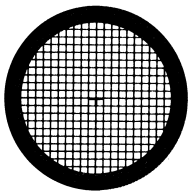
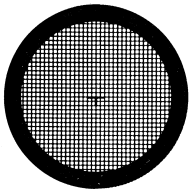
TAAB 'Micron' Grids

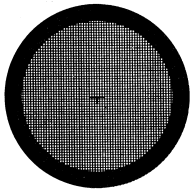
TAAB Grids offer unprecedented transmission without loss of support, have clean smooth bars with **specified** aperture sizes and are manufactured to very fine tolerances. Extremely high quality grids packed 100 grids per vial.



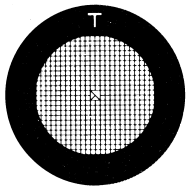
100 Micron



50 Micron



25 Micron



HT300

Lines/inch	GT001/C = 100 Micron Copper		Material	um				Hole/Bar
Mesh	Style	Cat. No.	Copper	Pitch	Bar Width	Hole Width	Transmission	Ratio
203	100 MICRON	**GT001/C**	✓	125	25	100	64%	4:1
363	50 MICRON	**GT002/C**	✓	70	20	50	51%	2.5:1
604	25 MICRON	**GT003/C**	✓	42	17	25	35%	1.5:1
300	HT300	**GT004/C**	✓	84	7.5	76.5	83%	10.2:1

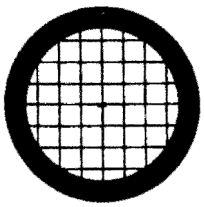
Maxtaform & Embra Grids

See also page 1.23 for Maxtaform New Value Range

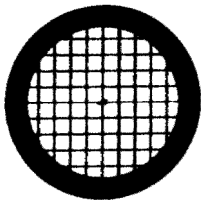
Copper, Copper/Rhodium, Nickel and Maxtaform Gold grids are packed 100 grids per vial, Embra Gold grids and all other materials are in quantities of 25 grids per vial.
Apart from grids coated on one side with rhodium, all grids in copper, nickel and gold are matt on one side, bright on the other side.
All grids are approximately 25 micron thickness.

Square Mesh - High Grade Range 3.05mm - Maxtaform

Special attention should be drawn to this High Grade range of grids with the feature of reduced bar widths. These grids are available in Copper with one surface coated with inert Rhodium, noted for it's stability over long periods of time. These extra high quality grids eliminate tarnishing and give positive identification of one surface. The high quality range is completed with grids in Gold and Nickel.



HR21



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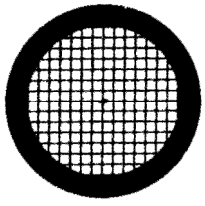

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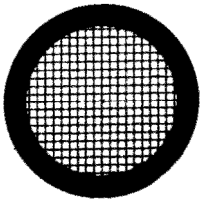

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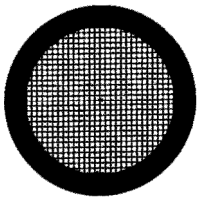
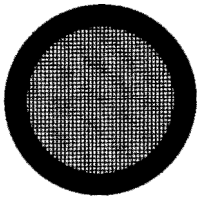


