF300H-Ni-EC		extra thick 'C'	50/box
FCF400H-Ni-SB	400 MESH	standard 'B'	50/box
FCF400H-Ni-SC		standard 'C'	50/box
FCF400H-Ni-UA		ultra-thin 'A'	50/box
FCF400H-Ni-UB		ultra-thin 'B'	50/box
FCF400H-Ni-UC		ultra-thin 'C'	50/box
FCF400H-Ni-TA		thick 'A'	50/box
FCF400H-Ni-TB		thick 'B'	50/box
FCF400H-Ni-TC		thick 'C'	50/box
FCF400H-Ni-EA		extra thick 'A'	50/box
FCF400H-Ni-EB		extra thick 'B'	50/box
FCF400H-Ni-EC		extra thick 'C'	50/box

Cat. #	Type	Thickness	Qty
FCF100H-Au-SB	100 MESH	standard 'B'	50/box
FCF100H-Au-SC		standard 'C'	50/box
FCF100H-Au-UA		ultra-thin 'A'	50/box
FCF100H-Au-UB		ultra-thin 'B'	50/box
FCF100H-Au-UC		ultra-thin 'C'	50/box
FCF100H-Au-TA		thick 'A'	50/box
FCF100H-Au-TB		thick 'B'	50/box
FCF100H-Au-TC		thick 'C'	50/box
FCF100H-Au-EA		extra thick 'A'	50/box
FCF100H-Au-EB		extra thick 'B'	50/box
FCF100H-Au-EC		extra thick 'C'	50/box
FCF200H-Au-SB	200 MESH	standard 'B'	50/box
FCF200H-Au-SC		standard 'C'	50/box
FCF200H-Au-UA		ultra-thin 'A'	50/box
FCF200H-Au-UB		ultra-thin 'B'	50/box
FCF200H-Au-UC		ultra-thin 'C'	50/box
FCF200H-Au-TA		thick 'A'	50/box
FCF200H-Au-TB		thick 'B'	50/box
FCF200H-Au-TC		thick 'C'	50/box
FCF200H-Au-EA		extra thick 'A'	50/box
FCF200H-Au-EB		extra thick 'B'	50/box
FCF200H-Au-EC		extra thick 'C'	50/box
FCF300H-Au-SB	300 MESH	standard 'B'	50/box
FCF300H-Au-SC		standard 'C'	50/box
FCF300H-Au-UA		ultra-thin 'A'	50/box
FCF300H-Au-UB		ultra-thin 'B'	50/box
FCF300H-Au-UC		ultra-thin 'C'	50/box
FCF300H-Au-TA		thick 'A'	50/box
FCF300H-Au-TB		thick 'B'	50/box
FCF300H-Au-TC		thick 'C'	50/box
FCF300H-Au-EA		extra thick 'A'	50/box
FCF300H-Au-EB		extra thick 'B'	50/box
FCF300H-Au-EC		extra thick 'C'	50/box
FCF400H-Au-SB	400 MESH	standard 'B'	50/box
FCF400H-Au-SC		standard 'C'	50/box
FCF400H-Au-UA		ultra-thin 'A'	50/box
FCF400H-Au-UB		ultra-thin 'B'	50/box
FCF400H-Au-UC		ultra-thin 'C'	50/box
FCF400H-Au-TA		thick 'A'	50/box
FCF400H-Au-TB		thick 'B'	50/box
FCF400H-Au-TC		thick 'C'	50/box
FCF400H-Au-EA		extra thick 'A'	50/box
FCF400H-Au-EB		extra thick 'B'	50/box
FCF400H-Au-EC		extra thick 'C'	50/box

Formvar/Carbon Thin Bar Square Mesh

COPPER | NICKEL | GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
FCFT200-Cu-25	200 MESH	standard 'A'	25/box
FCFT200-Cu-50			50/box
FCFT300-Cu-25	300 MESH	standard 'A'	25/box
FCFT300-Cu-50			50/box
FCFT400-Cu-25	400 MESH	standard 'A'	25/box
FCFT400-Cu-50			50/box
FCFT1000-Cu-25	1000 MESH	standard 'A'	25/box
FCFT1000-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FCFT200-Ni-25	200 MESH	standard 'A'	25/box
FCFT200-Ni-50			50/box
FCFT300-Ni-25	300 MESH	standard 'A'	25/box
FCFT300-Ni-50			50/box
FCFT400-Ni-25	400 MESH	standard 'A'	25/box
FCFT400-Ni-50			50/box
FCFT1000-Ni-25	1000 MESH	standard 'A'	25/box
FCFT1000-Ni-50			50/box

Cat. #	Type	Thickness	Qty
FCFT200-Au-25	200 MESH	standard 'A'	25/box
FCFT200-Au-50			50/box
FCFT300-Au-25	300 MESH	standard 'A'	25/box
FCFT300-Au-50			50/box
FCFT400-Au-25	400 MESH	standard 'A'	25/box
FCFT400-Au-50			50/box
FCFT1000-Au-25	1000 MESH	standard 'A'	25/box
FCFT1000-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FCFT200-Cu-SB	200 MESH	standard 'B'	50/box
FCFT200-Cu-SC		standard 'C'	50/box
FCFT200-Cu-UA		ultra-thin 'A'	50/box
FCFT200-Cu-UB		ultra-thin 'B'	50/box
FCFT200-Cu-UC		ultra-thin 'C'	50/box
FCFT200-Cu-TA		thick 'A'	50/box
FCFT200-Cu-TB		thick 'B'	50/box
FCFT200-Cu-TC		thick 'C'	50/box
FCFT200-Cu-EA		extra thick 'A'	50/box
FCFT200-Cu-EB		extra thick 'B'	50/box
FCFT200-Cu-EC		extra thick 'C'	50/box
FCFT300-Cu-SB	300 MESH	standard 'B'	50/box
FCFT300-Cu-SC		standard 'C'	50/box
FCFT300-Cu-UA		ultra-thin 'A'	50/box
FCFT300-Cu-UB		ultra-thin 'B'	50/box
FCFT300-Cu-UC		ultra-thin 'C'	50/box
FCFT300-Cu-TA		thick 'A'	50/box
FCFT300-Cu-TB		thick 'B'	50/box
FCFT300-Cu-TC		thick 'C'	50/box
FCFT300-Cu-EA		extra thick 'A'	50/box
FCFT300-Cu-EB		extra thick 'B'	50/box
FCFT300-Cu-EC		extra thick 'C'	50/box
FCFT400-Cu-SB	400 MESH	standard 'B'	50/box
FCFT400-Cu-SC		standard 'C'	50/box
FCFT400-Cu-UA		ultra-thin 'A'	50/box
FCFT400-Cu-UB		ultra-thin 'B'	50/box
FCFT400-Cu-UC		ultra-thin 'C'	50/box
FCFT400-Cu-TA		thick 'A'	50/box
FCFT400-Cu-TB		thick 'B'	50/box
FCFT400-Cu-TC		thick 'C'	50/box
FCFT400-Cu-EA		extra thick 'A'	50/box
FCFT400-Cu-EB		extra thick 'B'	50/box
FCFT400-Cu-EC		extra thick 'C'	50/box
FCFT1000-Cu-SB	1000 MESH	standard 'B'	50/box
FCFT1000-Cu-SC		standard 'C'	50/box
FCFT1000-Cu-UA		ultra-thin 'A'	50/box
FCFT1000-Cu-UB		ultra-thin 'B'	50/box
FCFT1000-Cu-UC		ultra-thin 'C'	50/box
FCFT1000-Cu-TA		thick 'A'	50/box
FCFT1000-Cu-TB		thick 'B'	50/box
FCFT1000-Cu-TC		thick 'C'	50/box
FCFT1000-Cu-EA		extra thick 'A'	50/box
FCFT1000-Cu-EB		extra thick 'B'	50/box
FCFT1000-Cu-EC		extra thick 'C'	50/box

Cat. #	Type	Thickness	Qty
FCFT200-Ni-SB	200 MESH	standard 'B'	50/box
FCFT200-Ni-SC		standard 'C'	50/box
FCFT200-Ni-UA		ultra-thin 'A'	50/box
FCFT200-Ni-UB		ultra-thin 'B'	50/box
FCFT200-Ni-UC		ultra-thin 'C'	50/box
FCFT200-Ni-TA		thick 'A'	50/box
FCFT200-Ni-TB		thick 'B'	50/box
FCFT200-Ni-TC		thick 'C'	50/box
FCFT200-Ni-EA		extra thick 'A'	50/box
FCFT200-Ni-EB		extra thick 'B'	50/box
FCFT200-Ni-EC		extra thick 'C'	50/box
FCFT300-Ni-SB	300 MESH	standard 'B'	50/box
FCFT300-Ni-SC		standard 'C'	50/box
FCFT300-Ni-UA		ultra-thin 'A'	50/box
FCFT300-Ni-UB		ultra-thin 'B'	50/box
FCFT300-Ni-UC		ultra-thin 'C'	50/box
FCFT300-Ni-TA		thick 'A'	50/box
FCFT300-Ni-TB		thick 'B'	50/box
FCFT300-Ni-TC		thick 'C'	50/box
FCFT300-Ni-EA		extra thick 'A'	50/box
FCFT300-Ni-EB		extra thick 'B'	50/box
FCFT300-Ni-EC		extra thick 'C'	50/box
FCFT400-Ni-SB	400 MESH	standard 'B'	50/box
FCFT400-Ni-SC		standard 'C'	50/box
FCFT400-Ni-UA		ultra-thin 'A'	50/box
FCFT400-Ni-UB		ultra-thin 'B'	50/box
FCFT400-Ni-UC		ultra-thin 'C'	50/box
FCFT400-Ni-TA		thick 'A'	50/box
FCFT400-Ni-TB		thick 'B'	50/box
FCFT400-Ni-TC		thick 'C'	50/box
FCFT400-Ni-EA		extra thick 'A'	50/box
FCFT400-Ni-EB		extra thick 'B'	50/box
FCFT400-Ni-EC		extra thick 'C'	50/box
FCFT1000-Ni-SB	1000 MESH	standard 'B'	50/box
FCFT1000-Ni-SC		standard 'C'	50/box
FCFT1000-Ni-UA		ultra-thin 'A'	50/box
FCFT1000-Ni-UB		ultra-thin 'B'	50/box
FCFT1000-Ni-UC		ultra-thin 'C'	50/box
FCFT1000-Ni-TA		thick 'A'	50/box
FCFT1000-Ni-TB		thick 'B'	50/box
FCFT1000-Ni-TC		thick 'C'	50/box
FCFT1000-Ni-EA		extra thick 'A'	50/box
FCFT1000-Ni-EB		extra thick 'B'	50/box
FCFT1000-Ni-EC		extra thick 'C'	50/box

Cat. #	Type	Thickness	Qty
FCFT200-Au-SB	200 MESH	standard 'B'	50/box
FCFT200-Au-SC		standard 'C'	50/box
FCFT200-Au-UA		ultra-thin 'A'	50/box
FCFT200-Au-UB		ultra-thin 'B'	50/box
FCFT200-Au-UC		ultra-thin 'C'	50/box
FCFT200-Au-TA		thick 'A'	50/box
FCFT200-Au-TB		thick 'B'	50/box
FCFT200-Au-TC		thick 'C'	50/box
FCFT200-Au-EA		extra thick 'A'	50/box
FCFT200-Au-EB		extra thick 'B'	50/box
FCFT200-Au-EC		extra thick 'C'	50/box
FCFT300-Au-SB	300 MESH	standard 'B'	50/box
FCFT300-Au-SC		standard 'C'	50/box
FCFT300-Au-UA		ultra-thin 'A'	50/box
FCFT300-Au-UB		ultra-thin 'B'	50/box
FCFT300-Au-UC		ultra-thin 'C'	50/box
FCFT300-Au-TA		thick 'A'	50/box
FCFT300-Au-TB		thick 'B'	50/box
FCFT300-Au-TC		thick 'C'	50/box
FCFT300-Au-EA		extra thick 'A'	50/box
FCFT300-Au-EB		extra thick 'B'	50/box
FCFT300-Au-EC		extra thick 'C'	50/box
FCFT400-Au-SB	400 MESH	standard 'B'	50/box
FCFT400-Au-SC		standard 'C'	50/box
FCFT400-Au-UA		ultra-thin 'A'	50/box
FCFT400-Au-UB		ultra-thin 'B'	50/box
FCFT400-Au-UC		ultra-thin 'C'	50/box
FCFT400-Au-TA		thick 'A'	50/box
FCFT400-Au-TB		thick 'B'	50/box
FCFT400-Au-TC		thick 'C'	50/box
FCFT400-Au-EA		extra thick 'A'	50/box
FCFT400-Au-EB		extra thick 'B'	50/box
FCFT400-Au-EC		extra thick 'C'	50/box
FCFT1000-Au-SB	1000 MESH	standard 'B'	50/box
FCFT1000-Au-SC		standard 'C'	50/box
FCFT1000-Au-UA		ultra-thin 'A'	50/box
FCFT1000-Au-UB		ultra-thin 'B'	50/box
FCFT1000-Au-UC		ultra-thin 'C'	50/box
FCFT1000-Au-TA		thick 'A'	50/box
FCFT1000-Au-TB		thick 'B'	50/box
FCFT1000-Au-TC		thick 'C'	50/box
FCFT1000-Au-EA		extra thick 'A'	50/box
FCFT1000-Au-EB		extra thick 'B'	50/box
FCFT1000-Au-EC		extra thick 'C'	50/box

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Formvar/Carbon Thin Bar Hexagonal Mesh

COPPER | NICKEL | GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
FCFTH200-Cu-25	200 MESH	standard 'A'	25/box
FCFTH200-Cu-50			50/box
FCFTH300-Cu-25	300 MESH	standard 'A'	25/box
FCFTH300-Cu-50			50/box
FCFTH400-Cu-25	400 MESH	standard 'A'	25/box
FCFTH400-Cu-50			50/box
FCFTH600-Cu-25	600 MESH	standard 'A'	25/box
FCFTH600-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FCFTH200-Ni-25	200 MESH	standard 'A'	25/box
FCFTH200-Ni-50			50/box
FCFTH300-Ni-25	300 MESH	standard 'A'	25/box
FCFTH300-Ni-50			50/box
FCFTH400-Ni-25	400 MESH	standard 'A'	25/box
FCFTH400-Ni-50			50/box
FCFTH600-Ni-25	600 MESH	standard 'A'	25/box
FCFTH600-Ni-50			50/box

Cat. #	Type	Thickness	Qty
FCFTH200-Au-25	200 MESH	standard 'A'	25/box
FCFTH200-Au-50			50/box
FCFTH300-Au-25	300 MESH	standard 'A'	25/box
FCFTH300-Au-50			50/box
FCFTH400-Au-25	400 MESH	standard 'A'	25/box
FCFTH400-Au-50			50/box
FCFTH600-Au-25	600 MESH	standard 'A'	25/box
FCFTH600-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FCFTH200-Cu-SB	200 MESH	standard 'B'	50/box
FCFTH200-Cu-SC		standard 'C'	50/box
FCFTH200-Cu-UA		ultra-thin 'A'	50/box
FCFTH200-Cu-UB		ultra-thin 'B'	50/box
FCFTH200-Cu-UC		ultra-thin 'C'	50/box
FCFTH200-Cu-TA		thick 'A'	50/box
FCFTH200-Cu-TB		thick 'B'	50/box
FCFTH200-Cu-TC		thick 'C'	50/box
FCFTH200-Cu-EA		extra thick 'A'	50/box
FCFTH200-Cu-EB		extra thick 'B'	50/box
FCFTH200-Cu-EC		extra thick 'C'	50/box
FCFTH300-Cu-SB	300 MESH	standard 'B'	50/box
FCFTH300-Cu-SC		standard 'C'	50/box
FCFTH300-Cu-UA		ultra-thin 'A'	50/box
FCFTH300-Cu-UB		ultra-thin 'B'	50/box
FCFTH300-Cu-UC		ultra-thin 'C'	50/box
FCFTH300-Cu-TA		thick 'A'	50/box
FCFTH300-Cu-TB		thick 'B'	50/box
FCFTH300-Cu-TC		thick 'C'	50/box
FCFTH300-Cu-EA		extra thick 'A'	50/box
FCFTH300-Cu-EB		extra thick 'B'	50/box
FCFTH300-Cu-EC		extra thick 'C'	50/box
FCFTH400-Cu-SB	400 MESH	standard 'B'	50/box
FCFTH400-Cu-SC		standard 'C'	50/box
FCFTH400-Cu-UA		ultra-thin 'A'	50/box
FCFTH400-Cu-UB		ultra-thin 'B'	50/box
FCFTH400-Cu-UC		ultra-thin 'C'	50/box
FCFTH400-Cu-TA		thick 'A'	50/box
FCFTH400-Cu-TB		thick 'B'	50/box
FCFTH400-Cu-TC		thick 'C'	50/box
FCFTH400-Cu-EA		extra thick 'A'	50/box
FCFTH400-Cu-EB		extra thick 'B'	50/box
FCFTH400-Cu-EC		extra thick 'C'	50/box
FCFTH600-Cu-SB	600 MESH	standard 'B'	50/box
FCFTH600-Cu-SC		standard 'C'	50/box
FCFTH600-Cu-UA		ultra-thin 'A'	50/box
FCFTH600-Cu-UB		ultra-thin 'B'	50/box
FCFTH600-Cu-UC		ultra-thin 'C'	50/box
FCFTH600-Cu-TA		thick 'A'	50/box
FCFTH600-Cu-TB		thick 'B'	50/box
FCFTH600-Cu-TC		thick 'C'	50/box
FCFTH600-Cu-EA		extra thick 'A'	50/box
FCFTH600-Cu-EB		extra thick 'B'	50/box
FCFTH600-Cu-EC		extra thick 'C'	50/box

Cat. #	Type	Thickness	Qty
FCFTH200-Ni-SB	200 MESH	standard 'B'	50/box
FCFTH200-Ni-SC		standard 'C'	50/box
FCFTH200-Ni-UA		ultra-thin 'A'	50/box
FCFTH200-Ni-UB		ultra-thin 'B'	50/box
FCFTH200-Ni-UC		ultra-thin 'C'	50/box
FCFTH200-Ni-TA		thick 'A'	50/box
FCFTH200-Ni-TB		thick 'B'	50/box
FCFTH200-Ni-TC		thick 'C'	50/box
FCFTH200-Ni-EA		extra thick 'A'	50/box
FCFTH200-Ni-EB		extra thick 'B'	50/box
FCFTH200-Ni-EC		extra thick 'C'	50/box
FCFTH300-Ni-SB	300 MESH	standard 'B'	50/box
FCFTH300-Ni-SC		standard 'C'	50/box
FCFTH300-Ni-UA		ultra-thin 'A'	50/box
FCFTH300-Ni-UB		ultra-thin 'B'	50/box
FCFTH300-Ni-UC		ultra-thin 'C'	50/box
FCFTH300-Ni-TA		thick 'A'	50/box
FCFTH300-Ni-TB		thick 'B'	50/box
FCFTH300-Ni-TC		thick 'C'	50/box
FCFTH300-Ni-EA		extra thick 'A'	50/box
FCFTH300-Ni-EB		extra thick 'B'	50/box
FCFTH300-Ni-EC		extra thick 'C'	50/box
FCFTH400-Ni-SB	400 MESH	standard 'B'	50/box
FCFTH400-Ni-SC		standard 'C'	50/box
FCFTH400-Ni-UA		ultra-thin 'A'	50/box
FCFTH400-Ni-UB		ultra-thin 'B'	50/box
FCFTH400-Ni-UC		ultra-thin 'C'	50/box
FCFTH400-Ni-TA		thick 'A'	50/box
FCFTH400-Ni-TB		thick 'B'	50/box
FCFTH400-Ni-TC		thick 'C'	50/box
FCFTH400-Ni-EA		extra thick 'A'	50/box
FCFTH400-Ni-EB		extra thick 'B'	50/box
FCFTH400-Ni-EC		extra thick 'C'	50/box
FCFTH600-Ni-SB	600 MESH	standard 'B'	50/box
FCFTH600-Ni-SC		standard 'C'	50/box
FCFTH600-Ni-UA		ultra-thin 'A'	50/box
FCFTH600-Ni-UB		ultra-thin 'B'	50/box
FCFTH600-Ni-UC		ultra-thin 'C'	50/box
FCFTH600-Ni-TA		thick 'A'	50/box
FCFTH600-Ni-TB		thick 'B'	50/box
FCFTH600-Ni-TC		thick 'C'	50/box
FCFTH600-Ni-EA		extra thick 'A'	50/box
FCFTH600-Ni-EB		extra thick 'B'	50/box
FCFTH600-Ni-EC		extra thick 'C'	50/box

Cat. #	Type	Thickness	Qty
FCFTH200-Au-SB	200 MESH	standard 'B'	50/box
FCFTH200-Au-SC		standard 'C'	50/box
FCFTH200-Au-UA		ultra-thin 'A'	50/box
FCFTH200-Au-UB		ultra-thin 'B'	50/box
FCFTH200-Au-UC		ultra-thin 'C'	50/box
FCFTH200-Au-TA		thick 'A'	50/box
FCFTH200-Au-TB		thick 'B'	50/box
FCFTH200-Au-TC		thick 'C'	50/box
FCFTH200-Au-EA		extra thick 'A'	50/box
FCFTH200-Au-EB		extra thick 'B'	50/box
FCFTH200-Au-EC		extra thick 'C'	50/box
FCFTH300-Au-SB	300 MESH	standard 'B'	50/box
FCFTH300-Au-SC		standard 'C'	50/box
FCFTH300-Au-UA		ultra-thin 'A'	50/box
FCFTH300-Au-UB		ultra-thin 'B'	50/box
FCFTH300-Au-UC		ultra-thin 'C'	50/box
FCFTH300-Au-TA		thick 'A'	50/box
FCFTH300-Au-TB		thick 'B'	50/box
FCFTH300-Au-TC		thick 'C'	50/box
FCFTH300-Au-EA		extra thick 'A'	50/box
FCFTH300-Au-EB		extra thick 'B'	50/box
FCFTH300-Au-EC		extra thick 'C'	50/box
FCFTH400-Au-SB	400 MESH	standard 'B'	50/box
FCFTH400-Au-SC		standard 'C'	50/box
FCFTH400-Au-UA		ultra-thin 'A'	50/box
FCFTH400-Au-UB		ultra-thin 'B'	50/box
FCFTH400-Au-UC		ultra-thin 'C'	50/box
FCFTH400-Au-TA		thick 'A'	50/box
FCFTH400-Au-TB		thick 'B'	50/box
FCFTH400-Au-TC		thick 'C'	50/box
FCFTH400-Au-EA		extra thick 'A'	50/box
FCFTH400-Au-EB		extra thick 'B'	50/box
FCFTH400-Au-EC		extra thick 'C'	50/box
FCFTH600-Au-SB	600 MESH	standard 'B'	50/box
FCFTH600-Au-SC		standard 'C'	50/box
FCFTH600-Au-UA		ultra-thin 'A'	50/box
FCFTH600-Au-UB		ultra-thin 'B'	50/box
FCFTH600-Au-UC		ultra-thin 'C'	50/box
FCFTH600-Au-TA		thick 'A'	50/box
FCFTH600-Au-TB		thick 'B'	50/box
FCFTH600-Au-TC		thick 'C'	50/box
FCFTH600-Au-EA		extra thick 'A'	50/box
FCFTH600-Au-EB		extra thick 'B'	50/box
FCFTH600-Au-EC		extra thick 'C'	50/box

Formvar/Carbon Slots

COPPER NICKEL GOLD

Standard Thickness

Cat. #	Type	Thickness	Qty
FCF205-Cu-25	2 x 0.5mm	standard 'A'	25/box
FCF205-Cu-50			50/box
FCF2010-Cu-25	2 x 1mm	standard 'A'	25/box
FCF2010-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FCF205-Ni-25	2 x 0.5mm	standard 'A'	25/box
FCF205-Ni-50			50/box
FCF2010-Ni-25	2 x 1mm	standard 'A'	25/box
FCF2010-Ni-50			50/box

Cat. #	Type	Thickness	Qty
FCF205-Au-25	2 x 0.5mm	standard 'A'	25/box
FCF205-Au-50			50/box
FCF2010-Au-25	2 x 1mm	standard 'A'	25/box
FCF2010-Au-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FCF205-Cu-SB	2 x 0.5mm	standard 'B'	50/box
FCF205-Cu-SC		standard 'C'	50/box
FCF205-Cu-UA		ultra-thin 'A'	50/box
FCF205-Cu-UB		ultra-thin 'B'	50/box
FCF205-Cu-UC		ultra-thin 'C'	50/box
FCF205-Cu-TA		thick 'A'	50/box
FCF205-Cu-TB		thick 'B'	50/box
FCF205-Cu-TC		thick 'C'	50/box
FCF205-Cu-EA		extra thick 'A'	50/box
FCF205-Cu-EB		extra thick 'B'	50/box
FCF205-Cu-EC		extra thick 'C'	50/box
FCF2010-Cu-SB	2 x 1mm	standard 'B'	50/box
FCF2010-Cu-SC		standard 'C'	50/box
FCF2010-Cu-UA		ultra-thin 'A'	50/box
FCF2010-Cu-UB		ultra-thin 'B'	50/box
FCF2010-Cu-UC		ultra-thin 'C'	50/box
FCF2010-Cu-TA		thick 'A'	50/box
FCF2010-Cu-TB		thick 'B'	50/box
FCF2010-Cu-TC		thick 'C'	50/box
FCF2010-Cu-EA		extra thick 'A'	50/box
FCF2010-Cu-EB		extra thick 'B'	50/box
FCF2010-Cu-EC		extra thick 'C'	50/box

Cat. #	Type	Thickness	Qty
FCF205-Ni-SB	2 x 0.5mm	standard 'B'	50/box
FCF205-Ni-SC		standard 'C'	50/box
FCF205-Ni-UA		ultra-thin 'A'	50/box
FCF205-Ni-UB		ultra-thin 'B'	50/box
FCF205-Ni-UC		ultra-thin 'C'	50/box
FCF205-Ni-TA		thick 'A'	50/box
FCF205-Ni-TB		thick 'B'	50/box
FCF205-Ni-TC		thick 'C'	50/box
FCF205-Ni-EA		extra thick 'A'	50/box
FCF205-Ni-EB		extra thick 'B'	50/box
FCF205-Ni-EC		extra thick 'C'	50/box
FCF2010-Ni-SB	2 x 1mm	standard 'B'	50/box
FCF2010-Ni-SC		standard 'C'	50/box
FCF2010-Ni-UA		ultra-thin 'A'	50/box
FCF2010-Ni-UB		ultra-thin 'B'	50/box
FCF2010-Ni-UC		ultra-thin 'C'	50/box
FCF2010-Ni-TA		thick 'A'	50/box
FCF2010-Ni-TB		thick 'B'	50/box
FCF2010-Ni-TC		thick 'C'	50/box
FCF2010-Ni-EA		extra thick 'A'	50/box
FCF2010-Ni-EB		extra thick 'B'	50/box
FCF2010-Ni-EC		extra thick 'C'	50/box

Cat. #	Type	Thickness	Qty
FCF205-Au-SB	2 x 0.5mm	standard 'B'	50/box
FCF205-Au-SC		standard 'C'	50/box
FCF205-Au-UA		ultra-thin 'A'	50/box
FCF205-Au-UB		ultra-thin 'B'	50/box
FCF205-Au-UC		ultra-thin 'C'	50/box
FCF205-Au-TA		thick 'A'	50/box
FCF205-Au-TB		thick 'B'	50/box
FCF205-Au-TC		thick 'C'	50/box
FCF205-Au-EA		extra thick 'A'	50/box
FCF205-Au-EB		extra thick 'B'	50/box
FCF205-Au-EC		extra thick 'C'	50/box
FCF2010-Au-SB	2 x 1mm	standard 'B'	50/box
FCF2010-Au-SC		standard 'C'	50/box
FCF2010-Au-UA		ultra-thin 'A'	50/box
FCF2010-Au-UB		ultra-thin 'B'	50/box
FCF2010-Au-UC		ultra-thin 'C'	50/box
FCF2010-Au-TA		thick 'A'	50/box
FCF2010-Au-TB		thick 'B'	50/box
FCF2010-Au-TC		thick 'C'	50/box
FCF2010-Au-EA		extra thick 'A'	50/box
FCF2010-Au-EB		extra thick 'B'	50/box
FCF2010-Au-EC		extra thick 'C'	50/box

Formvar/Carbon Single Hole

COPPER NICKEL

Standard Thickness

Cat. #	Type	Thickness	Qty
FCFGA75-Cu-25	75 micron	standard 'A'	25/box
FCFGA75-Cu-50			50/box
FCFGA100-Cu-25	100 micron	standard 'A'	25/box
FCFGA100-Cu-50			50/box
FCFGA150-Cu-25	150 micron	standard 'A'	25/box
FCFGA150-Cu-50			50/box
FCFGA200-Cu-25	200 micron	standard 'A'	25/box
FCFGA200-Cu-50			50/box
FCFGA300-Cu-25	300 micron	standard 'A'	25/box
FCFGA300-Cu-50			50/box
FCFGA400-Cu-25	400 micron	standard 'A'	25/box
FCFGA400-Cu-50			50/box
FCFGA600-Cu-25	600 micron	standard 'A'	25/box
FCFGA600-Cu-50			50/box
FCFGA800-Cu-25	800 micron	standard 'A'	25/box
FCFGA800-Cu-50			50/box
FCFGA1000-Cu-25	1000 micron	standard 'A'	25/box
FCFGA1000-Cu-50			50/box
FCFGA1500-Cu-25	1500 micron	standard 'A'	25/box
FCFGA1500-Cu-50			50/box

Cat. #	Type	Thickness	Qty
FCFGA75-Ni-25	75 micron	standard 'A'	25/box
FCFGA75-Ni-50			50/box
FCFGA100-Niu-25	100 micron	standard 'A'	25/box
FCFGA100-Ni-50			50/box
FCFGA150-Ni-25	150 micron	standard 'A'	25/box
FCFGA150-Ni-50			50/box
FCFGA200-Ni-25	200 micron	standard 'A'	25/box
FCFGA200-Ni-50			50/box
FCFGA300-Ni-25	300 micron	standard 'A'	25/box
FCFGA300-Ni-50			50/box
FCFGA400-Ni-25	400 micron	standard 'A'	25/box
FCFGA400-Ni-50			50/box
FCFGA600-Ni-25	600 micron	standard 'A'	25/box
FCFGA600-Ni-50			50/box
FCFGA800-Ni-25	800 micron	standard 'A'	25/box
FCFGA800-Ni-50			50/box
FCFGA1000-Ni-25	1000 micron	standard 'A'	25/box
FCFGA1000-Ni-50			50/box
FCFGA1500-Ni-25	1500 micron	standard 'A'	25/box
FCFGA1500-Ni-50			50/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
FCFGA75-Cu-SB	75 micron	standard 'B'	50/box
FCFGA75-Cu-SC		standard 'C'	50/box
FCFGA75-Cu-UA		ultra-thin 'A'	50/box
FCFGA75-Cu-UB		ultra-thin 'B'	50/box
FCFGA75-Cu-UC		ultra-thin 'C'	50/box
FCFGA75-Cu-TA		thick 'A'	50/box
FCFGA75-Cu-TB		thick 'B'	50/box
FCFGA75-Cu-TC		thick 'C'	50/box
FCFGA75-Cu-EA		extra thick 'A'	50/box
FCFGA75-Cu-EB		extra thick 'B'	50/box
FCFGA75-Cu-EC		extra thick 'C'	50/box

Cat. #	Type	Thickness	Qty
FCFGA75-Ni-SB	75 micron	standard 'B'	50/box
FCFGA75-Ni-SC		standard 'C'	50/box
FCFGA75-Ni-UA		ultra-thin 'A'	50/box
FCFGA75-Ni-UB		ultra-thin 'B'	50/box
FCFGA75-Ni-UC		ultra-thin 'C'	50/box
FCFGA75-Ni-TA		thick 'A'	50/box
FCFGA75-Ni-TB		thick 'B'	50/box
FCFGA75-Ni-TC		thick 'C'	50/box
FCFGA75-Ni-EA		extra thick 'A'	50/box
FCFGA75-Ni-EB		extra thick 'B'	50/box
FCFGA75-Ni-EC		extra thick 'C'	50/box

■ Formvar/Carbon Single Hole (continued)

NEW Thickness Ranges (continued)

COPPER NICKEL

Cat. #	Type	Thickness	Qty	Cat. #	Type	Thickness	Qty
FCFGA100-Cu-SB	100 micron	standard 'B'	50/box	FCFGA100-Ni-SB	100 micron	standard 'B'	50/box
FCFGA100-Cu-SC		standard 'C'	50/box	FCFGA100-Ni-SC		standard 'C'	50/box
FCFGA100-Cu-UA		ultra-thin 'A'	50/box	FCFGA100-Ni-UA		ultra-thin 'A'	50/box
FCFGA100-Cu-UB		ultra-thin 'B'	50/box	FCFGA100-Ni-UB		ultra-thin 'B'	50/box
FCFGA100-Cu-UC		ultra-thin 'C'	50/box	FCFGA100-Ni-UC		ultra-thin 'C'	50/box
FCFGA100-Cu-TA		thick 'A'	50/box	FCFGA100-Ni-TA		thick 'A'	50/box
FCFGA100-Cu-TB		thick 'B'	50/box	FCFGA100-Ni-TB		thick 'B'	50/box
FCFGA100-Cu-TC		thick 'C'	50/box	FCFGA100-Ni-TC		thick 'C'	50/box
FCFGA100-Cu-EA		extra thick 'A'	50/box	FCFGA100-Ni-EA		extra thick 'A'	50/box
FCFGA100-Cu-EB		extra thick 'B'	50/box	FCFGA100-Ni-EB		extra thick 'B'	50/box
FCFGA100-Cu-EC		extra thick 'C'	50/box	FCFGA100-Ni-EC		extra thick 'C'	50/box
FCFGA150-Cu-SB	150 micron	standard 'B'	50/box	FCFGA150-Ni-SB	150 micron	standard 'B'	50/box
FCFGA150-Cu-SC		standard 'C'	50/box	FCFGA150-Ni-SC		standard 'C'	50/box
FCFGA150-Cu-UA		ultra-thin 'A'	50/box	FCFGA150-Ni-UA		ultra-thin 'A'	50/box
FCFGA150-Cu-UB		ultra-thin 'B'	50/box	FCFGA150-Ni-UB		ultra-thin 'B'	50/box
FCFGA150-Cu-UC		ultra-thin 'C'	50/box	FCFGA150-Ni-UC		ultra-thin 'C'	50/box
FCFGA150-Cu-TA		thick 'A'	50/box	FCFGA150-Ni-TA		thick 'A'	50/box
FCFGA150-Cu-TB		thick 'B'	50/box	FCFGA150-Ni-TB		thick 'B'	50/box
FCFGA150-Cu-TC		thick 'C'	50/box	FCFGA150-Ni-TC		thick 'C'	50/box
FCFGA150-Cu-EA		extra thick 'A'	50/box	FCFGA150-Ni-EA		extra thick 'A'	50/box
FCFGA150-Cu-EB		extra thick 'B'	50/box	FCFGA150-Ni-EB		extra thick 'B'	50/box
FCFGA150-Cu-EC		extra thick 'C'	50/box	FCFGA150-Ni-EC		extra thick 'C'	50/box
FCFGA200-Cu-SB	200 micron	standard 'B'	50/box	FCFGA200-Ni-SB	200 micron	standard 'B'	50/box
FCFGA200-Cu-SC		standard 'C'	50/box	FCFGA200-Ni-SC		standard 'C'	50/box
FCFGA200-Cu-UA		ultra-thin 'A'	50/box	FCFGA200-Ni-UA		ultra-thin 'A'	50/box
FCFGA200-Cu-UB		ultra-thin 'B'	50/box	FCFGA200-Ni-UB		ultra-thin 'B'	50/box
FCFGA200-Cu-UC		ultra-thin 'C'	50/box	FCFGA200-Ni-UC		ultra-thin 'C'	50/box
FCFGA200-Cu-TA		thick 'A'	50/box	FCFGA200-Ni-TA		thick 'A'	50/box
FCFGA200-Cu-TB		thick 'B'	50/box	FCFGA200-Ni-TB		thick 'B'	50/box
FCFGA200-Cu-TC		thick 'C'	50/box	FCFGA200-Ni-TC		thick 'C'	50/box
FCFGA200-Cu-EA		extra thick 'A'	50/box	FCFGA200-Ni-EA		extra thick 'A'	50/box
FCFGA200-Cu-EB		extra thick 'B'	50/box	FCFGA200-Ni-EB		extra thick 'B'	50/box
FCFGA200-Cu-EC		extra thick 'C'	50/box	FCFGA200-Ni-EC		extra thick 'C'	50/box
FCFGA300-Cu-SB	300 micron	standard 'B'	50/box	FCFGA300-Ni-SB	300 micron	standard 'B'	50/box
FCFGA300-Cu-SC		standard 'C'	50/box	FCFGA300-Ni-SC		standard 'C'	50/box
FCFGA300-Cu-UA		ultra-thin 'A'	50/box	FCFGA300-Ni-UA		ultra-thin 'A'	50/box
FCFGA300-Cu-UB		ultra-thin 'B'	50/box	FCFGA300-Ni-UB		ultra-thin 'B'	50/box
FCFGA300-Cu-UC		ultra-thin 'C'	50/box	FCFGA300-Ni-UC		ultra-thin 'C'	50/box
FCFGA300-Cu-TA		thick 'A'	50/box	FCFGA300-Ni-TA		thick 'A'	50/box
FCFGA300-Cu-TB		thick 'B'	50/box	FCFGA300-Ni-TB		thick 'B'	50/box
FCFGA300-Cu-TC		thick 'C'	50/box	FCFGA300-Ni-TC		thick 'C'	50/box
FCFGA300-Cu-EA		extra thick 'A'	50/box	FCFGA300-Ni-EA		extra thick 'A'	50/box
FCFGA300-Cu-EB		extra thick 'B'	50/box	FCFGA300-Ni-EB		extra thick 'B'	50/box
FCFGA300-Cu-EC		extra thick 'C'	50/box	FCFGA300-Ni-EC		extra thick 'C'	50/box
FCFGA400-Cu-SB	400 micron	standard 'B'	50/box	FCFGA400-Ni-SB	400 micron	standard 'B'	50/box
FCFGA400-Cu-SC		standard 'C'	50/box	FCFGA400-Ni-SC		standard 'C'	50/box
FCFGA400-Cu-UA		ultra-thin 'A'	50/box	FCFGA400-Ni-UA		ultra-thin 'A'	50/box
FCFGA400-Cu-UB		ultra-thin 'B'	50/box	FCFGA400-Ni-UB		ultra-thin 'B'	50/box
FCFGA400-Cu-UC		ultra-thin 'C'	50/box	FCFGA400-Ni-UC		ultra-thin 'C'	50/box
FCFGA400-Cu-TA		thick 'A'	50/box	FCFGA400-Ni-TA		thick 'A'	50/box
FCFGA400-Cu-TB		thick 'B'	50/box	FCFGA400-Ni-TB		thick 'B'	50/box
FCFGA400-Cu-TC		thick 'C'	50/box	FCFGA400-Ni-TC		thick 'C'	50/box
FCFGA400-Cu-EA		extra thick 'A'	50/box	FCFGA400-Ni-EA		extra thick 'A'	50/box
FCFGA400-Cu-EB		extra thick 'B'	50/box	FCFGA400-Ni-EB		extra thick 'B'	50/box
FCFGA400-Cu-EC		extra thick 'C'	50/box	FCFGA400-Ni-EC		extra thick 'C'	50/box

continues »»»

■ Formvar/Carbon Single Hole (continued)

COPPER NICKEL

NEW Thickness Ranges (continued)

Cat. #	Type	Thickness	Qty	Cat. #	Type	Thickness	Qty
FCFGA600-Cu-SB	600 micron	standard 'B'	50/box	FCFGA600-Ni-SB	600 micron	standard 'B'	50/box
FCFGA600-Cu-SC		standard 'C'	50/box	FCFGA600-Ni-SC		standard 'C'	50/box
FCFGA600-Cu-UA		ultra-thin 'A'	50/box	FCFGA600-Ni-UA		ultra-thin 'A'	50/box
FCFGA600-Cu-UB		ultra-thin 'B'	50/box	FCFGA600-Ni-UB		ultra-thin 'B'	50/box
FCFGA600-Cu-UC		ultra-thin 'C'	50/box	FCFGA600-Ni-UC		ultra-thin 'C'	50/box
FCFGA600-Cu-TA		thick 'A'	50/box	FCFGA600-Ni-TA		thick 'A'	50/box
FCFGA600-Cu-TB		thick 'B'	50/box	FCFGA600-Ni-TB		thick 'B'	50/box
FCFGA600-Cu-TC		thick 'C'	50/box	FCFGA600-Ni-TC		thick 'C'	50/box
FCFGA600-Cu-EA		extra thick 'A'	50/box	FCFGA600-Ni-EA		extra thick 'A'	50/box
FCFGA600-Cu-EB		extra thick 'B'	50/box	FCFGA600-Ni-EB		extra thick 'B'	50/box
FCFGA600-Cu-EC		extra thick 'C'	50/box	FCFGA600-Ni-EC		extra thick 'C'	50/box
FCFGA800-Cu-SB	800 micron	standard 'B'	50/box	FCFGA800-Ni-SB	800 micron	standard 'B'	50/box
FCFGA800-Cu-SC		standard 'C'	50/box	FCFGA800-Ni-SC		standard 'C'	50/box
FCFGA800-Cu-UA		ultra-thin 'A'	50/box	FCFGA800-Ni-UA		ultra-thin 'A'	50/box
FCFGA800-Cu-UB		ultra-thin 'B'	50/box	FCFGA800-Ni-UB		ultra-thin 'B'	50/box
FCFGA800-Cu-UC		ultra-thin 'C'	50/box	FCFGA800-Ni-UC		ultra-thin 'C'	50/box
FCFGA800-Cu-TA		thick 'A'	50/box	FCFGA800-Ni-TA		thick 'A'	50/box
FCFGA800-Cu-TB		thick 'B'	50/box	FCFGA800-Ni-TB		thick 'B'	50/box
FCFGA800-Cu-TC		thick 'C'	50/box	FCFGA800-Ni-TC		thick 'C'	50/box
FCFGA800-Cu-EA		extra thick 'A'	50/box	FCFGA800-Ni-EA		extra thick 'A'	50/box
FCFGA800-Cu-EB		extra thick 'B'	50/box	FCFGA800-Ni-EB		extra thick 'B'	50/box
FCFGA800-Cu-EC		extra thick 'C'	50/box	FCFGA800-Ni-EC		extra thick 'C'	50/box
FCFGA1000-Cu-SB	1000 micron	standard 'B'	50/box	FCFGA1000-Ni-SB	1000 micron	standard 'B'	50/box
FCFGA1000-Cu-SC		standard 'C'	50/box	FCFGA1000-Ni-SC		standard 'C'	50/box
FCFGA1000-Cu-UA		ultra-thin 'A'	50/box	FCFGA1000-Ni-UA		ultra-thin 'A'	50/box
FCFGA1000-Cu-UB		ultra-thin 'B'	50/box	FCFGA1000-Ni-UB		ultra-thin 'B'	50/box
FCFGA1000-Cu-UC		ultra-thin 'C'	50/box	FCFGA1000-Ni-UC		ultra-thin 'C'	50/box
FCFGA1000-Cu-TA		thick 'A'	50/box	FCFGA1000-Ni-TA		thick 'A'	50/box
FCFGA1000-Cu-TB		thick 'B'	50/box	FCFGA1000-Ni-TB		thick 'B'	50/box
FCFGA1000-Cu-TC		thick 'C'	50/box	FCFGA1000-Ni-TC		thick 'C'	50/box
FCFGA1000-Cu-EA		extra thick 'A'	50/box	FCFGA1000-Ni-EA		extra thick 'A'	50/box
FCFGA1000-Cu-EB		extra thick 'B'	50/box	FCFGA1000-Ni-EB		extra thick 'B'	50/box
FCFGA1000-Cu-EC		extra thick 'C'	50/box	FCFGA1000-Ni-EC		extra thick 'C'	50/box
FCFGA1500-Cu-SB	1500 micron	standard 'B'	50/box	FCFGA1500-Ni-SB	1500 micron	standard 'B'	50/box
FCFGA1500-Cu-SC		standard 'C'	50/box	FCFGA1500-Ni-SC		standard 'C'	50/box
FCFGA1500-Cu-UA		ultra-thin 'A'	50/box	FCFGA1500-Ni-UA		ultra-thin 'A'	50/box
FCFGA1500-Cu-UB		ultra-thin 'B'	50/box	FCFGA1500-Ni-UB		ultra-thin 'B'	50/box
FCFGA1500-Cu-UC		ultra-thin 'C'	50/box	FCFGA1500-Ni-UC		ultra-thin 'C'	50/box
FCFGA1500-Cu-TA		thick 'A'	50/box	FCFGA1500-Ni-TA		thick 'A'	50/box
FCFGA1500-Cu-TB		thick 'B'	50/box	FCFGA1500-Ni-TB		thick 'B'	50/box
FCFGA1500-Cu-TC		thick 'C'	50/box	FCFGA1500-Ni-TC		thick 'C'	50/box
FCFGA1500-Cu-EA		extra thick 'A'	50/box	FCFGA1500-Ni-EA		extra thick 'A'	50/box
FCFGA1500-Cu-EB		extra thick 'B'	50/box	FCFGA1500-Ni-EB		extra thick 'B'	50/box
FCFGA1500-Cu-EC		extra thick 'C'	50/box	FCFGA1500-Ni-EC		extra thick 'C'	50/box

■ 4. Formvar/Silicon Monoxide

A formvar film stabilized with a thin film of Silicon Monoxide. Silicon Monoxide produces a desirable support film because it offers low background contrast and it is stable under the electron beam and it is more hydrophilic than carbon film.

Cat. #	Type	Qty	Cat. #	Type	Qty
FSF200-Cu	200 mesh	50/box	FSF200-Ni	200 mesh	50/box
FSF300-Cu	300 mesh	50/box	FSF300-Ni	300 mesh	50/box
FSF400-Cu	400 mesh	50/box	FSF400-Ni	400 mesh	50/box

■ 5. Silicon Monoxide Film Only

A thin film of pure Silicon Monoxide (15–30 nm) is deposited directly on top of the grid.