HR25



HR26

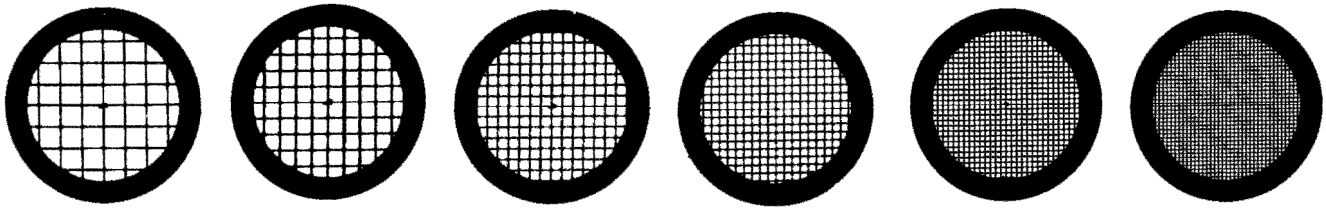
Lines/inch	GM029/CR = HR21 Cu/Rh		Materials				um		
Mesh	Style	Cat. No.	C	N	CR	G	Pitch	Bar Width	Hole Width
75	HR21	**GM029/**	—	✓	✓	✓	338	50	288
100	HR22	**GM030/**	—	✓	✓	✓	254	41	213
150	HR23	**GM031/**	—	✓	✓	✓	165	34	131
200	HR24	**GM032/**	—	✓	✓	✓	127	24	103
300	HR25	**GM033/**	—	✓	✓	✓	84	23	61
400	HR26	**GM034/**	—	✓	✓	✓	63	20	43

Material Legend **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **CR** = Copper with Rhodium flash on one

Grids & Specimen Supports

Square Mesh - Economy Range 3.05mm - Maxtaform

The economy range of EM grids was designed to provide good quality square mesh grids at a very competitive price. The continual high demand for these grids means that it is still possible to manufacture at a low price without losing the inherent quality of Maxtaform grids.



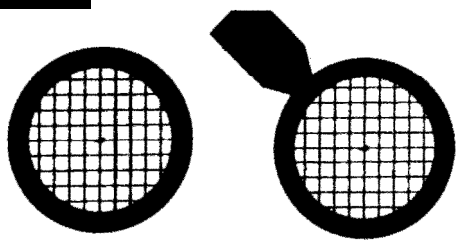
HF31 HF32 HF33 HF34 HF35 HF36

Maxtaform Grids

Lines/inch	GM011/C = HF31 Cu		Materials				µm		
Mesh	Style	Cat. no.	C	N	CR	G	Pitch	Bar width	Hole width
75	HF31	**GM011/**	✔	✔	—	—	339	60	279
100	HF32	**GM012/**	✔	✔	—	—	254	50	204
150	HF33	**GM013/**	✔	✔	—	—	169	38	131
200	HF34	**GM014/**	✔	✔	—	—	127	26	101
300	HF35	**GM015/**	✔	✔	—	—	85	25	60
400	HF36	**GM016/**	✔	✔	—	—	64	23	41

Square Mesh - Plain & with Handles 3.05mm - Embra

Embra & Maxtaform grids are now manufactured by the same company



Copper and Nickel grids are packed 100 grids per vial, all other materials are in quantities of 25 grids/vial

Embra Grids

Lines/inch	GM001/C = 1G75 Cu		Materials							µm			Similar to	
Mesh	Style	Cat. no.	C	N	G	M	S	T	A	Pitch	Bar width	Hole width	Maxtaform	Handle/Tab
75	1G75	**GE001/**	✔	✔	✔	✔	✔	✔	✔	339	55	284	HF31	—
75	3HG75	**GE002/**	✔	✔	✔	✔	✔	✔	✔	339	55	284	HF32	✔
100	!G100	**GE003/**	✔	✔	✔	✔	✔	✔	✔	254	50	204	HF32	—
100	3HG100	**GE004/**	✔	✔	—	—	—	—	—	254	50	204	HF33	✔
150	1G150	**GE005/**	✔	✔	✔	✔	✔	✔	✔	169	44	125	HF33	—
150	3HG150	**GE006/**	✔	✔	✔	—	—	—	—	169	44	125	HF34	✔
200	1G200	**GE007/**	✔	✔	✔	✔	✔	✔	✔	127	37	90	HF34	—
200	3HG200	**GE008/**	✔	✔	✔	✔	✔	✔	—	127	37	90	HF35	✔
300	1G300	**GE009/**	✔	✔	✔	✔	✔	✔	—	85	31	54	HF35	—
300	3HG300	**GE010/**	✔	✔	✔	✔	✔	✔	—	85	31	54		✔