Cat. #	Type	Qty	Cat. #	Type	Qty
SF200-Cu	200 mesh	50/box	SF200-Ni	200 mesh	50/box
SF300-Cu	300 mesh	50/box	SF300-Ni	300 mesh	50/box
SF400-Cu	400 mesh	50/box	SF400-Ni	400 mesh	50/box

6. Lacey Carbon Film

This carbon coated film on a broken pattern consists of woven-mesh-like holes of different sizes and shapes. Average hole sizes are 50, 100 and 150 microns. This type of pattern provides support but does not interfere when observing specimen sections.

Cat. #	Type	Thickness	Qty
LC200-Cu	200 MESH	50 micron	5/box
LC200-Cu-25			25/box
LC300-Cu	300 MESH	50 micron	5/box
LC325-Cu			25/box
LC400-Cu	400 MESH	50 micron	5/box
LC400-Cu-25			25/box

Cat. #	Type	Thickness	Qty
LC200-Ni	200 MESH	50 micron	5/box
LC200-Ni-25			25/box
LC305-Ni	300 MESH	50 micron	5/box
LC325-Ni			25/box
LC400-Ni	400 MESH	50 micron	5/box
LC400-Ni-25			25/box

Cat. #	Type	Thickness	Qty
LC200-Au	200 MESH	50 micron	5/box
LC200-Au-25			25/box
LC300-Au	300 MESH	50 micron	5/box
LC325-Au			25/box
LC400-Au	400 MESH	50 micron	5/box
LC400-Au-25			25/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
LC200-Cu-100	200 MESH	100 micron	25/box
LC200-Cu-150		150 micron	25/box
LC300-Cu-100	300 MESH	100 micron	25/box
LC300-Cu-150		150 micron	25/box
LC400-Cu-100	400 MESH	100 micron	25/box
LC400-Cu-150		150 micron	25/box

Cat. #	Type	Thickness	Qty
LC200-Ni-100	200 MESH	100 micron	25/box
LC200-Ni-150		150 micron	25/box
LC300-Ni-100	300 MESH	100 micron	25/box
LC300-Ni-150		150 micron	25/box
LC400-Ni-100	400 MESH	100 micron	25/box
LC400-Ni-150		150 micron	25/box

Cat. #	Type	Thickness	Qty
LC200-Au-100	200 MESH	100 micron	25/box
LC200-Au-150		150 micron	25/box
LC300-Au-100	300 MESH	100 micron	25/box
LC300-Au-150		150 micron	25/box
LC400-Au-100	400 MESH	100 micron	25/box
LC400-Au-150		150 micron	25/box

7. NEW Lacey Formvar with Carbon Film

This formvar and carbon coated film on a broken pattern consists of woven-mesh-like holes of different sizes and shapes. Average hole sizes are 50, 100 and 150 microns. This type of pattern provides support but does not interfere when observing specimen sections.

Cat. #	Type	Thickness	Qty
LFC200-Cu-50		50 micron	25/bx
LFC200-Cu-100	200 MESH	100 micron	25/bx
LFC200-Cu-150		150 micron	25/bx
LFC300-Cu-50		50 micron	25/bx
LFC300-Cu-100	300 MESH	100 micron	25/bx
LFC300-Cu-150		150 micron	25/bx
LFC400-Cu-50		50 micron	25/bx
LFC400-Cu-100	400 MESH	100 micron	25/bx
LFC400-Cu-150		150 micron	25/bx

Cat. #	Type	Thickness	Qty
LFC200-Ni-50		50 micron	25/bx
LFC200-Ni-100	200 MESH	100 micron	25/bx
LFC200-Ni-150		150 micron	25/bx
LFC300-Ni-50		50 micron	25/bx
LFC300-Ni-100	300 MESH	100 micron	25/bx
LFC300-Ni-150		150 micron	25/bx
LFC400-Ni-50		50 micron	25/bx
LFC400-Ni-100	400 MESH	100 micron	25/bx
LFC400-Ni-150		150 micron	25/bx

Cat. #	Type	Thickness	Qty
LFC200-Au-50		50 micron	25/bx
LFC200-Au-100	200 MESH	100 micron	25/bx
LFC200-Au-150		150 micron	25/bx
LFC300-Au-50		50 micron	25/bx
LFC300-Au-100	300 MESH	100 micron	25/bx
LFC300-Au-150		150 micron	25/bx
LFC400-Au-50		50 micron	25/bx
LFC400-Au-100	400 MESH	100 micron	25/bx
LFC400-Au-150		150 micron	25/bx

8. Holey Carbon Film

A thin piece of carbon. The average hole sizes are 50, 100 and 150 microns.

Cat. #	Type	Qty
HC200-Cu	200 MESH	25/box
HC300-Cu	300 MESH	25/box
HC400-Cu	400 MESH	25/box

Cat. #	Type	Qty
HC200-Ni	200 MESH	25/box
HC300-Ni	300 MESH	25/box
HC400-Ni	400 MESH	25/box

Cat. #	Type	Qty
HC200-Au	200 MESH	25/box
HC300-Au	300 MESH	25/box
HC400-Au	400 MESH	25/box

NEW Thickness Ranges

Cat. #	Type	Thickness	Qty
HC200-Cu-100	200 MESH	100 micron	25/box
HC200-Cu-150		150 micron	25/box
HC300-Cu-100	300 MESH	100 micron	25/box
HC300-Cu-150		150 micron	25/box
HC400-Cu-100	400 MESH	100 micron	25/box
HC400-Cu-150		150 micron	25/box

Cat. #	Type	Thickness	Qty
HC200-Ni-100	200 MESH	100 micron	25/box
HC200-Ni-150		150 micron	25/box
HC300-Ni-100	300 MESH	100 micron	25/box
HC300-Ni-150		150 micron	25/box
HC400-Ni-100	400 MESH	100 micron	25/box
HC400-Ni-150		150 micron	25/box

Cat. #	Type	Thickness	Qty
HC200-Au-100	200 MESH	100 micron	25/box
HC200-Au-150		150 micron	25/box
HC300-Au-100	300 MESH	100 micron	25/box
HC300-Au-150		150 micron	25/box
HC400-Au-100	400 MESH	100 micron	25/box
HC400-Au-150		150 micron	25/box

9. Beryllium Support Films

A deposition of 250 Angstroms thick Beryllium onto the 0.005" thick, 25x25mm squares of a Cu substrate. The Be can be removed by dissolving the substrate in nitric acid (50:50). The Be film will then be removed from the acid, washed in distilled water and mounted on TEM grids. A Be support film will reduce background interference to a minimum and it is particularly useful where analyses for C or Si are required, so that these alternative supports cannot be used. Another advantage of the Be support is its very fine grain size which produces a very sharp ring pattern for in-situ calibration.

Cat #	Description	Qty
76030	Beryllium Support Film, 25x25mm	each

C-flat™ Holey Carbon Grids for Cryo-TEM

The premier holey carbon grid for cryo-transmission electron microscopy

Overview

C-flat™ is an ultra-flat, holey carbon-coated TEM support grid for transmission electron microscopy (TEM). Unlike competing holey carbon films, C-flat™ is manufactured without plastics, so it is clean upon arrival and the user has no residue to contend with.

The C-flat™ Advantage

C-flat™ leads to better data sets.

Made with patent pending technology, C-flat™ provides an ultra-flat surface that results in better particle dispersion and more uniform ice thickness. Patterning is done using deep-UV projection lithography, ensuring the most accurate and consistent hole shapes and sizes down to submicron features. The precise methods by which C-flat™ is manufactured elminate artifacts such as excess carbon and edges around holes.

C-flat™ is affordable

C-flat™ is available in 25, 50, and 100 packs at a per-grid price less than competing products.

Applications

C-flat™ holey carbon grids provide the ideal specimen support to achieve high resolution data in cryo-TEM making them an ideal choice for single particle analysis, cryo electron tomography and automated TEM analysis.

Cryo-electron tomography (cryoET) and Single Particle Analysis (SPA):

Numerous researchers have reported that the ultra-flat surface of C-flat™ leads to even ice thickness and uniform particle distribution within the hole areas. This optimal particle distribution results in superior data being collected as compared with other holey support films. 2µm hole sizes are standard but custom hole sizes are available so C-flat™ can accommodate the common magnifications used for quantitative TEM analysis.

Automated TEM:

C-flat™ provides a regular array of analysis sites compatible with automated data collection software such as Leginon. This compatibility, in combination with the more uniform ice thickness and particle distribution reported by numerous researchers, results in more high-quality target sites per grid.

Publications using C-flat™:

Does contamination buildup limit through put for automated cryoEM? , Journal of Structural Biology, Volume 154, Issue 3, June 2006, Pages 303-311 Anchi Cheng, Denis Fellmann, James Pulokas, Clinton S. Potter and Bridget Carragher

Automated cryoEM data acquisition and analysis of 284 742 particles of GroEL , Journal of Structural Biology, In Press, Uncorrected Proof, Available online 22 May 2006, Scott M. Stagg, Gabriel C. Lander, James Pulokas, Denis Fellmann, Anchi Cheng, Joel D. Quispe, Satya P. Mallick, Radomir M. Avila, Bridget Carragher and Clinton S. Potter

Product Line

C-flat™ is a holey carbon film supported by a standard TEM grid. C-flat™ products are fully specified by 4 parameters: the hole diameter and pitch of the holey carbon film and the material type and mesh size of the TEM grid. The following image illustrates these parameters:

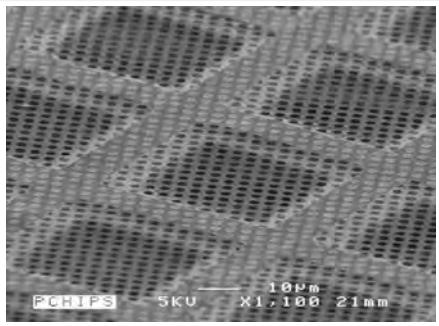
Standard Products

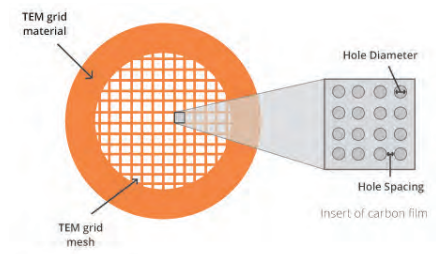
The breadth of applications in cryoTEM necessitate a wide range of holey carbon film patterns. And now, with the recent expansion of the product line, a C-flat™ holey carbon film is available for almost any application. Whether 600nm holes are needed for very high magnifications with ultra-high resolution cameras or large open areas are needed for larger specimens, C-flat™ is the perfect holey carbon grid.

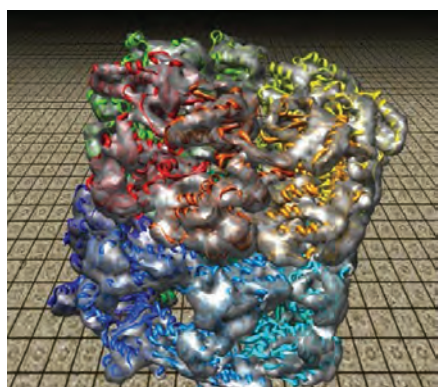
C-flat™ is immediately available in several standard array patterns including hole diameters/hole spacings of 0.6/2, 1/1, 1/2, 1/4, 1.2/1.3, 2/1, 2/2, 2/4, 4/2, and a multihole pattern. C-flat™ is supported by your choice of a 200 mesh or 400 mesh copper TEM grid and sold in quantities of 25, 50, or 100.

Thick Products

C-Flat™ is available in a thick option that doubles the carbon thickness from approximately 20nm to 40nm. Thick C-flat product numbers end in -T, catalog numbers contain “CFT”. Available in quantities of 50 and 100 per pack.







250,000 particles of GroEL in 24 hours.
Image Courtesy of Scott Stagg and Mike Pique NRAMM, The Scripps Research Institute (data acquired on CF-2/2-4C)

Articles

An improved holey carbon film for cryo-electron microscopy. Quispe J, Damiano J, Mick SE, Nackashi DP, Fellmann D, Ajero TG, Carragher B, Potter CS, (2007). Microscopy and microanalysis, 13(5), 365-371.

Improving the technique of vitreous cryo-sectioning for cryo-electron tomography: electrostatic charging for section attachment and implementation of an anti-contamination glove box. Pierson J, Fernández JJ, Bos E, Amini S, Gnaegi H, Vos M, Bel B, Adolfsen F, Carrascosa JL, Peters PJ., J Struct Biol. 2010 Feb;169(2): 219-25. Epub 2009 Oct 12.

Cryo Preparation Using C-flat™

Product Overview

C-flat™ is a holey carbon support film, manufactured using a patent pending semiconductor-based technology without plastics, resists or other soft materials. As a result, the carbon films are flat, uniform and free of residues or plastics. C-flat™ is designed to be an "out of the box" solution, and should require minimal sample preparation. Extensive plasma cleaning is not needed, and could potentially thin the carbon, making it too fragile for blotting or freezing.

Plasma Preparation

If you are using C-flat™ for the first time, it is recommended that no plasma preparation be used initially. As with any carbon film, plasma preparation is sometimes necessary to make the surface more hydrophilic. If your initial results dictate making the films more hydrophilic, below are some guidelines for preparation using several common systems.

Fischione Model 1020

- 25% Oxygen/75% Argon
- Use 5 grid holder and dampening shield
- Plasma clean grids for 10-30 seconds

Note: It is recommended that the dampening shield be used when cleaning C-flat™ using the Fischione Model 1020 plasma cleaner. The shield will dampen the effect of the plasma, reducing the erosion rate of the carbon while allowing the film to become more hydrophilic.

Gatan Solarus™

- 25% Oxygen/75% Argon
- Place grids on a support (e.g. glass slide)
- Set slide in the bottom of the chamber
- Set RF power to 25 watts
- Plasma clean grids for 10-20 seconds

Glow Discharge

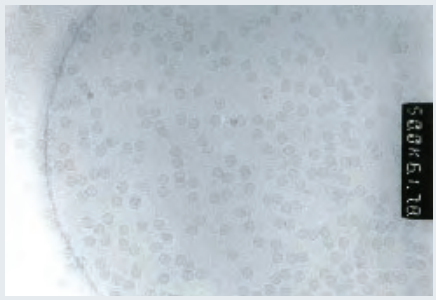
These systems vary widely depending on the manufacturer. Typically, keep the glow from the plasma dim and the clean time approximately 10-30 seconds.

Plunge Freezing

Recommended settings for plunge freezing with the Vitrobot™

- **Temperature:** 4°C
- **Humidity:** 100% (can vary between 90–100%)
- **Blot Time:** 3-5 seconds
- **Volume on Grid:** 3µL (can vary)
- **Drain Time:** 0 seconds
- **Offset:** 0 for regular samples, –1 for viscous

When using the Vitrobot™, it is recommended that the filter paper be changed regularly (generally after freezing 4-5 grids or 10 minutes, whichever comes first.) The filter paper can become saturated in the high humidity environment of the chamber.



Frozen-Hydrated Bacteriophange Capsid
(data acquired on CF-1.2/1.3-4C)

Working with Viscous Samples

Generally, lowering the volume of solution on the grid can help to eliminate the need for multiple blots, which can damage the carbon film. As little as 1µL of solution can cover a 3mm grid area if the pipette tip is used to spread the drop, but reducing the volume to 1.5 or 2.0µL will help as well. Once the sample is on the grid, it should be blotted within a few minutes before further evaporation occurs. If a Vitrobot™ is used, changing the offset from 0mm to -1 or -2mm can also help.

Hydrophilicity/Hydrophobicity

Increasing the hydrophilicity of the carbon film will help a droplet spread evenly over the carbon, rather than pool on the surface. The most common method for achieving this is by plasma or glow discharge; recommended settings for various equipment are given. Keep in mind that C-flat™ is manufactured without any plastics or soft materials in the process, therefore plasma or glow discharge steps are only needed to make the surface more hydrophilic, not to clean. For this reason, a lower power and time is generally used.

Adding Carbon to C-flat™

Many C-flat™ parts are now offered in both the standard as well as a thicker carbon film, designed to give each lab the option to choose not only the most appropriate hole geometry and size, but also the ideal carbon thickness for their application. In addition, carbon can be added to C-flat™ either to thicken the existing hole pattern, or as a thin continuous overlay across the hole pattern. Overlays are often used when particles have a strong affinity towards the carbon material.

Keeping the Carbon Intact

C-flat™ is designed to be an “out of the box” solution. Extensive sample preparation steps are generally not required, and often carbon that is torn or broken is a sign of plasma cleaning that is too long and/or at too high a power setting. Please refer to the suggestions on plasma cleaner settings, as well as on working with viscous samples.

Publications using C-flat™:

Near-atomic resolution using electron cryomicroscopy and single-particle reconstruction. Proceedings of the National Academy of Sciences, Volume 105, Number 6, pp. 1867-1872, 2008. X. Zhang, E. Settembre, C. Xu, P. R. Dormitzer, R. Bellamy, S. C. Harrison, and N. Grigorieff

Preparation of macromolecular complexes for cryo-electron microscopy. Nature Protocols, Volume 2, pp. 3239 - 3246, 2007. R. A. Grassucci, D. J. Taylor, and J. Frank

Segrosome structure revealed by a complex of ParR with centromere DNA. Nature, Volume 450, pp. 1268-1271, 2007. M. A. Schumacher, T. C. Glover, A. J. Brzoska, S. O. Jensen, T. D. Dunham, R. A. Skurray and N. Firth

Automation of random canonical tilt and orthogonal tilt data collection using feature-based correlation. Journal of Structural Biology, Volume 159, Issue 3, pp. 335-346, September 2007. C. Yoshioka, J. Pulokas, D. Fellmann, C. S. Potter, R. A. Milligan and B. Carragher

Automated cryoEM data acquisition and analysis of 284 742 particles of GroEL. Journal of Structural Biology, Volume 155, Issue 3, pp. 470-481, September 2006. S. M. Stagg, G. C. Lander, J. Pulokas, D.s Fellmann, A. Cheng, J. D. Quispe, S. P. Mallick, R. M. Avila, B. Carragher and C. S. Potter

Contamination buildup limit throughput for automated cryoEM? Journal of Structural Biology, Volume 154, Issue 3, pp. 303-311, June 2006. A. Cheng, D. Fellmann, J. Pulokas, C. S. Potter and B. Carragher

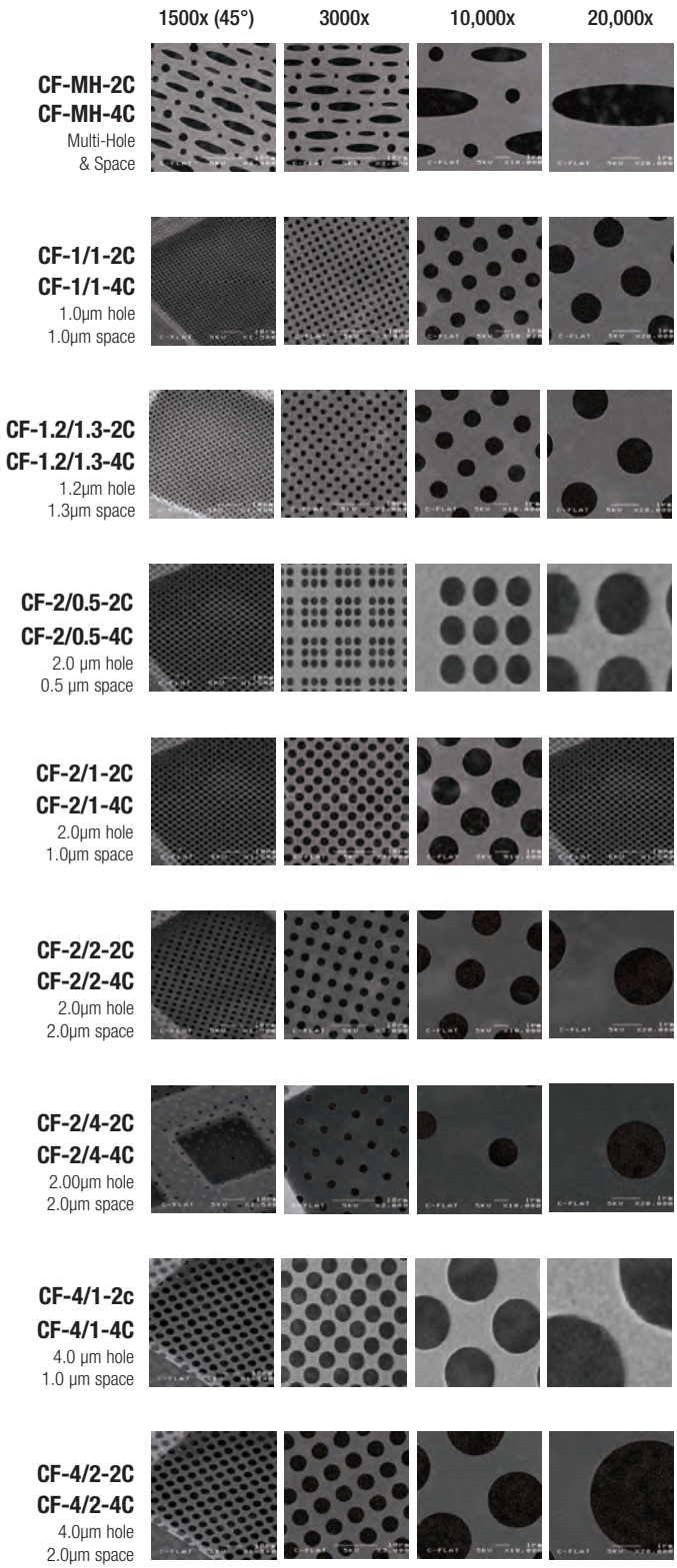
Plunging Tweezers for the CP3 (Cryoplunge™3)

Custom tweezers specifically made to fit the Gatan Cryoplunge™ an instrument used in the preparation of frozen hydrated specimens for cryoEM.

CP3690	Plunging Tweezers	each

Ordering Information:

C-flat™ mounted on a stub using carbon tape and imaged with a Field Emission Scanning Electron Microscope



C-flat™ Holey Carbon Grids for TEM - Copper Only

Product Code	Cat. #	Hole Size	Hole Spacing	TEM Mesh	TEM Grid	Qty.
CF-1.2/1.3-2C	**CF213-25**	1.2 µm	1.3 µm	200	Cu	25/pk.
	CF213-50	1.2 µm	1.3 µm	200	Cu	50/pk.
	CF213-100	1.2 µm	1.3 µm	200	Cu	100/pk.
CF-1.2/1.3-4C	**CF413-25**	1.2 µm	1.3 µm	400	Cu	25/pk.
	CF413-50	1.2 µm	1.3 µm	400	Cu	50/pk.
	CF413-100	1.2 µm	1.3 µm	400	Cu	100/pk.
CF-2/0.5-2C	**CF205-25**	2.0 µm	0.5 µm	200	Cu	25/pk
	CF205-50	2.0 µm	0.5 µm	200	Cu	50/pk
	CF205-100	2.0 µm	0.5 µm	200	Cu	100/pk
CF-2/0.5-4C	**CF405-25**	2.0 µm	0.5 µm	400	Cu	25/pk
	CF405-50	2.0 µm	0.5 µm	400	Cu	50/pk
	CF405-100	2.0 µm	0.5 µm	400	Cu	100/pk
CF-2/1-2C	**CF212-25**	2.0 µm	1.0 µm	200	Cu	25/pk.
	CF212-50	2.0 µm	1.0 µm	200	Cu	50/pk.
	CF212-100	2.0 µm	1.0 µm	200	Cu	100/pk.
CF-2/1-4C	**CF412-25**	2.0 µm	1.0 µm	400	Cu	25/pk.
	CF412-50	2.0 µm	1.0 µm	400	Cu	50/pk.
	CF412-100	2.0 µm	1.0 µm	400	Cu	100/pk.
CF-2/2-2C	**CF-222C-25**	2.0 µm	2.0 µm	200	Cu	25/pk.
	CF-222C-50	2.0 µm	2.0 µm	200	Cu	50/pk.
	CF-222C-100	2.0 µm	2.0 µm	200	Cu	100/pk.
CF-2/2-4C	**CF-224C-25**	2.0 µm	2.0 µm	400	Cu	25/pk.
	CF-224C-50	2.0 µm	2.0 µm	400	Cu	50/pk.
	CF-224C-100	2.0 µm	2.0 µm	400	Cu	100/pk.
CF-2/4-2C	**CF242-25**	2.0 µm	4.0 µm	200	Cu	25/pk.
	CF242-50	2.0 µm	4.0 µm	200	Cu	50/pk.
	CF242-100	2.0 µm	4.0 µm	200	Cu	100/pk.
CF-2/4-4C	**CF442-25**	2.0 µm	4.0 µm	400	Cu	25/pk.
	CF442-50	2.0 µm	4.0 µm	400	Cu	50/pk.
	CF442-100	2.0 µm	4.0 µm	400	Cu	100/pk.
CF-4/1-2C	**CF241-25**	4.0 µm	1.0 µm	200	Cu	25/pk
	CF241-50	4.0 µm	1.0 µm	200	Cu	50/pk
	CF241-100	4.0 µm	1.0 µm	200	Cu	100/pk
CF-4/1-4C	**CF441-25**	4.0 µm	1.0 µm	400	Cu	25/pk
	CF441-50	4.0 µm	1.0 µm	400	Cu	50/pk
	CF441-100	4.0 µm	1.0 µm	400	Cu	100/pk
CF-4/2-2C	**CF422-25**	4.0 µm	2.0 µm	200	Cu	25/pk.
	CF422-50	4.0 µm	2.0 µm	200	Cu	50/pk.
	CF422-100	4.0 µm	2.0 µm	200	Cu	100/pk.
CF-4/2-4C	**CF424-25**	4.0 µm	2.0 µm	400	Cu	25/pk.
	CF424-50	4.0 µm	2.0 µm	400	Cu	50/pk.
	CF424-100	4.0 µm	2.0 µm	400	Cu	100/pk.
CF-MH-2C	**CF2MH-25**	Multihole*	—	200	Cu	25/pk.
	CF2MH-50	Multihole*	—	200	Cu	50/pk.
	CF2MH-100	Multihole*	—	200	Cu	100/pk.
CF-MH-4C	**CF4MH-25**	Multihole*	—	400	Cu	25/pk.
	CF4MH-50	Multihole*	—	400	Cu	50/pk.
	CF4MH-100	Multihole*	—	400	Cu	100/pk
CF-1/1-2C	**CF21-25**	1.0 µm	1.0 µm	200	Cu	25/pk.
	CF21-50	1.0 µm	1.0 µm	200	Cu	50/pk.
	CF21-100	1.0 µm	1.0 µm	200	Cu	100/pk.
CF-1/1-4C	**CF41-25**	1.0 µm	1.0 µm	400	Cu	25/pk.
	CF41-50	1.0 µm	1.0 µm	400	Cu	50/pk.
	CF41-100	1.0 µm	1.0 µm	400	Cu	100/pk.

* The Multihole device has a staggered pattern of six features consisting of three circle patterns of 1 micron, 1.4 micron and 2 micron diameter and three ellipse patterns of 1x4 microns, 1.4 x 5.6 microns and 2x8 microns.

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C-flat™ Holey Thick Carbon Grids for TEM - Copper Only

C-Flat™ is now available in a new thick version that doubles the carbon thickness from approximately 20nm to 40nm.

Product Code	Cat. #	Hole Size	Hole Spacing	TEM Mesh	TEM Grid	Qty.
CF-1.2/1.3-2C-T	**CFT213-50**	1.2 µm	1.3 µm	200	Cu	50/pk.
	CFT213-100	1.2 µm	1.3 µm	200	Cu	100/pk.
CF-1.2/1.3-4C-T	**CFT413-50**	1.2 µm	1.3 µm	400	Cu	50/pk.
	CFT413-100	1.2 µm	1.3 µm	400	Cu	100/pk.
CF-2/0.5-2C-T	**CFT205-50**	2.0 µm	0.5 µm	200	Cu	50/pk
	CFT205-100	2.0 µm	0.5 µm	200	Cu	100/pk
CF-2/0.5-4C-T	**CFT405-50**	2.0 µm	0.5 µm	400	Cu	50/pk
	CFT405-100	2.0 µm	0.5 µm	400	Cu	100/pk
CF-2/1-2C-T	**CFT212-50**	2.0 µm	1.0 µm	200	Cu	50/pk.
	CFT212-100	2.0 µm	1.0 µm	200	Cu	100/pk.
CF-2/1-4C-T	**CFT412-50**	2.0 µm	1.0 µm	400	Cu	50/pk.
	CFT412-100	2.0 µm	1.0 µm	400	Cu	100/pk.
CF-2/2-2C-T	**CFT-222C-50**	2.0 µm	2.0 µm	200	Cu	50/pk.
	CFT-222C-100	2.0 µm	2.0 µm	200	Cu	100/pk.
CF-2/2-4C-T	**CFT-224C-50**	2.0 µm	2.0 µm	400	Cu	50/pk.
	CFT-224C-100	2.0 µm	2.0 µm	400	Cu	100/pk.
CF-2/4-2C-T	**CFT242-50**	2.0 µm	4.0 µm	200	Cu	50/pk.
	CFT242-100	2.0 µm	4.0 µm	200	Cu	100/pk.
CF-2/4-4C-T	**CFT442-50**	2.0 µm	4.0 µm	400	Cu	50/pk.
	CFT442-100	2.0 µm	4.0 µm	400	Cu	100/pk.
CF-4/1-2C-T	**CFT241-50**	4.0 µm	1.0 µm	200	Cu	50/pk
	CFT241-100	4.0 µm	1.0 µm	200	Cu	100/pk
CF-4/1-4C-T	**CFT441-50**	4.0 µm	1.0 µm	400	Cu	50/pk
	CFT441-100	4.0 µm	1.0 µm	400	Cu	100/pk
CF-4/2-2C-T	**CFT422-50**	4.0 µm	2.0 µm	200	Cu	50/pk.
	CFT422-100	4.0 µm	2.0 µm	200	Cu	100/pk.
CF-4/2-4C-T	**CFT424-50**	4.0 µm	2.0 µm	400	Cu	50/pk.
	CFT424-100	4.0 µm	2.0 µm	400	Cu	100/pk.
CF-MH-2C-T	**CFT2MH-50**	Multihole*	—	200	Cu	50/pk.
	CFT2MH-100	Multihole*	—	200	Cu	100/pk.
CF-MH-4C-T	**CFT4MH-50**	Multihole*	—	400	Cu	50/pk.
	CFT4MH-100	Multihole*	—	400	Cu	100/pk
CF-1/1-2C-T	**CFT21-50**	1.0 µm	1.0 µm	200	Cu	50/pk.
	CFT21-100	1.0 µm	1.0 µm	200	Cu	100/pk.
CF-1/1-4C-T	**CFT41-50**	1.0 µm	1.0 µm	400	Cu	50/pk.
	CFT41-100	1.0 µm	1.0 µm	400	Cu	100/pk.

* The Multihole device has a staggered pattern of six features consisting of three circle patterns of 1 micron, 1.4 micron and 2 micron diameter and three ellipse patterns of 1x4 microns, 1.4 x 5.6 microns and 2x8 microns.

C-flat™ Holey Carbon Grids for TEM - Gold Only

C-Flat™ is also available on gold grids.

Product Code	Cat. #	Hole Size	Hole Spacing	TEM Mesh	TEM Grid	Qty.
CF-1/1-2Au	**CF21-100-Au**	1.0 µm	1.0 µm	200	Au	100/pk.
CF-1/1-3Au	**CF31-100-Au**	1.0 µm	1.0 µm	300	Au	100/pk.
CF-1/1-4Au	**CF41-100-Au**	1.0 µm	1.0 µm	400	Au	100/pk.
CF-1.2/1.3-2Au	**CF213-100-Au**	1.2 µm	1.3 µm	200	Au	100/pk.
CF-1.2/1.3-3Au	**CF313-100-Au**	1.2 µm	1.3 µm	300	Au	100/pk.
CF-1.2/1.3-4Au	**CF413-100-Au**	1.2 µm	1.3 µm	400	Au	100/pk.
CF-2/0.5-2Au	**CF205-100-Au**	2.0 µm	0.5 µm	200	Au	100/pk.
CF-2/0.5-3Au	**CF305-100-Au**	2.0 µm	0.5 µm	300	Au	100/pk.
CF-2/0.5-4Au	**CF405-100-Au**	2.0 µm	0.5 µm	400	Au	100/pk.
CF-2/1-2Au	**CF212-100-Au**	2.0 µm	1.0 µm	200	Au	100/pk.
CF-2/1-3Au	**CF312-100-Au**	2.0 µm	1.0 µm	300	Au	100/pk.
CF-2/1-4Au	**CF412-100-Au**	2.0 µm	1.0 µm	400	Au	100/pk.
CF-2/2-2Au	**CF222C-100-Au**	2.0 µm	2.0 µm	200	Au	100/pk.
CF-2/2-3Au	**CF223C-100-Au**	2.0 µm	2.0 µm	300	Au	100/pk.
CF-2/2-4Au	**CF224C-100-Au**	2.0 µm	2.0 µm	400	Au	100/pk.
CF-2/4-2Au	**CF242-100-Au**	2.0 µm	4.0 µm	200	Au	100/pk.
CF-2/4-3Au	**CF342-100-Au**	2.0 µm	4.0 µm	300	Au	100/pk.
CF-2/4-4Au	**CF442-100-Au**	2.0 µm	4.0 µm	400	Au	100/pk.
CF-4/1-2Au	**CF241-100-Au**	4.0 µm	1.0 µm	200	Au	100/pk.
CF-4/1-3Au	**CF341-100-Au**	4.0 µm	1.0 µm	300	Au	100/pk.
CF-4/1-4Au	**CF441-100-Au**	4.0 µm	1.0 µm	400	Au	100/pk.
CF-4/2-2Au	**CF422-100-Au**	4.0 µm	2.0 µm	200	Au	100/pk.
CF-4/2-3Au	**CF423-100-Au**	4.0 µm	2.0 µm	300	Au	100/pk.
CF-4/2-4Au	**CF424-100-Au**	4.0 µm	2.0 µm	400	Au	100/pk.
CF-MH-2Au	**CF2MH-100-Au**	Multihole*	—	200	Au	100/pk.
CF-MH-3Au	**CF3MH-100-Au**	Multihole*	—	300	Au	100/pk.
CF-MH-4Au	**CF4MH-100-Au**	Multihole*	—	400	Au	100/pk.

* The Multihole device has a staggered pattern of six features consisting of three circle patterns of 1 micron, 1.4 micron and 2 micron diameter and three ellipse patterns of 1x4 microns, 1.4 x 5.6 microns and 2x8 microns.

C-flat™ Customization

We realize that each customer has unique needs since specimens vary greatly in composition and size. To meet the diverse and demanding needs of the cryoTEM community, C-flat™ can be customized to meet a user's specific requirements. For example, C-flat™ can be manufactured on other grid types such as Gold grids, 100x400 mesh grids, or London Finder grids. The size, shape and spacing of the holes perforating the carbon film can also be customized. For examples, those using electron tomography techniques might desire a larger hole size to allow for increased tilt angles; those using very high magnifications might find a smaller hole size desirable; 2D crystallographers might prefer a a sparse hole pattern to take advantage of the clean and ultra flat surface of C-flat™; and based upon the specimen preparation and imaging protocols, grid metals other than copper might be required.

C-flat™ can be customized to meet all of these needs.

Please contact EMS with any custom C-flat™ requests. We will be glad to provide you with a quote for specialized C-flat™ grids. Requests for customized parts can be made directly to EMS via e-mail to sgkcck@aol.com

QUANTIFOIL® – Holey Carbon Films

QUANTIFOIL® is a perforated support foil with pre-defined hole size, shape and arrangement. It has advantages in electron microscopy (EM) or low-energy electron point source (LEEPS) microscopy when compared with conventional holey film.

QUANTIFOIL® is offered with circular and square, orthogonal arranged holes. Films with different hole sizes and bar widths are available. Carbon is the standard material that makes the foil.

QUANTIFOIL® is a superior quality of holey carbon film, which facilitates the use of automation in TEM. (e.g. The National Resource for Automated Molecular Microscopy, at the Scripps Research Institute, has developed a system, called Leginon, for automatically acquiring images from a transmission electron microscope).

The surface properties of **QUANTIFOIL®** holey carbon support film, especially the wetting properties, may have to be adapted according to one's particular requirements. Untreated aging **QUANTIFOIL®** tends to be hydrophobic. Hydrophillicity of the foil can be achieved by glow discharging in residual air or by metal coating.

QUANTIFOIL® in low-energy electron point source (LEEPS) microscopy. **QUANTIFOIL®** with a regular pattern is required in order to be able to distinguish an object, which is spanned over a hole. An object cannot be discriminated from the support in the case of conventional holey support film. (H.W. Fink & C. Schonenberger, University of Basel, used **QUANTIFOIL®** for the measurement of electrical current through DNA molecules.)

The foil is ~12 nm thick and mounted on either copper, nickel or gold grids with either square or round holes of different sizes.

Holey films with 2µ round holes are used at magnifications between 30,000x and 40,000x.

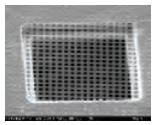
QUANTIFOIL® with Circular Holes

QUANTIFOIL® with circular holes is used in cryoelectron tomographic reconstruction. The roundness of the holes is advantageous with respect to the formation of an ice layer of constant thickness. The hole size chosen depends on the magnification used, and on whether or not one wishes to include support film in the image. Assessment of the image quality is easier when foil is included in the picture, because the power spectrum of a foil is stronger than that of unsupported ice.

QUANTIFOIL® R 0.6/1 Hole size is 0.6µ. Space between holes is 1µ. Center to center is 1.6µ (hole size may be as large as 1µ).

QUANTIFOIL® R 1/2 Hole size is 1µ. Space between holes is 2µ. Center to center is 3µ

QUANTIFOIL® R 1.2/1.3

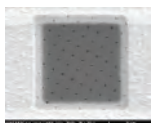


A foil with ~1.2 µm circular holes and a spacing of ~2.5µm between the holes. This type is used at magnifications around 50,000x.

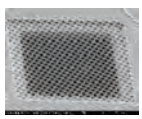
QUANTIFOIL® R 1.2/2.5 Hole size is 1.2µ. Space between holes is 1.3µ. Center to center is 2.5µ

QUANTIFOIL® R 1.2/21.2 Hole size is 1.2µ. Space between holes is 20µ. Center to center is 21.2µ

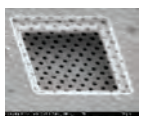
QUANTIFOIL® R 1/4 may be preferred over R 1.2/1.3, when an increased tolerance with respect to the position of beam, and a larger beam diameter are desired, such as in the case of automated image acquisition.



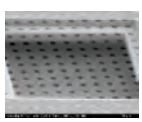
QUANTIFOIL® R 2/1 has more open area than R 2/2. It is used when focusing is carried out on the edge of a hole burnt in the ice in a neighboring hole instead of on the foil adjacent to the hole.



QUANTIFOIL® R 2/2 Holey films with 2 µm circular holes are used at magnifications between 30,000x and 40,000x.



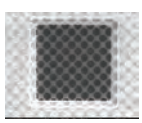
QUANTIFOIL® R 2/4 may be preferred over R 2/2, when an increased tolerance with respect to the position of beam, and a larger beam diameter are desired, such as in the case of automated image acquisition.



QUANTIFOIL® R 3/3 Hole size is 3µ. Space between holes is 3µ. Center to center is 6µ

QUANTIFOIL® R 3/5 Hole size is 3µ. Space between holes is 5µ. Center to center is 8µ

QUANTIFOIL® R 3.5/1 may be preferred over foils with smaller holes if the carbon film should be outside the frame of the image. This option can be desirable in the case of extended objects, such as filamentous objects, for example.



QUANTIFOIL® R 5/10 Hole size is 5µ. Space between holes is 10µ. Center to center is 15µ

QUANTIFOIL® R 5/20 Hole size is 5µ. Space between holes is 20µ. Center to center is 25µ

QUANTIFOIL® R 6/6.5 Hole size is 6µ. Space between holes is 6.5µ. Center to center is 12.5µ

QUANTIFOIL® R 6/100 Hole size is 6µ. Space between holes is 100µ. Center to center is 106µ

QUANTIFOIL® R 10/5

Hole size is 10µ. Space between holes is 5µ. Center to center is 15µ

QUANTIFOIL® R 10/10 Hole size is 10µ. Space between holes is 10µ. Center to center is 20µ

QUANTIFOIL® R 10/20 Hole size is 10µ. Space between holes is 20µ. Center to center is 30µ

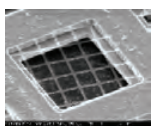
QUANTIFOIL® R 17/5 Hole size is 17.5µ. Space between holes is 5µ. Center to center is 22.5µ

QUANTIFOIL® with Square Holes

QUANTIFOIL® with square holes and relatively narrow bars can be used in EM to support a thin carbon film, which by itself is too fragile to span a grid square.

Alternatively, this holey film can directly support an object that is larger than the holes.

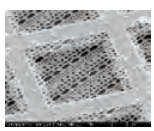
QUANTIFOIL® S 7/2



constitutes an optimum between a maximum of open area on the one hand, and mechanical stability on the other hand.

QUANTIFOIL® with Different Hole Shapes

QUANTIFOIL® Multi A

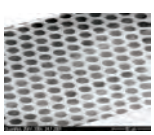


is a holey film, which consists of various pattern hole sizes, shapes and arrangements is repeated. In addition to round holes, the pattern includes ovalshaped ones, which appear round at high tilt angles (~70°). The diameters of the round holes are about 1, 1.4 and 2µ, and the bar widths range from 0.5 to 4µ. The oval holes in the foil have a dimension of 8 x 2µ and 4 x 1µ.

QUANTIFOIL® with Hexagonal Geometry

This type of **QUANTIFOIL®** is meant for slot grids. It was especially designed for supporting serial thin sections. It offers an optimum between mechanical stability on the one hand and background-free area on the other hand. The foil is thin enough to allow those parts of the sections that lie on the bars to be interpreted. In this way, the information in the sections can be interpreted to the maximum.

QUANTIFOIL® Hex 15



A foil with hole size of 26 µm (diameter of inscribed circle) and a repeating distance of 41 µm, the side length of the holes and the bar width are 15 µm.