Material Legend **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **CR** = Copper with Rhodium flash on one face
S = Stainless Steel **T** = Tungsten **A**= Aluminium **M**= Molybdenum

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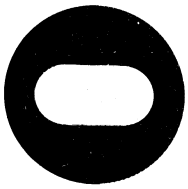
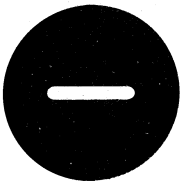
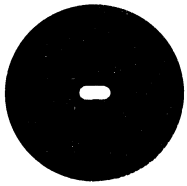
Slotted & Hole Range 3.05mm - Maxtaform


HF49


HF50


HF51


HF47

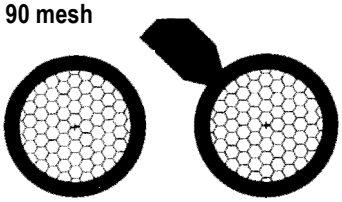

HF48

Lines/inch	GM025N = HF29 Nickel		Materials				µm		
Mesh	Style	Cat. no.	C	N	CR	G	Pitch	Bar width	Hole width
—	HF49	**GM025/**	✔	✔	—	—	—	—	2000 x 1000
—	HF50	**GM026/**	✔	✔	—	—	—	—	1500 x 200
—	HF51	**GM027/**	✔	✔	—	—	—	—	500 x 200
—	HF57	**GM023/**	✔	✔	—	—	—	—	1000
—	HF48	**GM024/**	✔	✔	—	—	—	—	6000

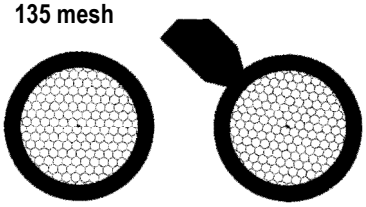
Maxtaform Grids

Hexagonal Mesh - Plain & with Handles 3.05mm - Embra

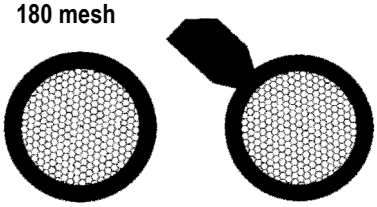
90 mesh



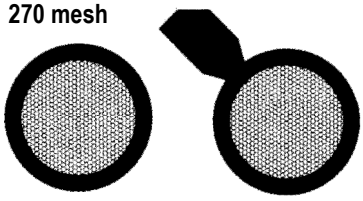
135 mesh



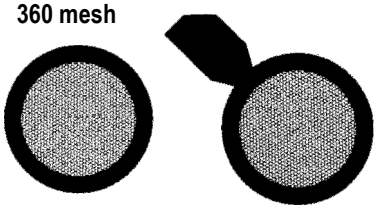
180 mesh



270 mesh



360 mesh



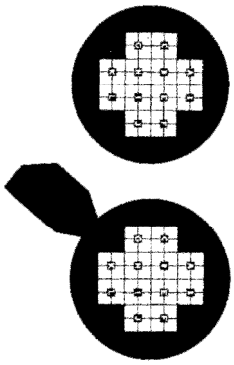
Lines/inch	GM015/C = 8G90 Cu		Materials						µm			
Mesh	Style	Cat. no.	C	N	G	M	S	T	Pitch	Bar width	Hole width	Handle/Tab
90	8G90	**GE015/**	✔	✔	✔	—	—	—	272	48	—	—
90	8HG90	**GE016/**	✔	✔	—	—	—	—	272	48	—	✔
135	8G135	**GE017/**	✔	✔	✔	—	—	—	186	36	—	—
135	8HG135	**GE018/**	✔	—	—	—	—	—	186	36	—	✔
180	8G180	**GE019/**	✔	✔	✔	—	—	—	138	28	—	—
180	8HG180	**GE020/**	✔	✔	✔	—	—	—	138	28	—	✔
270	8G270	**GE021/**	✔	✔	✔	—	—	—	90	24	—	—
270	8HG270	**GE022/**	✔	✔	✔	—	—	—	90	24	—	✔
360	8G360	**GE023/**	✔	✔	✔	—	—	—	67	26	—	—
360	8HG360	**GE024/**	✔	✔	✔	—	—	—	67	26	—	✔