Ordering Information, QUANTIFOIL® — Holey Carbon Films

QUANTIFOIL® — Holey Carbon Films — Circular Holes

Grid Type	Hole Size	Period	Cat. # 200 Mesh	Cat. # 300 Mesh	Cat. # 400 Mesh	Qty.
R 0.6/1						
Copper	0.6µm	1.6µm	Q225CR-06	Q325CR-06	Q425CR-06	50/pk
			Q250CR-06	Q350CR-06	Q450CR-06	100/pk
Nickel	0.6µm	1.6µm	Q225NR-06	Q325NR-06	Q425NR-06	50/pk
			Q250NR-06	Q350NR-06	Q450NR-06	100/pk
Gold	0.6µm	1.6µm	Q225AR-06	Q325AR-06	Q425AR-06	50/pk
			Q250AR-06	Q350AR-06	Q450AR-06	100/pk
R 1/2						
Copper	1µm	3µm	Q2100CR-12	Q3100CR-12	Q4100CR-12	100/pk
Nickel	1µm	3µm	Q2100NR-12	Q3100NR-12	Q4100NR-12	100/pk
Gold	1µm	3µm	Q2100AR-12	Q3100AR-12	Q4100AR-12	100/pk
R 1/4						
Copper	1µm	5µm	Q225CR-14	Q325CR-14	Q425CR-14	50/pk
			Q250CR-14	Q350CR-14	Q450CR-14	100/pk
Nickel	1µm	5µm	Q225NR-14	Q325NR-14	Q425NR-14	50/pk
			Q250NR-14	Q350NR-14	Q450NR-14	100/pk
Gold	1µm	5µm	Q225AR-14	Q325AR-14	Q425AR-14	50/pk
			Q250AR-14	Q350AR-14	Q450AR-14	100/pk
R 1.2/1.3						
Copper	~1.2µm	~2.5µm	Q225CR1.3	Q325CR1.3	Q425CR1.3	25/pk
			Q250CR1.3	Q350CR1.3	Q450CR1.3	50/pk
			Q2100CR1.3	Q3100CR1.3	Q4100CR1.3	100/pk
Nickel	~1.2µm	~2.5µm	Q225NR1.3	Q325NR1.3	Q425NR1.3	25/pk
			Q250NR1.3	Q350NR1.3	Q450NR1.3	50/pk
			Q2100NR1.3	Q3100NR1.3	Q4100NR1.3	100/pk
R 1.2/2.5						
Copper	~1.2µm	~3.5µm	Q2100CR2.5	Q3100CR2.5	Q4100CR2.5	100/pk
Nickel	~1.2µm	~3.5µm	Q2100NR2.5	Q3100NR2.5	Q4100NR2.5	100/pk
R 1.2/21.2						
Copper	~1.2µm	~21.2µm	Q2100CR21.2	Q3100CR21.2	Q4100CR21.2	100/pk
Nickel	~1.2µm	~21.2µm	Q2100NR21.2	Q3100NR21.2	Q4100NR21.2	100/pk
R 2/1						
Copper	2µm	3µm	Q225CR1	Q325CR1	Q425CR1	25/pk
			Q250CR1	Q350CR1	Q450CR1	50/pk
			Q2100CR1	Q3100CR1	Q4100CR1	100/pk
Nickel	2µm	3µm	Q225NR1	Q325NR1	Q425NR1	25/pk
			Q250NR1	Q350NR1	Q450NR1	50/pk
			Q2100NR1	Q3100NR1	Q4100NR1	100/pk
Gold	2µm	3µm	Q225AR1	Q325AR1	Q425AR1	25/pk
			Q250AR1	Q350AR1	Q450AR1	50/pk
			Q2100AR1	Q3100AR1	Q4100AR1	100/pk
R 2/2						
Copper	2µm	4µm	Q225CR2	Q325CR2	Q425CR2	25/pk
			Q250CR2	Q350CR2	Q450CR2	50/pk
			Q2100CR2	Q3100CR2	Q4100CR2	100/pk
Nickel	2µm	4µm	Q225NR2	Q325NR2	Q425NR2	25/pk
			Q250NR2	Q350NR2	Q450NR2	50/pk
			Q2100NR2	Q3100NR2	Q4100NR2	100/pk
Gold	2µm	4µm	Q225AR2	Q325AR2	Q425AR2	25/pk
			Q250AR2	Q350AR2	Q450AR2	50/pk
			Q2100AR2	Q3100AR2	Q4100AR2	100/pk
R 2/4						
Copper	2µm	6µm	Q225-CR4	Q325CR-4	Q425CR-4	25/pk
			Q250-CR4	Q350CR-4	Q450CR-4	50/pk
			Q2100CR-4	Q3100CR-4	Q4100CR-4	100/pk
Nickel	2µm	6µm	Q225-NR4	Q325NR-4	Q425NR-4	25/pk
			Q250-NR4	Q350NR-4	Q450NR-4	50/pk
			Q2100NR-4	Q3100NR-4	Q4100NR-4	100/pk
Gold	2µm	6µm	Q225-AR4	Q325AR-4	Q425AR-4	25/pk
			Q250-AR4	Q350AR-4	Q450AR-4	50/pk
			Q2100AR-4	Q3100AR-4	Q4100AR-4	100/pk
R 3/3						
Copper	3µm	6µm	Q2100CR3	Q3100CR3	Q4100CR3	100/pk
Nickel	3µm	6µm	Q2100NR3	Q3100NR3	Q4100NR3	100/pk
Gold	3µm	6µm	Q2100AR3	Q3100AR3	Q4100AR3	100/pk
R 3/5						
Copper	3µm	8µm	Q2100CR5	Q3100CR5	Q4100CR5	100/pk
Nickel	3µm	8µm	Q2100NR5	Q3100NR5	Q4100NR5	100/pk
Gold	3µm	8µm	Q2100AR5	Q3100AR5	Q4100AR5	100/pk
R 3.5/1						
Copper	3.5µm	4.5µm	Q225CR-35	Q325CR-35	Q425CR-35	50/pk
			Q250CR-35	Q350CR-35	Q450CR-35	100/pk
Nickel	3.5µm	4.5µm	Q225NR-35	Q325NR-35	Q425NR-35	50/pk
			Q250NR-35	Q350NR-35	Q450NR-35	100/pk
Gold	3.5µm	4.5µm	Q225AR-35	Q325AR-35	Q425AR-35	50/pk
			Q250AR-35	Q350AR-35	Q450AR-35	100/pk
R 5/10						
Copper	5µm	15µm	Q2100CR510	Q3100CR510	Q4100CR510	100/pk
Nickel	5µm	15µm	Q2100NR510	Q3100NR510	Q4100NR510	100/pk
Gold	5µm	15µm	Q2100AR510	Q3100AR510	Q4100AR510	100/pk
R 5/20						
Copper	5µm	25µm	Q225CR-520	Q325CR-520	Q425CR-520	50/pk
			Q250CR-520	Q350CR-520	Q450CR-520	100/pk
Nickel	5µm	25µm	Q225NR-520	Q325NR-520	Q425NR-520	50/pk
			Q250NR-520	Q350NR-520	Q450NR-520	100/pk
Gold	5µm	25µm	Q225AR-520	Q325AR-520	Q425AR-520	50/pk
			Q250AR-520	Q350AR-520	Q450AR-520	100/pk
R 6/6.5						
Copper	6µm	12.5µm	Q2100CR665	Q3100CR6100	Q4100CR665	100/pk
Nickel	6µm	12.5µm	Q2100NR665	Q3100NR6100	Q4100NR665	100/pk
Gold	6µm	12.5µm	Q2100AR665	Q3100AR6100	Q4100AR665	100/pk
R 6/100						
Copper	6µm	106µm	Q2100CR6100	Q3100CR6100	Q4100CR6100	100/pk
Nickel	6µm	106µm	Q2100NR6100	Q3100NR6100	Q4100NR6100	100/pk
Gold	6µm	106µm	Q2100AR6100	Q3100AR6100	Q4100AR6100	100/pk
R 10/5						
Copper	10µm	15µm	Q2100CR105	Q3100CR105	Q4100CR105	100/pk
Nickel	10µm	15µm	Q2100NR105	Q3100NR105	Q4100NR105	100/pk
Gold	10µm	15µm	Q2100AR105	Q3100AR105	Q4100AR105	100/pk
R 10/10						
Copper	10µm	20µm	Q2100CR1010	Q3100CR1010	Q4100CR1010	100/pk
Nickel	10µm	20µm	Q2100NR1010	Q3100NR1010	Q4100NR1010	100/pk
Gold	10µm	20µm	Q2100AR1010	Q3100AR1010	Q4100AR1010	100/pk
R 10/20						
Copper	10µm	30µm	Q2100CR1020	Q3100CR1020	Q4100CR1020	100/pk
Nickel	10µm	30µm	Q2100NR1020	Q3100NR1020	Q4100NR1020	100/pk
Gold	10µm	30µm	Q2100AR1020	Q3100AR1020	Q4100AR1020	100/pk
R 17/5						
Copper	17.5µm	22.5µm	Q2100CR175	Q3100CR175	Q4100CR175	100/pk
Nickel	17.5µm	22.5µm	Q2100NR175	Q3100NR175	Q4100NR175	100/pk
Gold	17.5µm	22.5µm	Q2100AR175	Q3100AR175	Q4100AR175	100/pk

QUANTIFOIL® — Holey Carbon Films — Square Holes

Grid Type	Hole Size	Period	Cat. # 200 Mesh	Cat. # 300 Mesh	Cat. # 400 Mesh	Qty.
S 7/2						
Copper	7 x 7µm	9µm	Q225-CS7	Q325CS7	Q425CS7	25/pk
			Q250-CS7	Q350CS7	Q450CS7	50/pk
			Q2100CS7	Q3100CS7	Q4100CS7	100/pk
Nickel	7 x 7µm	9µm	Q225-NS7	Q325NS7	Q425NS7	25/pk
			Q250-NS7	Q350NS7	Q450NS7	50/pk
			Q2100NS7	Q3100NS7	Q4100NS7	100/pk
Gold	7 x 7µm	9µm	Q225-AS7	Q325AS7	Q425AS7	25/pk
			Q250-AS7	Q350AS7	Q450AS7	50/pk
			Q2100AS7	Q3100AS7	Q4100AS7	100/pk

QUANTIFOIL® — Holey Carbon Films — Different Hole Shapes

Grid Type	Hole Size	Period	Cat. # 200 Mesh	Cat. # 300 Mesh	Cat. # 400 Mesh	Qty.
Multi A						
Copper	—	—	Q225-CMA	Q325CMA	Q425CMA	25/pk
			Q250-CMA	Q350CMA	Q450CMA	50/pk
			Q2100CMA	Q3100CMA	Q4100CMA	100/pk
Nickel	—	—	Q225-NMA	Q325NMA	Q425NMA	25/pk
			Q250-NMA	Q350NMA	Q450NMA	50/pk
			Q2100NMA	Q3100NMA	Q4100NMA	100/pk

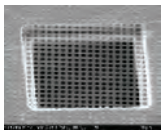
QUANTIFOIL® — Holey Carbon Films — Hexagonal Geometry

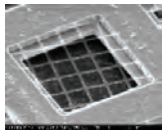
Hex 15

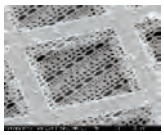
Grid Type	Hole Size	Description	Cat. #	Pack
Copper	26µm	0.5 x 2mm slot grids	Q225CR-HEX	50/pk
			Q250CR-HEX	100/pk

■ QUANTIFOIL® — Holey SiO_2 Films

The currently favored and already established material other than carbon is SiO_2.


R 1.2/1.3


S 7/2


Multi A

Ordering Information, QUANTIFOIL® — Holey SiO_2 Films

QUANTIFOIL® — Holey SiO_2 Films — Circular Holes

Grid Type	Hole Size	Period	Cat. # 200 Mesh	Cat. # 300 Mesh	Cat. # 400 Mesh	Qty.
R 0.6/1						
Copper	0.6µm	1.6µm	Q225CR-06S	Q325CR-06S	Q425CR-06S	50/pk
			Q250CR-06S	Q350CR-06S	Q450CR-06S	100/pk
Nickel	0.6µm	1.6µm	Q225NR-06S	Q325NR-06S	Q425NR-06S	50/pk
			Q250NR-06S	Q350NR-06S	Q450NR-06S	100/pk
Gold	0.6µm	1.6µm	Q225AR-06S	Q325AR-06S	Q425AR-06S	50/pk
			Q250AR-06S	Q350AR-06S	Q450AR-06S	100/pk
R 1/2						
Copper	1µm	3µm	Q2100CR-12S	Q3100CR-12S	Q4100CR-12S	100/pk
Nickel	1µm	3µm	Q2100NR-12S	Q3100NR-12S	Q4100NR-12S	100/pk
Gold	1µm	3µm	Q2100AR-12S	Q3100AR-12S	Q4100AR-12S	100/pk
R 1/4						
Copper	1µm	5µm	Q225CR-14S	Q325CR-14S	Q425CR-14S	50/pk
			Q250CR-14S	Q350CR-14S	Q450CR-14S	100/pk
Nickel	1µm	5µm	Q225NR-14S	Q325NR-14S	Q425NR-14S	50/pk
			Q250NR-14S	Q350NR-14S	Q450NR-14S	100/pk
Gold	1µm	5µm	Q225AR-14S	Q325AR-14S	Q425AR-14S	50/pk
			Q250AR-14S	Q350AR-14S	Q450AR-14S	100/pk
R 1.2/1.3						
Copper	~1.2µm	~2.5µm	Q225CR1.3S	Q325CR1.3S	Q425CR1.3S	25/pk
			Q250CR1.3S	Q350CR1.3S	Q450CR1.3S	50/pk
			Q2100CR1.3S	Q3100CR1.3S	Q4100CR1.3S	100/pk
Nickel	~1.2µm	~2.5µm	Q225NR1.3S	Q325NR1.3S	Q425NR1.3S	25/pk
			Q250NR1.3S	Q350NR1.3S	Q450NR1.3S	50/pk
			Q2100NR1.3S	Q3100NR1.3S	Q4100NR1.3S	100/pk
R 1.2/2.5						
Copper	~1.2µm	~3.5µm	Q2100CR2.5S	Q3100CR2.5S	Q4100CR2.5S	100/pk
Nickel	~1.2µm	~3.5µm	Q2100NR2.5S	Q3100NR2.5S	Q4100NR2.5S	100/pk
R 1.2/20						
Copper	~1.2µm	~21.2µm	Q2100CR21.2S	Q3100CR21.2S	Q4100CR21.2S	100/pk
Nickel	~1.2µm	~21.2µm	Q2100NR21.2S	Q3100NR21.2S	Q4100NR21.2S	100/pk
R 2/1						
Copper	2µm	3µm	Q225CR1S	Q325CR1S	Q425CR1S	25/pk
			Q250CR1S	Q350CR1S	Q450CR1S	50/pk
			Q2100CR1S	Q3100CR1S	Q4100CR1S	100/pk
Nickel	2µm	3µm	Q225NR1S	Q325NR1S	Q425NR1S	25/pk
			Q250NR1S	Q350NR1S	Q450NR1S	50/pk
			Q2100NR1S	Q3100NR1S	Q4100NR1S	100/pk
Gold	2µm	3µm	Q225AR1S	Q325AR1S	Q425AR1S	25/pk
			Q250AR1S	Q350AR1S	Q450AR1S	50/pk
			Q2100AR1S	Q3100AR1S	Q4100AR1S	100/pk
R 2/2						
Copper	2µm	6µm	Q225-CR4S	Q325CR-4S	Q425CR-4S	25/pk
			Q250-CR4S	Q350CR-4S	Q450CR-4S	50/pk
			Q2100CR-4S	Q3100CR-4S	Q4100CR-4S	100/pk
Nickel	2µm	6µm	Q225-NR4S	Q325NR-4S	Q425NR-4S	25/pk
			Q250-NR4S	Q350NR-4S	Q450NR-4S	50/pk
			Q2100NR-4S	Q3100NR-4S	Q4100NR-4S	100/pk
Gold	2µm	6µm	Q225-AR4S	Q325AR-4S	Q425AR-4S	25/pk
			Q250-AR4S	Q350AR-4S	Q450AR-4S	50/pk
			Q2100AR-4S	Q3100AR-4S	Q4100AR-4S	100/pk
R 2/4						
Copper	2µm	6µm	Q225CR-4S	Q325CR4S	Q425CR4S	25/pk
			Q250CR-4S	Q350CR4S	Q450CR4S	50/pk
			Q2100CR-4S	Q3100CR4S	Q4100CR4S	100/pk
Nickel	2µm	6µm	Q225NR-4S	Q325NR4S	Q425NR4S	25/pk
			Q250NR-4S	Q350NR4S	Q450NR4S	50/pk
			Q2100NR-4S	Q3100NR4S	Q4100NR4S	100/pk
Gold	2µm	6µm	Q225AR-4S	Q325AR4S	Q425AR4S	25/pk
			Q250AR-4S	Q350AR4S	Q450AR4S	50/pk
			Q2100AR-4S	Q3100AR4S	Q4100AR4S	100/pk
R 3/3						
Copper	3µm	6µm	Q2100CR3S	Q3100CR3S	Q4100CR3S	100/pk
Nickel	3µm	6µm	Q2100NR3S	Q3100NR3S	Q4100NR3S	100/pk
Gold	3µm	6µm	Q2100AR3S	Q3100AR3S	Q4100AR3S	100/pk
R 3/5						
Copper	3µm	8µm	Q2100CR5S	Q3100CR5S	Q4100CR5S	100/pk
Nickel	3µm	8µm	Q2100NR5S	Q3100NR5S	Q4100NR5S	100/pk
Gold	3µm	8µm	Q2100AR5S	Q3100AR5S	Q4100AR5S	100/pk
R 3.5/1						
Copper	3.5µm	4.5µm	Q225CR-35S	Q325CR-35S	Q425CR-35S	50/pk
			Q250CR-35S	Q350CR-35S	Q450CR-35S	100/pk
Nickel	3.5µm	4.5µm	Q225NR-35S	Q325NR-35S	Q425NR-35S	50/pk
			Q250NR-35S	Q350NR-35S	Q450NR-35S	100/pk
Gold	3.5µm	4.5µm	Q225AR-35S	Q325AR-35S	Q425AR-35S	50/pk
			Q250AR-35S	Q350AR-35S	Q450AR-35S	100/pk
R 5/10						
Copper	5µm	15µm	Q2100CR510S	Q3100CR510S	Q4100CR510S	100/pk
Nickel	5µm	15µm	Q2100NR510S	Q3100NR510S	Q4100NR510S	100/pk
Gold	5µm	15µm	Q2100AR510S	Q3100AR510S	Q4100AR510S	100/pk
R 5/20						
Copper	5µm	25µm	Q225CR-520S	Q325CR-520S	Q425CR-520S	50/pk
			Q250CR-520S	Q350CR-520S	Q450CR-520S	100/pk
Nickel	5µm	25µm	Q225NR-520S	Q325NR-520S	Q425NR-520S	50/pk
			Q250NR-520S	Q350NR-520S	Q450NR-520S	100/pk
Gold	5µm	25µm	Q225AR-520S	Q325AR-520S	Q425AR-520S	50/pk
			Q250AR-520S	Q350AR-520S	Q450AR-520S	100/pk
R 6/6.5						
Copper	6µm	12.5µm	Q2100CR665S	Q3100CR6100S	Q4100CR665S	100/pk
Nickel	6µm	12.5µm	Q2100NR665S	Q3100NR6100S	Q4100NR665S	100/pk
Gold	6µm	12.5µm	Q2100AR665S	Q3100AR6100S	Q4100AR665S	100/pk
R 6/100						
Copper	6µm	106µm	Q2100CR6100S	Q3100CR6100S	Q4100CR6100S	100/pk
Nickel	6µm	106µm	Q2100NR6100S	Q3100NR6100S	Q4100NR6100S	100/pk
Gold	6µm	106µm	Q2100AR6100S	Q3100AR6100S	Q4100AR6100S	100/pk
R 10/5						
Copper	10µm	15µm	Q2100CR105S	Q3100CR105S	Q4100CR105S	100/pk
Nickel	10µm	15µm	Q2100NR105S	Q3100NR105S	Q4100NR105S	100/pk
Gold	10µm	15µm	Q2100AR105S	Q3100AR105S	Q4100AR105S	100/pk
R 10/10						
Copper	10µm	20µm	Q2100CR1010S	Q3100CR1010S	Q4100CR1010S	100/pk
Nickel	10µm	20µm	Q2100NR1010S	Q3100NR1010S	Q4100NR1010S	100/pk
Gold	10µm	20µm	Q2100AR1010S	Q3100AR1010S	Q4100AR1010S	100/pk
R 10/20						
Copper	10µm	30µm	Q2100CR1020S	Q3100CR1020S	Q4100CR1020S	100/pk
Nickel	10µm	30µm	Q2100NR1020S	Q3100NR1020S	Q4100NR1020S	100/pk
Gold	10µm	30µm	Q2100AR1020S	Q3100AR1020S	Q4100AR1020S	100/pk
R 17/5						
Copper	17.5µm	22.5µm	Q2100CR175S	Q3100CR175S	Q4100CR175S	100/pk
Nickel	17.5µm	22.5µm	Q2100NR175S	Q3100NR175S	Q4100NR175S	100/pk
Gold	17.5µm	22.5µm	Q2100AR175S	Q3100AR175S	Q4100AR175S	100/pk

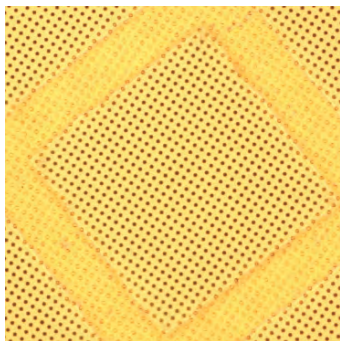
QUANTIFOIL® — Holey SiO_2 Films — Square Holes

Grid Type	Hole Size	Period	Cat. # 200 Mesh	Cat. # 300 Mesh	Cat. # 400 Mesh	Qty.
S 7/2						
Copper	7 x 7µm	9µm	Q225-CS7S	Q325CS7S	Q425CS7S	25/pk
			Q250-CS7S	Q350CS7S	Q450CS7S	50/pk
			Q2100CS7S	Q3100CS7S	Q4100CS7S	100/pk
Nickel	7 x 7µm	9µm	Q225-NS7S	Q325NS7S	Q425NS7S	25/pk
			Q250-NS7S	Q350NS7S	Q450NS7S	50/pk
			Q2100NS7S	Q3100NS7S	Q4100NS7S	100/pk
Gold	7 x 7µm	9µm	Q225-AS7S	Q325AS7S	Q425AS7S	25/pk
			Q250-AS7S	Q350AS7S	Q450AS7S	50/pk
			Q2100AS7S	Q3100AS7S	Q4100AS7S	100/pk

QUANTIFOIL® — Holey SiO_2 Films — Different Hole Shapes

Grid Type	Hole Size	Period	Cat. # 200 Mesh	Cat. # 300 Mesh	Cat. # 400 Mesh	Qty.
Multi A						
Copper	—	—	Q225-CMAS	Q325CMAS	Q425CMAS	25/pk
			Q250-CMAS	Q350CMAS	Q450CMAS	50/pk
			Q2100CMAS	Q3100CMAS	Q4100CMAS	100/pk
Nickel	—	—	Q225-NMAS	Q325NMAS	Q425NMAS	25/pk
			Q250-NMAS	Q350NMAS	Q450NMAS	50/pk
			Q2100NMAS	Q3100NMAS	Q4100NMAS	100/pk

NEW UltrAuFoil™ Holey Gold Films



These newly developed ultrastable gold supports for electron cryomicroscopy will reduce the movement of frozen specimens during imaging. This improves image contrast and quality, leading to better 3D reconstructions with less data.

During imaging at cryo-temperatures, traditional carbon supports move, particularly at the beginning of irradiation. This movement blurs images and makes it difficult to determine the structures of small and challenging molecules.

Using UltrAuFoils™, designed at MRC's Laboratory of Molecular Biology by Dr Christopher J. Russo and Dr Lori A. Passmore and produced by Quantifoil Micro Tools, specimen motion can be reduced significantly. (For details see: Ultrastable gold substrates for electron cryomicroscopy, Science, 2014, Vol. 346 no. 6215 pp. 1377-1380).

Characteristics of UltrAuFoil™

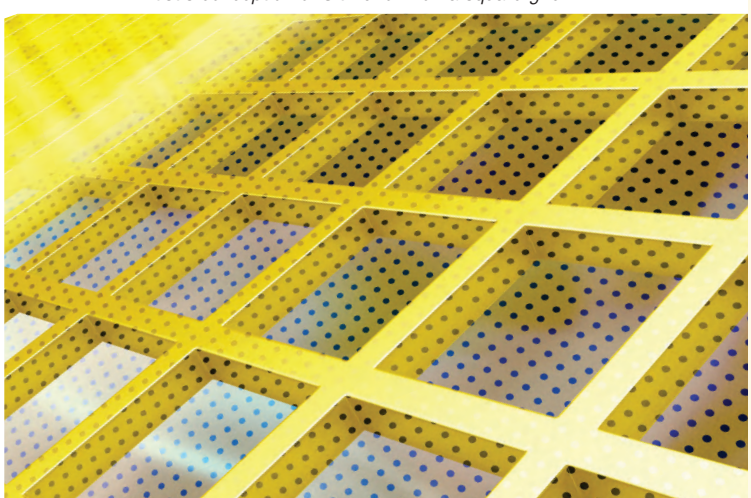
Thickness of Gold Foil	about 500 Å
Structure of Gold Foil	regular square array of micrometer-sized circular holes

Ordering Information

UltrAuFoil™ — Holey Gold Films

Grid Type	Hole Size	Period	Cat. # 200 Mesh	Cat. # 300 Mesh	Qty.
R 0.6/1					
Gold	~1.2µm	~2.2µm	—	**Q350AR1A**	50/pk
R 1.2/1.3					
Gold	~1.2µm	~2.5µm	—	**Q350AR13A**	50/pk
R 2/2					
Gold	~1.2µm	~3.2µm	**Q250AR2A**	—	50/pk

Artist's conception of UltrAuFoil™ on a square grid



FREQUENTLY ASKED QUESTIONS ABOUT...

UltrAuFoil™ Holey Gold Films

Why is the foil made of gold?

Because it is a highly conductive, nonoxidizing, radiation-hard material whose surface is chemically inert and biocompatible.

Why is the foil 500 Å thick?

400-500 Å is optimal because it minimizes motion as much as thicker layers but still gives thin ice films under typical blotting conditions. Below 400 Å, the performance of the gold support foils begins to degrade.

Why is the TEM grid made of gold?

Using the same metal eliminates differential thermal contraction during cooling of the sample and therefore prevents changes in the geometry and tension of the support foil.

How should I store the UltrAuFoils™ and within which time should I use them?

The UltrAuFoils™ like our other products should be stored in a grid storage box in a dark, cool and low-humidity environment. Generally there is no date of expiry, but we recommend to use them within two years.