Embra Grids

Material Legend **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **CR** = Copper with Rhodium flash on one face
M= Molybdenum **S**=Stainless Steel **T**= Tungsten

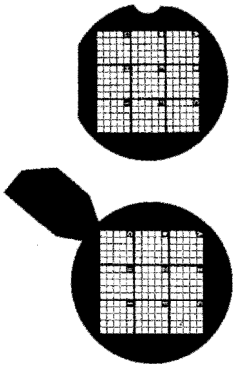
Grids & Specimen Supports

Special Patterns - Plain & with Handles 3.05mm - Embra



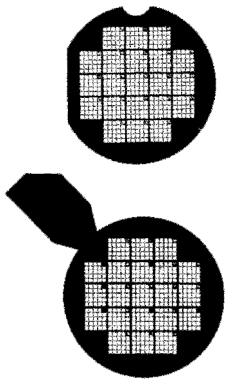
Reference identification of each of **twelve** grid squares

Lines/inch	GE025/C = 7FG100 Cu		Materials						µm			
Mesh	Style	Cat. no.	C	N	G	M	S	T	Pitch	Bar width	Hole width	Handle/ Tab
100	7FG100	**GE025/**	✔	✔	—	—	—	—	250	—	—	—
100	7HFG100	**GE026/**	✔	✔	—	—	—	—	250	—	—	✔



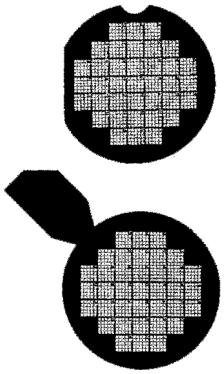
Reference identification of each of **nine** grid squares

Lines/inch	GE027/C = 7FG200 Cu		Materials						µm			
Mesh	Style	Cat. no.	C	N	G	M	S	T	Pitch	Bar width	Hole width	Handle/ Tab
200	7FG200	**GE027/**	✔	✔	✔	—	—	—	125	—	—	—
200	7HFG200	**GE028/**	✔	✔	✔	—	—	—	125	—	—	✔



Reference identification of each of **twenry one** grid squares

Lines/inch	GE029/C = 7FG300 Cu		Materials						µm			
Mesh	Style	Cat. no.	C	N	G	M	S	T	Pitch	Bar width	Hole width	Handle/ Tab
300	7FG300	**GE029/**	✔	✔	✔	—	—	—	83	—	—	—
300	7HFG300	**GE030/**	✔	✔	✔	—	—	—	83	—	—	✔



Reference identification of each of **thirty seven** squares

Lines/inch	GE031/C = 7FG400 Cu		Materials						µm			
Mesh	Style	Cat. no.	C	N	G	M	S	T	Pitch	Bar width	Hole width	Handle/ Tab
400	7FG400	**GE031/**	✔	✔	✔	—	—	—	62	—	—	—
400	7HFG400	**GE032/**	✔	✔	✔	—	—	—	62	—	—	✔

Material Legend **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **CR** = Copper with Rhodium flash on one face
S = Stainless steel **T** = Tungsten

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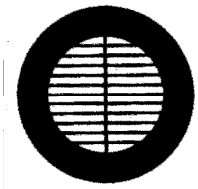
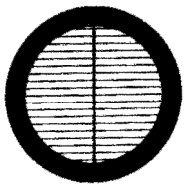
3.05mm - Maxtaform