Do I need to modify the UltrAuFoils™ before use?

No, they are ready for use when delivered. They can be made more hydrophilic using standard glow discharge and plasma systems or other gold surface treatments.

How do I set up the beam for data collection?

Currently, the recommended electron beam geometry is circularly symmetric beam, centered on the hole, which encompasses a small region of the support around each hole. The micrograph is taken in the center of the hole.

How do I focus using UltrAuFoils™?

Since there is no amorphous material in the gold support structure, Thon rings cannot be used to focus. As discussed in the publication, several other options are available, but the two simplest are:

1. *Turn on beam tilt wobble and minimize the image shift.*
2. *Look for the diffracted beams at the edge of a hole with the objective aperture removed. When the shift between the diffracted beams and the crystals of gold is minimized, the foil is in focus.*

How do I correct the astigmatism?

We recommend using a calibration specimen to correct the stigmation and beam tilt prior to collecting data on UlrAuFoils™.

Can I use automated data collection methods?

Yes, automated data collection has been successfully tested on UltrAuFoils™ using beam tilt to focus.

Are UltrAuFoils™ fragile?

No, they are similar or less fragile than traditional carbon foils. But if mishandled with tweezers or broken during freeze plunging, the stability of the support may be severely degraded. We recommend collecting data only from squares where the foil is uniform and intact.

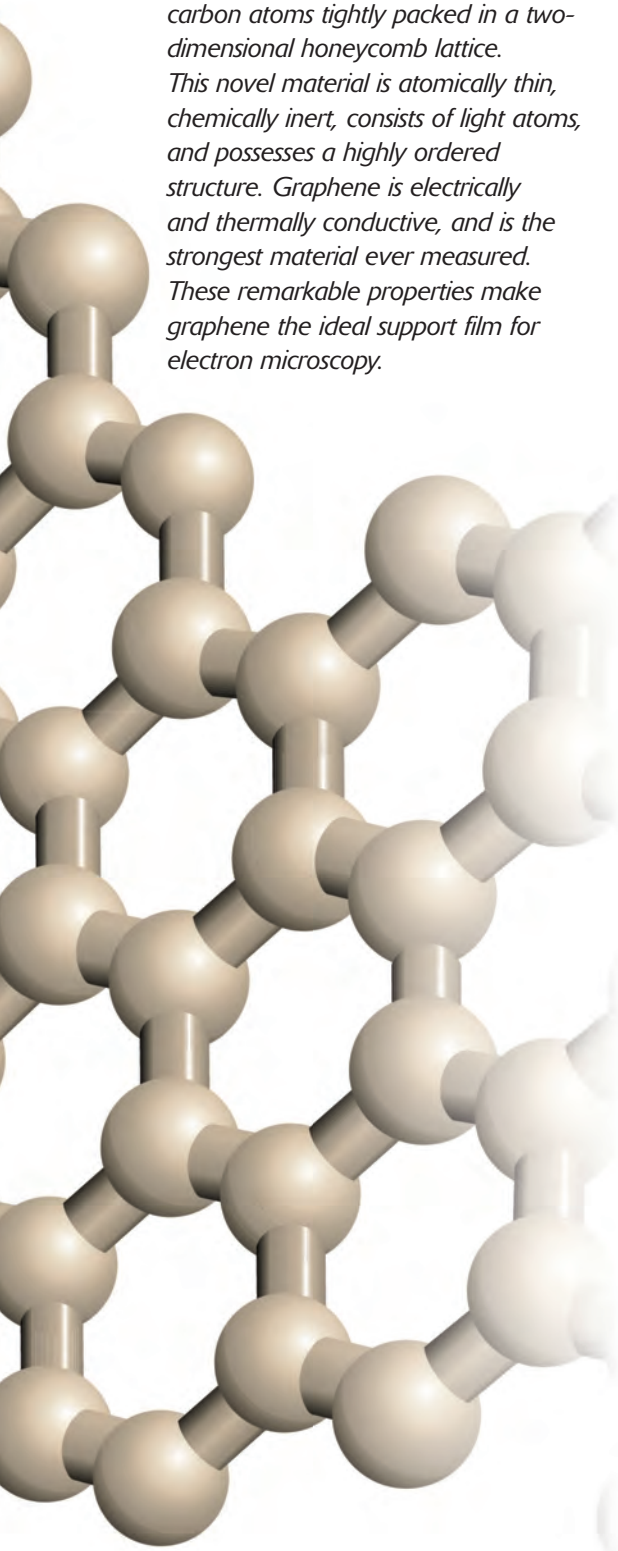
Can I add a continuous film of amorphous carbon?

Yes. Standard float transfer methods work fine for transferring thin films of carbon onto UltrAuFoils™.

New AND
Exclusive

Overview

Graphene is a single atomic layer of carbon atoms tightly packed in a two-dimensional honeycomb lattice. This novel material is atomically thin, chemically inert, consists of light atoms, and possesses a highly ordered structure. Graphene is electrically and thermally conductive, and is the strongest material ever measured. These remarkable properties make graphene the ideal support film for electron microscopy.



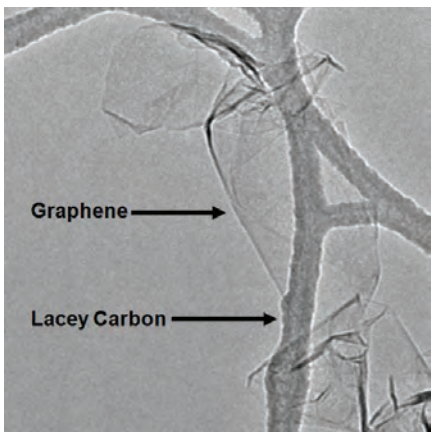
Graphene Support Films for TEM

Synthesis

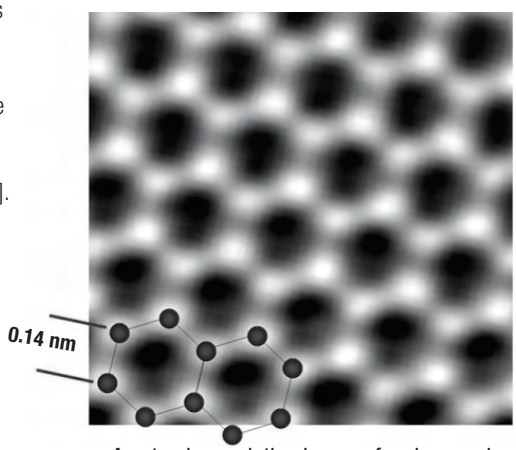
the substrate-free gas-phase method

Graphene is a single atomic layer of carbon atoms tightly packed in a two-dimensional honeycomb lattice. The novel material has generated great interest throughout the scientific and technological community because of its remarkable properties and numerous potential applications. However, obtaining pure and highly ordered graphene has been a challenge. Small quantities of ultrahigh-quality graphene have been isolated through an unwieldy and time-consuming process involving the mechanical exfoliation of highly oriented pyrolytic graphite. Alternative methods require substrates or graphite to create atomically-thin sheets, and these techniques involve multiple steps, expensive substrates, or non-ambient conditions. Furthermore, the sheets produced by these alternative methods exhibit defects, disorder, and oxygen functionalities that have a detrimental effect on the properties of graphene.

The substrate-free gas-phase method is the first and only process that can synthesize ultrahigh-quality graphene in a single step, without the use of substrates or graphite [1]. Graphene sheets are created through the delivery of liquid alcohol droplets directly into atmospheric-pressure microwave-generated plasmas. Extensive characterization of the synthesized graphene has proven that the sheets are oxygen-free and exhibit a highly ordered structure [2]. The graphene produced by this unique method can immediately be utilized for graphene applications.

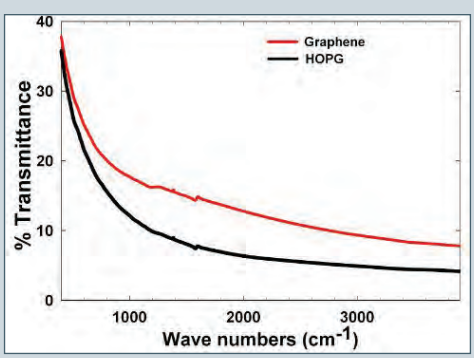


A typical TEM image of graphene sheets freely suspended on a lacey carbon TEM grid.



An atomic-resolution image of a clean and structurally perfect graphene sheet synthesized by the substrate-free gas-phase method. Individual carbon atoms appear white in the image.

Elemental analysis by FT-IR reveals that the synthesized graphene sheets are free of detrimental oxygen functionalities. The FT-IR spectrum of synthesized graphene is similar to that of highly oriented pyrolytic graphite (HOPG).



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■ Graphene Support Films for TEM (continued)

Application

Direct imaging of soft and hard nanomaterials

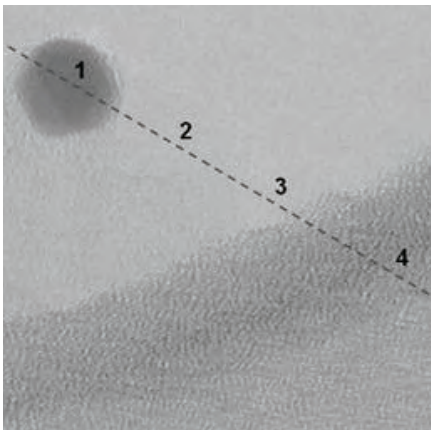
The interfaces between soft and hard nanomaterials have been the subject of extensive research.

Nanoparticles coated with molecular layers have been shown to self-assemble into novel structures that could potentially be used in electronics, sensors, and photonics. Self-assembly is influenced by the nature of molecular coatings and thus more detailed characterization of these soft materials is needed.

However, imaging surface molecules and their interfaces with nanoparticles at the atomic scale is a significant challenge. The transmission electron microscope (TEM) imaging of functionalized nanoparticles has been attempted.

However, it has not been possible to observe molecular surface layers and their interfaces with nanoparticles at the atomic level. Modern aberration-corrected TEMs can produce atomic-resolution images of soft and hard nanomaterials. However, conventional TEM support films (e.g. ultrathin amorphous carbon) limit the capabilities of these advanced microscopes because they contribute to overall electron scattering and diminish the contrast of low-atomic number specimens. The TEM imaging of the interfaces between soft and hard nanomaterials therefore requires better support films that have a lower dynamical interference with an imaging object [3].

Graphene is the ideal TEM support film. The material possesses a highly ordered structure and is atomically thin, chemically inert, structurally stable, and electrically and thermally conductive. The ultrahigh-quality graphene produced by the substrate-free gas-phase method [1, 2] has enabled the unsurpassed TEM imaging of organic molecules and the interfaces between soft and hard nanomaterials. The pure and highly-ordered sheets were used as a near-invisible support film to directly image the atoms in a gold nanoparticle and its surrounding citrate coating [3]. The results showed that the synthesized graphene can be used to directly observe nanoparticles functionalized with a diverse range of molecular coatings, such as proteins and DNA



A low-magnification image of a (1) gold nanoparticle 10 nm in diameter on a (2) transparent synthesized graphene support film, (3) the vacuum, and (4) a lacey carbon support.

We offer ultrahigh-quality graphene that is produced through the substrate-free gas-phase method[1]. The graphene created by this technique possesses a highly ordered structure that is composed of 99% carbon by mass (1% hydrogen)[2]. This graphene was used to directly image gold nanoparticles and their organic surface molecules in both conventional and atomic-resolution TEMs at a level that greatly surpasses any current TEM support film[3].

Our graphene provides an invisible, crystalline background that enables the unrivaled TEM characterization of organic and inorganic nanomaterials.

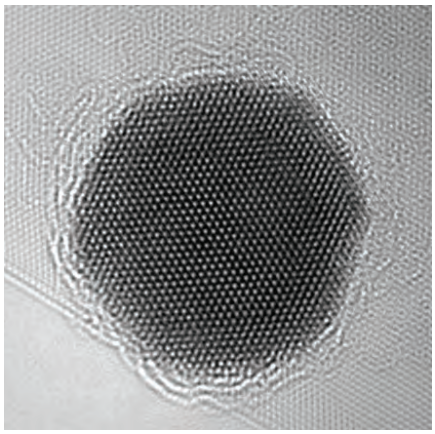
References:

[1] Dato et al., "Substrate-Free Gas-Phase Synthesis of Graphene Sheets", Nano Letters 8, 2012–2016 (2008).

[2] Dato et al., "Clean and highly ordered graphene synthesized in the gas phase", Chemical Communications, 6095–6097, (2009).

[3] Lee et al., "Direct Imaging of Soft-Hard Interfaces

Enabled by Graphene", Nano Letters 9, 3365–3369 (2009).



An atomic-resolution image of a 10 nm gold nanoparticle and its surrounding citrate capping agent on a synthesized graphene support film.

Ordering Information

Graphene products come available in five different ways, allowing you to choose which is best for you

a) As a solution of 0.1 mg Graphene in 1 ml of Ethanol. A homogeneous solution will take less than 30 seconds to create by sonicating the Graphene-solvent mixture. One is able to coat their own grids using this solution.

b) As Graphene-enhanced lacey carbon TEM grids. 200 and 300 mesh. These grids are created by coating our existing lacey carbon grids with graphene. Through a unique drop method, solution is dispersed onto the Lacey Carbon Grid.

c) As dry, synthesized Graphene powder, 1 mg.

Cat. No.	Description	Qty
GF1200	0.1 mg Graphene in 1 ml of Ethanol	each
GF1201	Graphene-Enhanced Lacey Carbon TEM Grid 200 # Cu	each
GF1202	Graphene-Enhanced Lacey Carbon TEM Grid 200 # Ni	each
GF1203	Graphene-Enhanced Lacey Carbon TEM Grid 300 # Cu	each
GF1204	Graphene-Enhanced Lacey Carbon TEM Grid 300 # Ni	each
GF1205	Synthesized Graphene Powder, 1 mg	each

OTHER POTENTIAL APPLICATIONS:

biodevices • single molecule gas detection • graphene nanoribbons
integrated circuits • transparent conducting electrodes • ultracapacitors

DuraSiN™ Film and Mesh for TEM

DuraSiN™ Film and Mesh products have revolutionized the way samples are prepared for and analyzed in the transmission electron microscope.

Applications

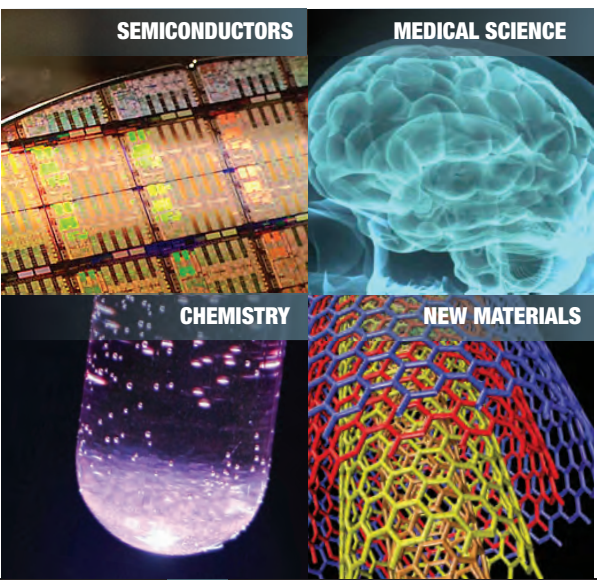
Quantitative Analysis of Carbon-Containing Specimens
- Photoresists
- Polymers
- Foods
- Oils
- Dyes

Particle Analysis
- Powders
- Aerosols
- Nanoparticles
- Airborne particles

Chemical Reactions
- Catalysis
- Active sites

Chemical Deposition and Growth
- Nanowires
- Carbon Nanotubes
- Colloids
- Self-assembled monolayers

New Material Discovery
- Multianalysis
- High Temperature
- Acidic/Basic Sample Prep



- Designed to aid microscopists and micro-analysts in TEM and multi-analysis work
- Fully customizable frame & window dimensions, hole patterns and membrane thickness
- Affordable
- Ultra-flat
- Robust to glow discharge high energy plasma cleaning
- Robust to solvents, bases, acids & high temperatures (up to 1000 °C)
- Large viewing area free of grid bars
- Compatible with integrated functionality

Introduction

DuraSiN™ Film and Mesh products are affordably-priced, durable, nonorganic, low scatter support grids for quantitative TEM and X-ray analysis. DuraSiN™ products are made of a thin, high quality, low-stress silicon nitride membrane supported around its perimeter by a rigid silicon substrate.

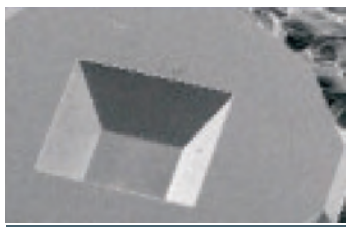
Unlike other support films and grids, DuraSiN™ Film and Mesh products can withstand harsh chemical and temperature environments. For example, DuraSiN™ Film or Mesh products could be used as a substrate onto which nanowires could be directly grown from a strong acidic solution. Once the nanowires are grown, the specimen is immediately ready for imaging and analysis in the TEM. With direct deposition, no longer will you have to prepare a sample on one substrate only to then have to transfer it to a support grid for imaging.

Overview

DuraSiN™ Film and Mesh products are affordably-priced, durable, non-organic, low scatter support grids for quantitative TEM and X-ray analysis. When seeking the highest possible resolution, DuraSiN™ Film and Mesh products provide the ideal platform for imaging and analysis.

DuraSiN™ Film

The DuraSiN™ Film support grids are composed of two materials. The area for specimen observation is fabricated from chemically robust, low-stress, planar silicon nitride films and this area is supported by a rigid silicon frame where the frame thickness available for these products ranges from 200 - 600 microns. The DuraSiN™ Film support grids provide a cost-effective and durable platform for sample preparation, cleaning, imaging and analysis.



SEM image of a DuraSiN™ Film (taken from the back side)

Perfect for the analysis of colloids, powders, aerosols and polymers. The DuraSiN™ Film provides durable, non-organic, low scatter substrates for quantitative TEM and X-ray analysis at affordable prices. DuraSiN™ Film substrates are fabricated from high quality, low-stress silicon nitride and supported on a rigid silicon substrate. DuraSiN™ Film products are robust to most cleaning procedures, including acetone, alcohol and oxygen plasma/UV ozone. Products are available in sizes ranging from standard TEM (2.65mm diameter) to greater than 10mm for x-ray applications.

DuraSiN™ Mesh

DuraSiN™ Mesh support grids are also fabricated from chemically robust, low-stress, planar silicon nitride films and are supported by a rigid silicon frame. However, DuraSiN™ Mesh has a regular array of small, dense holes fabricated across the observation area thereby providing truly electronbeam transparent regions for specimen imaging and analysis. DuraSiN™ Mesh support substrates offer the unique combination of an inorganic support film and regions completely transparent to an electron beam.

SEM image of a DuraSiN™ Mesh (taken from the back side)

These two features provide the microscopist and micro-analyst with unparalleled capability for imaging and analysis. Like other holey or lacey support films, DuraSiN™ Mesh support substrates provide regions completely unobstructed by the support film. However, the fact that the DuraSiN™ Mesh is made from inorganic silicon nitride provides the ability to thoroughly clean (e.g. with an aggressive oxygen plasma) a specimen already fixed to the support substrate and to assure that the imaging and analysis is done only upon on the specimen rather than unintended contamination. For example, when analyzing carbon nanotubes, DuraSiN™ provides a clean, carbon-free support to isolate the specimen from carbon contamination.

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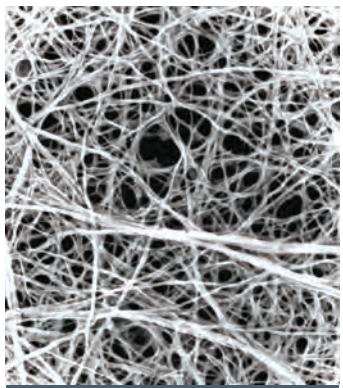
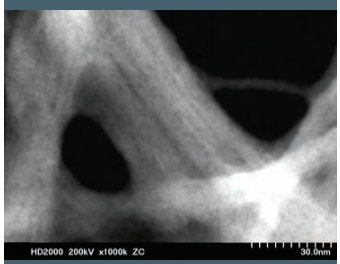
■ DuraSiN™ Film and Mesh for TEM (continued)

Features & Advantages

DuraSiN™ Films and Mesh products are chemically and mechanically robust support films for X-ray and TEM microscopy and they are available at more affordable prices than any other product in their class. DuraSiN™ offers unparalleled advantages over the traditional carbon-based support grids. If your research involves materials that are grown or deposited in harsh environments, DuraSiN™ may be the perfect support film for you. Capable of withstanding virtually any acid, base or solvent, DuraSiN™ allows the deposition or growth of colloids, fibers, nanoparticles, powders, polymers or wires directly onto the support film itself. Its temperature stability up to 1000 ˚C even allows direct deposition using standard physical and vapor deposition techniques common in the semiconductor industry, including CVD, sputtering, e-beam and resistive evaporation. With direct deposition or growth onto DuraSiN™, any ambiguity introduced from sample transfer to a less robust support film is eliminated. The temperature stability of DuraSiN™ also allows the observation of dynamic processes when several samples are removed for analysis at various times in the deposition, growth or anneal process.



Nanowire STEM image on DuraSIN™ Mesh at 35,000x. Image courtesy of Mike Salmon, NCSU AIF



Nanowire STEM image on DuraSIN™ Mesh at 1,000,000x. Image courtesy of Mike Salmon, NCSU AIF

The mechanical stability of DuraSiN™ offers a support film that is ideal for multi-analysis, in particular, TEM or X-ray and AFM. DuraSiN™ Film and Mesh products are not only robust enough to allow direct deposition and growth, but are also strong enough to allow AFM directly on the membrane, giving microscopists the ability to analyze both internal structure and surface detail in the exact same viewing area. In addition, DuraSiN™'s mechanical strength offers wide area membranes without the need for underlying grid bars eliminating the unwanted roughness, contamination or obstruction of other support grids.

Where cleanliness is a concern, particularly for compositional analysis using EDAX, etc., DuraSiN™ can be vigorously cleaned using processes previously not possible with carbon-based supports. DuraSiN™ can be cleaned in sulfuric acid to remove organics, as well as glow-discharge and high-energy oxygen plasma. Using these techniques, a pristine, carbon-free surface can be obtained for subsequent specimen deposition or growth and analysis.

DuraSiN™ is available in both continuous films and patterned meshes, in a variety of shapes and sizes, many customizable. DuraSiN™ Mesh is the only support available with hole sizes down to 1 micron in diameter, allowing the observation of the shortest fibers or wires. It is the highest quality, most affordable product in its class.

Ordering Information

Available in packs of 5 and 10.

DuraSiN™ Film for TEM

Cat. No.	DTF-05523	DTF-1523	DTF-2523	DTF-03523	DTF-050523	DTF-030523
Film Thickness	50nm	100nm	200nm	30nm	50nm	30nm
Window Area	0.5mm	0.5mm	0.5mm	0.5mm	0.05mm	0.05mm
Frame Diameter	2.65mm	2.65mm	2.65mm	~3mm	~3mm	~3mm
Frame Thickness	300µm	300µm	300µm	300µm	300µm	300µm

DuraSiN™ Film for X-ray

Cat. No.	DX-2513
Film Thickness	200nm
Window Area	2.5mm
Frame Diameter	5mm
Frame Thickness	300µm

DuraSiN™ Mesh for TEM

Cat. No.	DTM-25231
Film Thickness	200nm
Window Area	0.5mm
Frame Diameter	2.65mm
Frame Thickness	300µm
Hole Size	2µm
Hole Pitch	12µm

Top 10 Reasons to Use DuraSiN™ Film and Mesh Products

1. DuraSiN™ products are affordable
Since they are sold in sold in single grid quantities and in multi-grid packs, customers can try several different products at an affordable cost to optimize sample preparation and imaging conditions

2. DuraSiN™ products allow multiple microscopy techniques to be performed on the same specimen
The mechanical stability of DuraSiN™ products allow direct deposition and growth of specimens and are strong enough to allow AFM directly on the membrane giving microscopists the ability to analyze both internal structure and surface detail in the exact same viewing area

3. DuraSiN™ products are robust to solvents, bases and acids
Samples grown under strong acidic or basic conditions can be grown, deposited or synthesized directly onto a DuraSiN™ Film or Mesh

4. DuraSiN™ products can withstand high temperatures (up to 1000°C)
Samples grown or deposited directly onto DuraSiN™ can be annealed or cured at elevated temperatures while mounted to a support grid

5. DuraSiN™ products are robust to glow discharge high energy plasma cleaning
Glow discharge can be used to modify the surface of DuraSiN™ products and high energy plasmas can be used to aggressively remove any organic residuals from the sample preparation process

6. DuraSiN™ has an ultra-flat surface
Reduce both specimen preparation time and imaging artifacts introduced by other non-planar support grids

7. DuraSiN™ provides a large viewing area free of grid bars
Examine specimens through large tilt angles without losing data from grid bars

8. DuraSiN™ can be produced with extended functionality integrated onto the support film
In-situ characterization is possible with advanced features such as integrated electrodes

9. DuraSiN™ Mesh products provide a regular array of micron-scale holes
The regular array of micron-scale holes available only with DuraSiN™ Mesh enables the highest resolution possible for nanowires, carbon nanotubes, fibers, powders and colloids

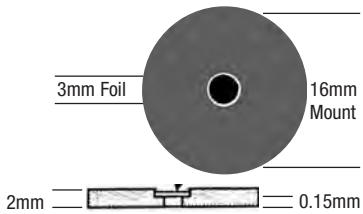
10. DuraSiN™ can be manufactured with fully customizable frame & window dimensions, hole patterns and membrane thickness
The DuraSiN™ product family offers the maximum flexibility to meet specific customer needs

Pinholes

These pinholes are prepared from pure copper foil, 3mm in diameter, 25 microns thick. They possess very high roundness and edge retention. Blackened on one surface. Mounted in black anodized aluminum discs. Mounted in a recessed hole in an anodized holder, 16 mm in diameter.

Applications

- Spatial filtering
- Controlling the diameter of light beams
- Creating point light sources
- Image analysis
- Etc.

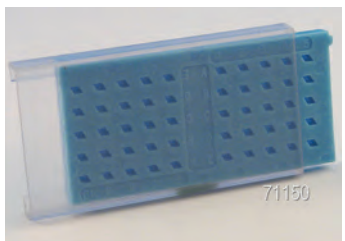


Hole Range	Tolerance
101-500µm	+/- 2µm
25-100µm	+/- 1µm
1-25µm	+/- 0.5µm

PH-C1	Pin Hole 0.001mm	(1µm) diameter	each
PH-C2	Pin Hole 0.002mm	(2µm) diameter	each
PH-C5	Pin Hole 0.005mm	(5µm) diameter	each
PH-10	Pin Hole 0.01mm	(10µm) diameter	each
PH-C25	Pin Hole 0.025mm	(25µm) diameter	each
PH-C50	Pin Hole 0.05mm	(50µm) diameter	each
PH-100	Pin Hole 0.1mm	(100µm) diameter	each
PH-C250	Pin Hole 0.25mm	(250µm) diameter	each
PH-C1000	Pin Hole 1.0mm	(1000µm) diameter	each

Grid Storage Box, 50 Capacity

Storage for 50 grids in deep diamond-shaped wells. All wells are identified. The base is resistant to organics and reactions can be carried out on grid-mounted samples in the wells. Complete with grid recording card. Measures: 3"(L) x 1 3/16"(W) x 5/16"(H) (77x40x8mm)

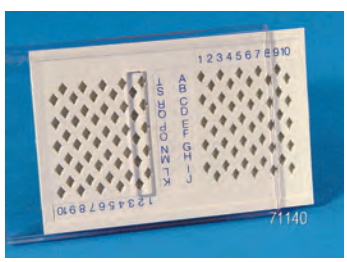


71150

71150	Grid Storage Box, 50 Capacity	each
71152	Grid Storage Box, 50 Capacity	1 dozen

Grid Storage Box, 100 Capacity

100 grids can be stored in identified diamond-shaped wells for daily handling or long-term storage. Complete with grid recording card. Measures: 3 5/16"(L) x 2 5/16 (W) x 3/32"(H) (85x58x7mm)



71140

71140	Grid Storage Box, 100 Capacity	each
71142	Grid Storage Box, 100 Capacity	1 dozen

TEM-Specimen Grid Box – SB50

This newly designed TEM grid storage box, for routine handling and long term storage of 50 standard size TEM grids. This new ergonomic design incorporates several features that overcome the disadvantages associated with storage boxes of the more conventional 'sliding cover' design. This new box has a unique number on the face and on one end.

Features

- The blue arrow at the 12:00 o'clock position indicates the park position for the cover when not it is not in use. This is a firm grip 'click' position and it cannot be moved accidentally thus preventing spillage.
- The clear cover can be rotated smoothly through 360 degrees once the slight initial resistance of the park position has been overcome exposing a maximum of 2 or 3 diamond shaped slots at any one time.
- The 50 diamond shaped slots have an alphanumeric referencing system. Each box is supplied with an index record card for additional information.
- The material the bases are made from have been chosen due to their anti-static properties. The clear cover has self-lubricating properties, which reduces friction, enabling the cover to move freely while remaining in close contact with the face of the base.
- The storage boxes are designed to be stacked, the base locating precisely over the face of another box.

Specifications:

Size .....75mm (L) x 65mm(W) x 6.5mm(D)

Weight.....22 grams

Materials: Base:.....ABS-PHAT (Acrylonitrile Butadiene Styrene + Anti-Static Additive)

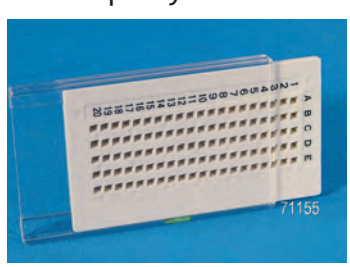
Cover: .....CAB (Cellulose Acetal Butyrate)

71135-01	SB50 Grid Storage Box	each
71135-12	SB50 Grid Storage Box	12/bx
71136-01	SB50N Grid Storage Box with Unique Number	each
71136-12	SB50N Grid Storage Box with Unique Number	12/bx

Grid Storage Box, 100 Capacity

A newly designed grid storage box similiar to the original LKB box. Made from a special plastic that minimizes static. Complete with grid recording card.

Measures:
8cm(L) x 5cm(W) x7mm(T)



71155

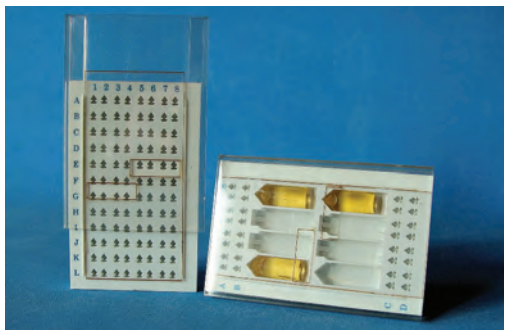
71155	Grid Storage Box, 100 Capacity	each
71156	Grid Storage Box, 100 Capacity	1 dozen

Electron Microscopy Sciences In PA: (215) 412-8400 • Toll-Free (800) 523-5874
Fax (215) 412-8450 or 8452 • email: sgkcck@aol.com or stacie@ems-secure.com • www.emsdiasum.com

Multipurpose Electron Microscope Specimen Box – MEM Grid Box

A newly designed Grid Box with safety, ease and convenience in mind – this multipurpose electron microscope specimen grid box is one of the most desirable boxes on the market.

- **Eliminates the chances of tweezers insertion damaging the grids – The 'tweezers slot' and 'grid slot' are in a separate location. The tweezers are only able to grip the edge of the grid enabling it to be picked up**
- **Grids stored no longer jump out of the box while you remove the cover – Between the body of the box and the sliding lid, there is a separate plastic cover, which allows for only four slots being exposed at a time**
- **The Grid Record Card is stored safely by insertion along the reverse side of the box**
- **MEM-96 – will able to store up to 96 grids**
- **MEM-32 – will able to store up to 32 grids with 8 Blocks**
- **Measures: 81mm L x 54mm W x 6mm thick**



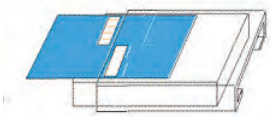
1. Pick up a grid

Removes the problem of inserting the tweezers too deep or damaging the tissues. The tweezers slot and grid hole connect. The tweezers insertion slot grips the edge of the grid, so does not damage the tissues and membrane.

2. Move Plastic sheet

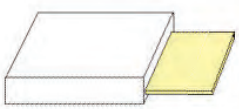
Prevents grids from jumping out of the grid hole and mixing together. Between the body of the box and lid, there is a plastic cover piece so that when you pick up the grid, only four grid holes are exposed at once; the others remain covered by the plastic cover piece and lid.

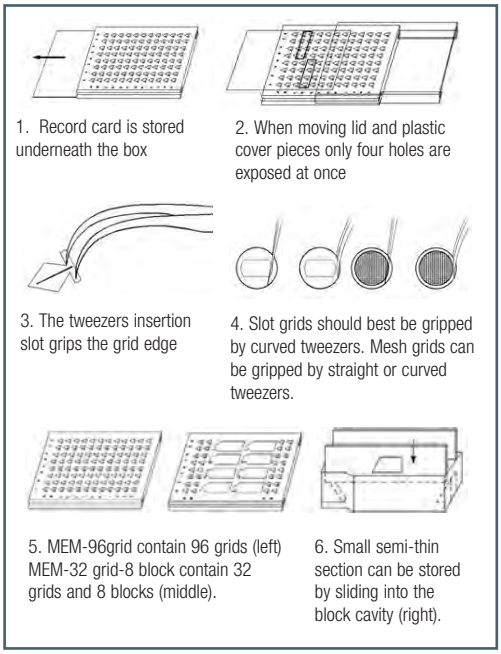
Safeguards against loss of samples, or information of stored samples becoming separated.



3. Record Card

Three different components (semi-thin section, thin section, block) and record card are all stored in one box (MEM-32 grid-8 block). You can find everything and store all of your samples in one box.





1. Record card is stored underneath the box

2. When moving lid and plastic cover pieces only four holes are exposed at once

3. The tweezers insertion slot grips the grid edge

4. Slot grids should best be gripped by curved tweezers. Mesh grids can be gripped by straight or curved tweezers.

5. MEM-96grid contain 96 grids (left) MEM-32 grid-8 block contain 32 grids and 8 blocks (middle).

6. Small semi-thin section can be stored by sliding into the block cavity (right).

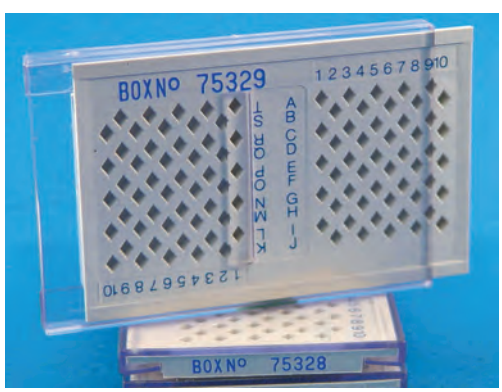
Cat. #	Description	Qty.
71164-01	MEM-96 Grid Storage Box	Each
71164-10	MEM-96 Grid Storage Box	10/pk.
71165-01	MEM-32 Grid Storage Box	Each
71165-10	MEM-32 Grid Storage Box	10/pk.

Numbered Grid Storage Box, 100 Capacity

The standard 100 capacity grid storage box with a unique number printed on the face and on one end.

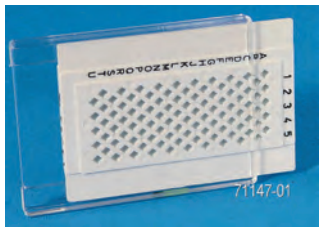
Advantages

- **Eliminates the placement of the specimen grid in the wrong box.**
- **Easy retrieval of grid box from storage.**
- **Complete with grid recording card.**



71137	Numbered Grid Storage Box, 100 Capacity	each
71138	Numbered Grid Storage Box, 100 Capacity	10/lot
71139	Numbered Grid Storage Box, 100 Capacity	100/lot

THE ORIGINAL LKB Grid Storage Box



For years, The LKB Grid Storage Box is the one that everyone is looking for. Now it is available again from EMS. The box is made from ABS (a copolymer of Acrylonitrile, Butadien and Styrene) which will not tolerate temperatures above 70°C, while the lid is made of Polymethacrylate (Flexiglas, Perspex), which should not be exposed to temperatures above 45°C. Neither the box or the lid will resist organic solvents. The box consists of 100 diamond shaped holes for storing up to 100 EM grids, either 3.05mm or 2.3mm in diameter. The box measures 3" (75mm)(L) x 2⅛"(55mm)(W) x ¼"(7mm)(H) and it comes complete with 10 index cards.

71147-01	LKB 100-Grid Storage Box	each
71147-12	LKB 100-Grid Storage Box	10/pk

EMS 50 and EMS 100 Capacity Inexpensive Grid Storage Boxes

The EMS50 and EMS100 TEM Grid Storage Boxes are used for the storage of TEM grids for routine grid handling, transport and long term TEM grid storage for standard grids that are 3.05mm in diameter.

The box has a simple number/letter combination printed on the side of the body. Dimensions for both boxes are: 3"(75mm) x 2⅛"(55mm) x ¼"(6.5mm) and they are anti static treated.

71146-01

71146-02

71146-01	EMS 50 Grid Box	each
71146-02	EMS 100 Grid Box	each

Dial-A-Grid Storage Modules

A two tone color coded plastic box with insert which has 24 letter-labeled crossed slots, where the grids can be stored. A rotating protection plate covers the slots and allows for exposure of one grid at a time.

Measures: 2⅓"(L)x1¾"(W)x½"(H) (57x45x12.5mm)

71148-01

71148-01	BEEM® Dial-A-Grid Storage Box	each
71148-05	BEEM® Dial-A-Grid Storage Box	50/pk
71148-10	BEEM® Dial-A-Grid Storage Box	100/pk

Beem® Is A Registered Trademark of Better Equipment For Electron Microscopy, Inc.

BEEM® Dial-A-Grid and Block Storage Modules

The same as Dial-A-Grid Module but with two additional cavities for block storage.

71149-01

71149-01	BEEM® Dial-A-Grid & Block Storage	each
71149-05	BEEM® Dial-A-Grid & Block Storage	50/pk
71149-10	BEEM® Dial-A-Grid & Block Storage	100/pk

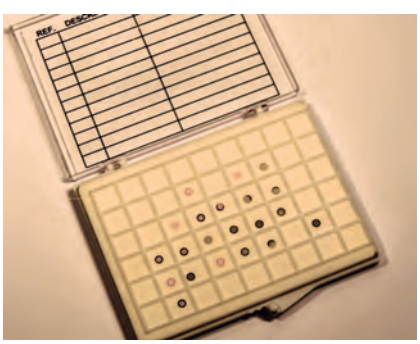
Beem® Is A Registered Trademark of Better Equipment For Electron Microscopy, Inc.

EMS Dial-Grid-N-Block-Storage

24 slots labeled with letters from A-X where the grids can be stored and rotated for easy access as well as 3 additional cavities for block storage. Available with and without a unique identification number.

71158-01	EMS Dial-Grid-N-Block Storage	each
71158-05	EMS Dial-Grid-N-Block Storage	50/pk
71158-10	EMS Dial-Grid-N-Block Storage	100/pk
71158-15	EMS Dial-Grid-N-Block Storage/With Number	each
71158-20	EMS Dial-Grid-N-Block Storage/With Number	50/pk
71158-25	EMS Dial-Grid-N-Block Storage/With Number	100/pk

71158-01



Grid Transporting Box

This unique Box allows for the storage and transportation of grids without any worry of them moving around or being damaged. The Plate is made from Silicone and has 54 individual compartments 10mm in size. Each compartment can hold 3 grids and the grids can be easily picked up from the Silicone surface.

71173-01	Grid Transporting Box	each

Cryogenic Grid Storage Box

This specimen grid box is a tool for storing or transferring cryogenic TEM specimen grids.

- **Four diamond shaped slots**
- **Non-static cover held in place by stainless steel screw, which is tapped in the center of the box.**
- **Box fits the FEI Vitrobot™, Gatan 626™, Gatan 3500™.**

Available with lid or without lid.

71166-10	Cryo Grid Box, Round, w/Lid	each
71166-20	Cryo Grid Box, Square, w/Lid	each
71166-30	Cryo Grid Box, Round, wo/Lid	each

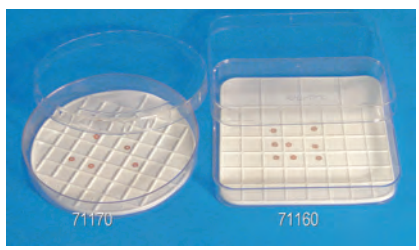
Cryogenic Grid Box Handling Tool

This tool has one end which is threaded and fits into the center hole of the Cryogenic Grid Storage Box (where the screw goes in to secure the lid) for moving the box in and out of the cryogenic chamber.

71165-50	Cryogenic Grid Box Handling Tool	each

Grid Mats

White silicone rubber mats, with numbered compartments. Good for organizing grids. They will not slide or jump between compartments. Also ideal for staining grids. Easy to pick up grids without damaging forcep tips. Mats are available for square and round petri dishes, (100mm diameter, 115mm high).

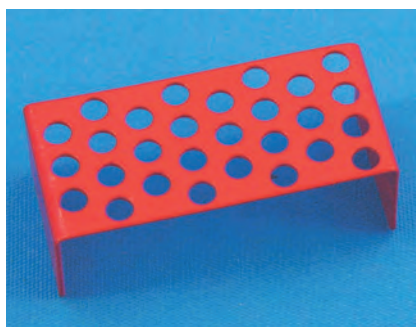


71160	Square Grid Mat	each
71162	Square Grid Mat	1 dozen
71170	Round Grid Mat	each
71172	Round Grid Mat	1 dozen

EMS Domino Rack

The EMS Domino rack is "U" shaped and made from an aircraft alloy sheetstock with serial perforations; thermally bonded spaceage copolymer; 5mm diameter holes, 28 holes per rack. The formvar film cast on the rack will stretch across a series of smooth edged holes forming a flat, wrinkle free film that is ready for grid mounting.

The Domino Rack allows the sections within the slot to dry flat and wrinkle free; it reduces the film and section contamination to negligible levels. The size of the rack is 54mm (L) x 17.5mm(H) x 25.5mm (W) Moran, D.T., and Rowley, J.C., (1987). "Biological Specimen Preparation for Correlative Light and Electron Microscopy in Biology: Microscopy and Methods, ed. M.A. Hayat. Academic Press, New York./ pg 1-22



70620	EMS Domino Rack	each
70621	EMS Domino Rack	10/lot

Grid Staining Matrix System

This unique staining device allows you to stain up to 25 grids at one time or as little as one The Matrix system has a simply alpha-numeric identification system. The unit is not solvent or chemically resistant to acids so all stains should be aqueous based only.

The system requires very little stain and you may use different vessels for each stain.

The amount of Volume of stain required is as follows:

21–25 grids 11ml **11–15 grids 7ml** **01–05 grids 3ml**
16–20 grids 9ml **06–10 grids 5ml**

Each system includes the following:

- *Matrix Body*
- *2 each of the Staining Vessels (Red and Blue)*

71179-01	Grid Staining Matrix System Kit	each
71179-05	Matrix Body with handle and cover	each
71179-06	Staining Vessels, 1 red and 1 blue	2/pk
71179-07	Staining Vessel, blue	each
71179-08	Staining Vessel, red	each

ARTICLE OF INTEREST

A simplified method for handling EM grids is described. This new method not only offers safety and identification of your samples but offers you improved handling, temporary storage, and identification of grids bearing ultrathin sections as well as a novel method for preparing bulk samples.

Refer to: Gorycki, M.(1992). A Simple Method for Handling Grids. Biotechnic & Histochemistry 67/5, 313-314.

TECHNICAL TIP

A Fool-proof Method for Mounting Serial Sections on Single Hole Grids

I did serial sectioning for years on large single hole grids using a very simple technique that made the potential problems of film thickness, wrinkles and section loss very minor. I was not the original developer of the method and do not remember who originally gave it to me. It goes as follows:

1) Have your machine shop cut some thin pieces of Plexiglas into the size of glass slides. At one end, drill about a dozen holes, roughly 5mm in diameter, in an area about the size of a formvar film cast on glass slides. These slides will serve as your template for holding your films.

2) Cast the formvar films onto glass slides using your normal method. Usually a good silver film, not gray, will work fine I routinely used 0.2% formvar in dichloroethane when casting by immersing the slide into the solution in a small jar, etc. We now use a film caster that lets us hold the slide in the dichloroethane vapors after lowering the formvar solution level This method tends to give you thinner films consistently so the correct solution percentage and timing would have to be redetermined.

3) Float the film off the glass slide and pick it up with the Plexiglas slide so the film covers the holes. Then draw the water out of the holes by pressing the plastic slide down onto filter paper, or using small pieces of filter paper and capillary action to draw the water out of individual holes. The films should hold nicely over the holes in the slide. Store slides until needed.

4) Next, cut your sections using a block diameter that is fairly similar to the size of the slit in the grid. Pick up the sections on UNCOATED grids by gently lowering the grid to the surface of the knife boat. I put the dull side down on the premise that the rough surface would grab the film better during step 6. The surface tension of the water will hold the sections in the grid opening. Transfer the grid to a droplet water until you have finished sectioning. Do invert grid. It important the of grid (shiny side) stay dry so that the grid will float on all subsequent solutions.

5) Transfer the grid + sections + water droplet to a drop of stain. A small amount of water will be transferred but this will not interfere with staining. If you are concerned about the dilution effect, increase your staining time slightly. Allow the section to stain, then wash by transferring through a series of droplets of clean water. Continue to if desired and wash the same way. Never let the grid dry. There is minimum problem with stain precipitation if you use very clean water and transfer the grid through a sufficient number of water droplets (6-12 recommended).

6) The final step is to transfer the grid to a film suspended over the hole in a Plexiglas slide and let it dry down. The sections will now be stuck to the film with NO wrinkles and minimum breakage. When ready to view, just punch out around the grid with the tip of your forceps, grab the grid and insert into the microscope.

Believe me....the sections will still be there at the end!

I found that as long as the sections cover a substantial portion of the open area of the grid, carbon coating was not essential. I used to do 50-100 grids worth of serial sections without loosing any. The films on the plastic slides would hold for months so I could make a lot and store until needed.

Previously Published in: Sherman, D.M. (1998) A Full-proof Method for Mounting Serial Sections on Single Hole Grids. MSA Technologist's Forum Newsletter 16:2

Plexiglas Microscope Slides

A Fool-Proof method for the mounting of serial sections on Single Hole Grids 1

These plexiglass slides are 3x1"(75-25mm) and 1 mm thick. They prevent wrinkling and section loss while mounting sections on the grid The procedure is simple

71891-10	Plexiglass Microscope Slides	5/pk

Five-Slide Gripper

- The Five-Slide Gripper accommodates five microscope slides in one staining procedure.
- Fits most coplin and round-open staining jars.
- No need to remove slides for drying.
- Made from a special material which is resistant to all chemicals and solvents which are used in staining.
- Withstands drying temperatures up to 80°C

71410-06	Five-Slide Gripper	6/pk

Film Casting Device

An all glass apparatus. It casts uniformly thin films of parlodion, formvar, or butvar directly onto 1x3 microscope slides. The film casting solution can be used repeatedly. A built-in fine-pressure-release valve helps control the speed of drainage. The thickness of the film is controlled by the concentration of the film solution and the rate of the drainage. The unit requires 100mls of film casting solution to start.

The unit comes complete with:

- 500 ml capacity flask with built-in valves; Air-in and Air-out.
- Film casting Cylinder with Cover.
- 75 cc Atomizer.

71305-01	Complete Film Casting Device	each
71305-04	500 ml Flask Replacement	each
71305-06	Film Casting Cylinder Replacement	each
60804	Atomizer Replacement	each

All Glass Nebulizer

An all glass unit for the simple production of microdroplets. An object is held vertically in front of the nebulizer outlet and by squeez-ing the atomizer a fine spray is created. The nebulizer set comes with an All Glass Nebulizer bulb and Atomizer.

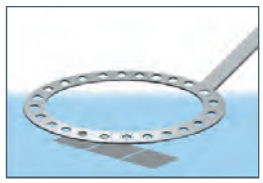
70505-01	Nebulizer Set	set
70505-05	Nebulizer Set	5 sets
70506-01	Nebulizer Only	each
70506-05	Nebulizer Only	5/pk
60804	Atomizer	each

Perfect Loop

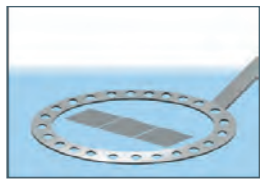
Using this PERFECT LOOP, you can place your thin sections, cut on the ultramicrotome, easily on the grid mesh without creases.

EMS EXCLUSIVE

The Perfect Loop allows you to pick up sections consistently without causing any damage to the sections. It is the only loop that is currently available where the outside diameter of the loop is the same as the grid and the inside diameter is slightly larger than the observation area of the electron microscope. The thickness is about 40 microns. Due to the fact that the loop and the grid are of the same diameter they are attracted to one another when in water and attach together through the surface tension of the water. Even if the section touches the inside of the grid during blotting the touching area is minor and, therefore, the section is not damaged. When the grid is removed from the loop the section remains in place without fail. The area equals the observation field (about 2mm diameter) of the electron microscope; thus pieces can be fully observed.

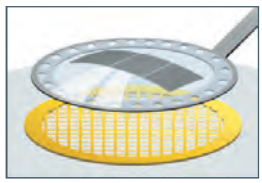


1. Center the LOOP above the sections

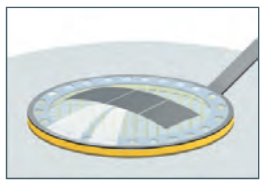


2. Slowly lower the LOOP over the sections and touch the water.

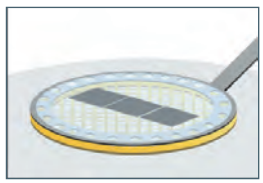
3. Gently lift up the LOOP with the sections in a droplet of water



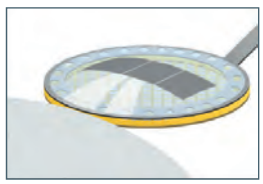
4. Lower the LOOP onto a grid and lift up again.



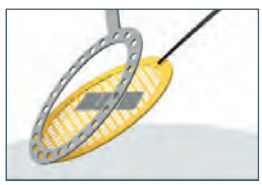
5. The grid holds to the LOOP by surface tension.



6. Lower the LOOP to the filter paper to remove water.



7. For coated grids, touch with filter paper to remove water.



8. Separate the grid from the LOOP with an eyelash.

Perfect Loop for Ultra thin sections

70944	Set of Handle & Loop	set
70945	Loop only	each
70946	Loop only	5/each
70948	Handle only	each

Perfect Loop for Light Microscopy (large sections)

The outside diameter of the loop is 7mm.

70940	LM Set of Handle & Loop	set
70941	LM Loop only	each
70942	LM Loop only	5/each
70943	LM Loop Handle	each

Grid-Stick Kit

A helpful device for multi grid staining. If the instructions are followed carefully you can say good-bye to precipitate and dirt. The Grid Stick is made from a thin, but rigid alloy that does not react with commonly used organic solvents or stains. The stick itself measures 4mm wide, 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 the top of each stick is reserved for identification. The Grid Stick is coated with a specially-formulated pressure-sensitive adhesive. This adhesive is resistant to solvents used in conventional staining methods (e.g., water, alcohol, ethanol) and aggressively holds the grids in place during staining, emulsion coating, carbon coating, shadow casting, serial section collection, etc., yet will not remain on the grid once it is removed from the stick. During staining the grids are held in the same plane as the solution flow, minimizing the risk of breaking the formvar film and, or collecting surface debris. Grids may be stored, handled, and examined with minimal effort. For example, if your grids are on SynapTek Grid Sticks you can simply place the stick on the stage of a phase microscope, identify the material (you will see outlines of large cells), and determine its condition (i.e., holes in material, dirt on grids) in only a few seconds without disturbing a single grid. In short, you will find that the SynapTek Grid Stick is simple, easy to use, and most importantly, highly reliable.

SynapTek Grid-Stick consists of:

- 5 coated Grid Sticks
- 10 Staining Pipettes (modified)
- 2 flow-limiting Plugs and Bulbs
- Instructions


Grids to be stained are mounted on the sticky side of Grid Stick


Stick with Grids is inserted into the pipette ready for staining

71175	Grid-Stick Kit	each

Replacement Components:

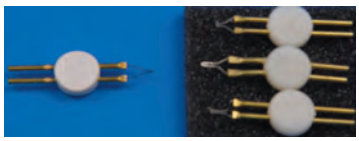
71176	Grid-Stick, uncoated	10/pk
71177	Staining Pipettes with 2 plugs	20/pk
71178	Grid-Stick Glue (For recoating GridStick)	5ml

Hot Pen – Wax Pen; A Tool for Separating Sections or Cauterizing

Powered by AA batteries. This pen helps to flatten and separate tissue sections and reduces compression in thin sections. Available in two models: Wax Pen 1 is powered by one AA battery; Wax Pen 2 is powered by two AA batteries. Both pens are using the same tip. Replacement tip (Cat. #72679-RT) is a straight one. Replacement tip (Cat. #72679-03) is a set of three different configurations: Straight, Hook, and 'U' Shaped Tips.

Cat #	Description	Length with Tip w/o Cap	w/Cap	Diameter	Pack
72678	Wax Pen 1 (A)	6½"	6¾"	¾", 18mm	each
72679	Wax Pen 2 (B)	8¼"	8¾"	¾", 18mm	each
72679-RT	Replacement Tip				each
72679-03	Replacement Tips		Set of Three Variable Tips		

72678



72679

Grid Coating Pen For TEM; Coat Quick "G"

The Coat-Quick "G" pen improves the adherance of tissue sections onto the grids. With a touch of the pen to the grid, a thin layer of coating is applied to the grid. Drying takes place in approximately 1-2 minutes at room temperature. After it has dried the grid is ready for tissue mounting. The pen is also used in pretreating grids prior to mounting supporting films such as formvar and carbon; it minimizes dislodging, widening, or breaking of the support film.

70624	Grid Coating Pen	each

Micro-Test Staining Dish

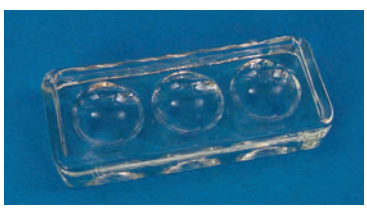
This staining dish is made from clear glass and has 10 cells in 2 rows of 5 each. Each cell is 2mm deep and holds 0.15ml of solution. Very useful in specimen preparation, EM staining, and Boerner-Jones-Lukens microfluocculation test. Measurements: 108 X 57mm (4¼" x 2¼").

71564	Micro-Test/Staining Dish	each

3-Well Glass Slide – Micro Spot Plate

Pyrex brand Micro Spot Plate is ideal for microchemical applications. With three concave depressions. Cavities measure ⅛" O.D. x ¼" Deep (22 x 7mm). Plate overall measures 3⅜"(L) x1⅜"(W) (85 x 34mm)

Catalog #		Pack
71561-01	3-Well Slide	each
71561-06	3-Well Slide	6/pk



White Porcelain Plate

12 cavities on a white porcelain plate. Used for staining and color reactions.
They measure: 4⅝"(L)x3½"(W) (118x90mm). Cavity depth: ¼" (6.4mm).

71562-01	White Porcelain Plate	each
71562-06	White Porcelain Plate	6/pk

Glazed Porcelain Plate

Our economical glazed porcelain plate is made from high purity raw material, uniform in quality and resistant to acids and alkalis. It can withstand sudden temperature changes without cracks, explosion or deformation. Under normal conditions, the glazed plate can sustain a temperature of up to 1050° C. Available in two models: 1. 6 well with overall measurements of 3¼"(L) x 2⅛"(W) x ⅜" thick, and 2. 12 wells with overall measurements of 4½" (L) x 3½" (W) x ½" thick.

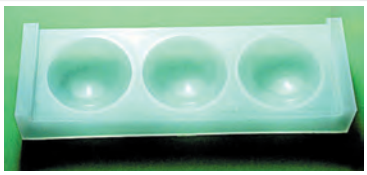
Cat. #	Description	Well Measures	Pack
71575-06	6-Well	20mm Dia x 5mm Deep	each
71575-12	12-Well	20mm Dia x 5mm Deep	each

12 Cavities Spot Plate, Polypropylene

Very similar to the white porcelain plate, this PP plate comprises 12 cavities of approximately 1ml capacity and is economically priced. This plate is very high quality, unbreakable as well as autoclavable.

71572-01	12-cavities Spot Plate, Polypropylene	each
71572-10	12-cavities Spot Plate, Polypropylene	10/cs

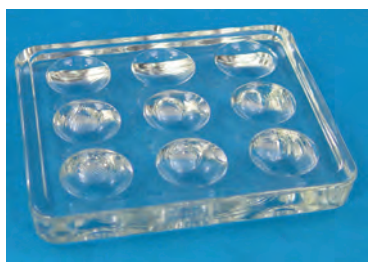
3-Cavities Spot Plates, LDPE



These spot plates have three depressions 21mm diameter x 7mm deep. The tray is 28mm x 85mm. Made from low density polyethylene and will withstand temperatures up to 80° C.

71574-05	3-cavities Spot Plate, Polypropylene	5/pk
71574-40	3-cavities Spot Plate, Polypropylene	40/cs

Pyrex® Plate

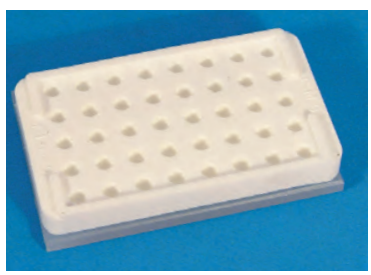


A 9 cavity Pyrex pressed plate which offers a clear view for observation by transmitted light. The plate measures: 4"(L)x3⅜"(W) (100x85mm). The cavity is ¼" (6.4mm) deep with a ⅞" (22mm) opening.

71563-01	Pyrex Plate	each
71563-06	Pyrex Plate	6/pk

Silicone Staining Pad

EMS EXCLUSIVE



Made from white silicone, a non-reactive material. Pad has 40 cells in 5 rows of 8 each. Each cell is half-sphere shaped with an opening of 6mm dia. and 5mm deep. A few drops of staining solution is added to the wells and grids are then immersed and retrieved as per staining procedure. A watch-glass plate comes with each dish to reduce oxygen and evaporation. Measures: 5"(L)x3"(W)x ½"(T) (127x76x13mm)

71565	Silicone Staining Pad	each

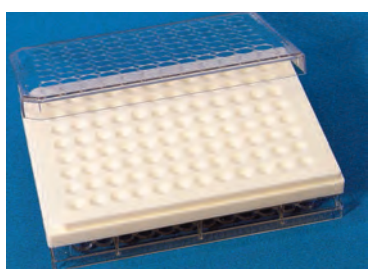
Syracuse Watch Glass

A clear watch glass which measures 65mm(OD)x50mm(ID)x 10mm(Deep). The glass is grooved and has a recessed bottom which allows for stacking and prevents scratching. It is ideal for staining and specimen preparation.

71570-01	Syracuse Watch Glass	each
71570-06	Syracuse Watch Glass	6/pk

The EMS Staining Plate

EMS EXCLUSIVE



The EMS Staining plate for Electron Microscopy was developed by Dr. Miguel Berrios, at SUNY at Stony Brook, Dept of Pharmacological Sciences, School of Medicine, New York.

The chemical etching process, antibody incubations and final staining with heavy metal salts of each grid is performed in the small cone-shaped wells on the EMS staining plate.

The EMS Staining Plate for electron microscopy post-embedding staining and immunohistochemistry offers several advantages over all other commercially available staining devices. The base plate is a solid piece of chemical-resistant silicone 127.5mm long, 85.5mm wide, 11.5mm thick with 96 cone-shaped wells organized (like the microtitration plate) in parallel rows of eight, using the lid of a 96-well Falcon 3072 Microtest™ III Plate as a cover. The base has two notches to serve for orientation and a 1.5mm X 4.4mm deep lip where the cover rests. Each well is an inverted cone 7mm in diameter and 2mm deep. Grids either float or rest at the bottom of each well. The wells allow incubation of a grid in 12-60 microliters of solution without reagent loss due to adsorption or cross contamination, even when the plate is tilted up at 70°. Due to the shape of the well, the flat surface of the grids never come into contact with the walls of the well, both facilitating sample staining and grid recovery.

Plates made from silicone offer two advantages:

- **Resistant to all chemicals and solvents**
- **During manipulation of the grids in the well there is no risk of damaging the fine points of the tweezer.**

Reference: Berrios, Miguel; (1991), A Staining Plate For Electron Microscopy. 48: 90-92.

71568	EMS Staining Plate	each

Vacuum Pick-Up System

Handle delicate miniature objects without scratching, breaking or pinching. The system avoids contamination of parts and performs functions that tweezers does such as sorting, picking up, holding, carrying, and trans-ferring. As well it is an alter-native way for handling cover slips without the use of forceps.

Features:

- Picks up grids faster and easier than tweezers –

WARNING: Never use this device on coated grids.

- Quiet operation.
- Eliminates all tweezer damage to grids.
- Good suction (produces 14" Hg vacuum and an air flow of 125 cubic inches/minute); Can pick up aluminum stubs.
- Can be used as a tool to pick up glass slides, cover slips, wafers, thin film samples, etc.

Double-insulated (115–120V, 60Hz, 2-wire). Light weight, completely assembled and ready for immediate operation as soon as the proper tip is selected and installed. Vacuum is created at the tip by placing the finger over the control hole on the anodized aluminum vacuum pen. To break the vacuum, just remove your finger from the hole. The vacuum generator measures 4½" (H) x 2¾" diameter (114 x 70mm), and it has an adjustable vacuum pressure control from 1" Hg to 15" Hg.

Vacuum Pick-up System complete set: Vacuum Generator, Aluminum Vacuum Pen, Five Vacuum Tips, Set of eight Rubber Vacuum Cups (size ranging: ⅝", 9/16", ½", 7/16", ⅜", 5/16", ¼" and 3/16"), an In-Line Filter, and 4 ft (122cm) of Vacuum Tubing.

Cat. #	Description	
71894	Vacuum Pick-Up System, 115V/60Hz	each
71895	Vacuum Pick-Up System, 220V/60Hz	each
71896	Vacuum Generator only, 115V/60Hz	each
71897	Vacuum Generator only, 220V/60Hz	each
71894-01	Vacuum Pick-Up Pen only	each
71904-02	In-line Vacuum Filter	each

Replacement Stainless Steel Probe Tips (1.5" Long) and Rubber Suction Cups:

		O.D.		I.D.	
Cat. #	**Description**	**(in)**	**(mm)**	**(in)**	**(mm)**
71898	15 gauge Probe Tip	.071	1.8	.052	1.3
71899	16 gauge Probe Tip	.065	1.7	.045	1.1
71900	21 gauge Probe Tip	.032	0.8	.020	0.5
71901	22 gauge Probe Tip	.028	0.7	.016	0.4
71902	23 gauge Probe Tip	.025	0.6	.013	0.3
71903	9/16" (14.27mm) Vacuum Suction Cup				each
71904	7/16" (11.12mm) Vacuum Suction Cup				each
71905	⅜" (9.53mm) Vacuum Suction Cup				each
71906	5/16" (7.94mm) Vacuum Suction Cup				each
71907	¼" (6.35mm) Vacuum Suction Cup				each
71908	3/16" (4.76mm) Vacuum Suction Cup				each
71909	Set of 8 Rubber Cups (⅝", 9/16", ½", 7/16", ⅜", 5/16", ¼", and 3/16")				8/set

71915 - PenVac with Deluxe Storage Case

71914 - Complete Pen-Vac System

Pen Vac™

Pen-Vac™ is a new improved way to handle small, flat surface objects. Beside the electronics assembly industry, jewelers, model builders etc. Pen-Vac is ideal for EM work as well. It can be used to handle grids, pick up stubs, align membranes, work with glass slides, cover slips and much more. Holds up to one minute.

Features:

- Lifts up to 50 grams.
- Totally self-contained vacuum.
- Light-weight, less than one ounce.
- Fits in your pocket like a pen.
- Brushed aluminum body.
- Optional storage compartment for vacuum tips and cups.
- No power supply needed.
- Available in various sizes.
- Interchangeable vacuum probes.

Pen-Vac™ comes with:

- A variety of Vacuum Probes, complete with a vacuum cup attached and it is available with plastic or aluminum hubs. Straight and angled to suit your applications. The stainless steel needle portion of the probes are one-half inch long.
- Vacuum Cups come in a wide range of materials. We offer the Static Dissipative and the Conductive Cups that provide ESD protection for electrostatic discharge of sensitive components. Cups comes in three sizes: ⅛" (3.17mm); ¼" (6.35mm); and ⅜" (9.52mm).

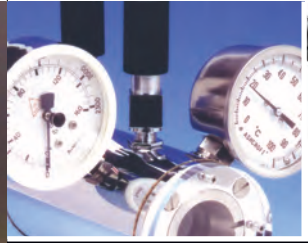
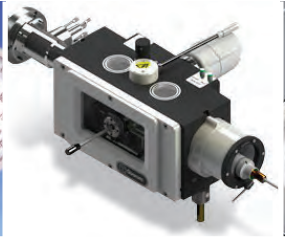
Set consists of:

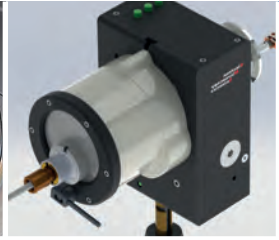
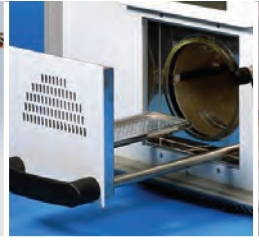
One Pen with 6 Probes and Cups. (6 Probes: 3 angled, ⅛", ¼", ⅜" and 3 straight ⅛", ¼", ⅜")

71914	Complete Pen-Vac System	set
71915	Same as 71914 with Deluxe Case	set

Probes and Cups:

71916	⅛" Straight and Bent, Small	2/pk
71917	¼" Straight and Bent, Medium	2/pk
71918	⅜" Straight and Bent, Large	2/pk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- Recirculating Heaters and Chillers
- Sputter Coaters
- SEM/TEM Carbon Coaters
- Vacuum Evaporators (Large Chamber)
- Critical Point Dryers
- Freeze Dryers
- RF Plasma Etchers/ Plasma Reactors
- Cryo-SEM Preparation Systems
- NEW: Specimen Transfer Systems

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more than just products...

Both our Full Line Catalog and our website are loaded with supplemental information for electron microscope specimen preparation equipment, including articles and video reviewing electron microscope preparation techniques, such as...

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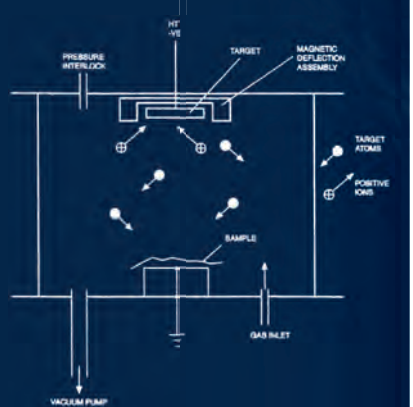
- Silver as a Removable Coating for Scanning Electron Microscopy
- Carbon Coating Techniques and Applications
- Plasma Etching and Ashing Techniques and Applications
- A summary of the Critical Point Drying Method
- Freeze Drying Principles
- Cryo-SEM — the Advantages



CONTACT US FOR MORE INFORMATION...

EMS has it!

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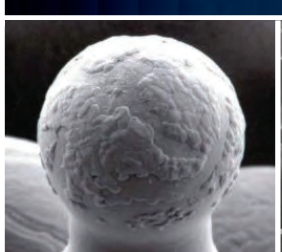
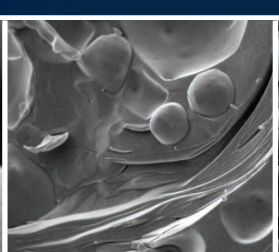
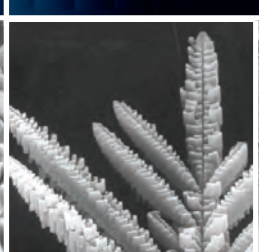
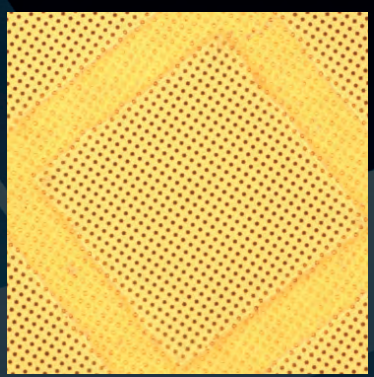






NEW PRODUCTS...

EMS is pleased to announce the arrival of

UltrAuFoil™
Holey Gold Films



UltrAuFoil™ Holey Gold Film is a newly developed ultrastable gold support for electron cryomicroscopy that will reduce the movement of frozen specimens during imaging. This improves image contrast and quality leading to better 3D reconstructions with less data.

See page 39 for more information.

Electron Microscopy Sciences

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