Parallel Lines with Dividers

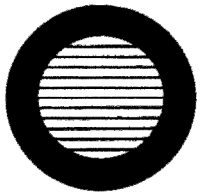


HF43

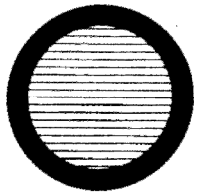


HF44

Parallel Lines



HF45



HF46

Maxtaform Grids

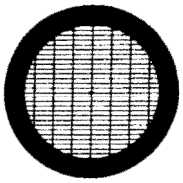
Parallel with single bar crossed at 90° through the centre of the grid

Lines/inch GM021/C = (HF45 Cu)			Materials				µm		
Mesh	Style	Cat. no.	C	N	CR	G	Pitch	Bar width	Hole width
150	HF45	GM019/	✔	✔	–	–	165	34	131
200	HF46	GM020/	✔	✔	–	–	127	24	103

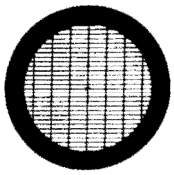
Parallel

Lines/inch GM021/C (= HF45 Cu)			Materials				µm		
Mesh	Style	Cat. no.	C	N	CR	G	Pitch	Bar width	Hole width
150	HF45	GM021/	✔	✔	–	–	165	34	131
200	HF46	GM022/	✔	✔	–	–	127	24	103

Slotted Mesh Grids



HR27

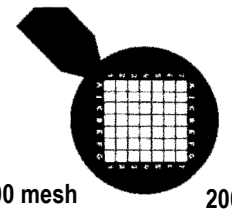


HF41

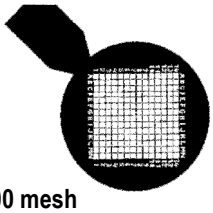
HF42

Lines/inch GM021/C = (HF45 Cu)			Materials				µm		
Mesh	Style	Cat. no.	C	N	CR	G	Pitch	Bar width	Hole width
300-75	HR27	GM035/	–	✔	✔	✔	338x84	50 & 83	288x61
75-300	HF41	GM017/	✔	✔	–	–	338x84	60 & 25	278x59
100-400	HF44	GM018/	✔	✔	–	–	254x63	50 & 23	204x40

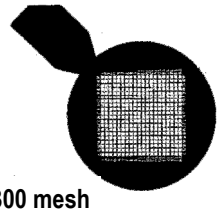
Co-ordinate Grids



100 mesh



200 mesh



300 mesh

Lines/inch	GE043/C = 7HX100 Cu		Materials					
Mesh	Style	Cat.no.	C	N	G	M	S	T
100	7HX100	GE043/	✔	✔	–	–	–	–
200	7HX200	GE044/	✔	✔	–	–	–	–
300	7HX300	GE045/	✔	✔	–	–	–	–
–	9G20H	GE046/	✔	–	–	–	–	–

Chien Grid

9G20H

Embra Grids

Material Legend **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **CR** = Copper with Rhodium flash on one face
S = Stainless Steel **T** = Tungsten

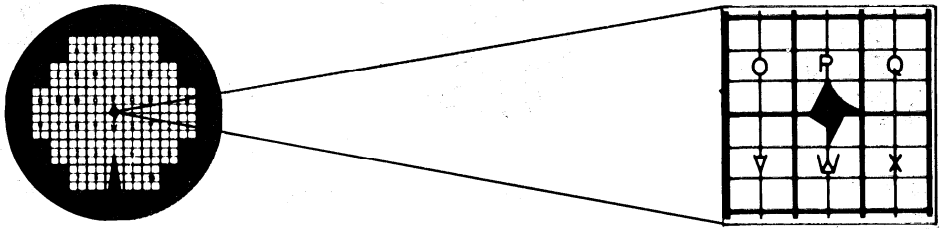
Grids & Specimen Supports

Reference Range 3.05mm - Maxtaform

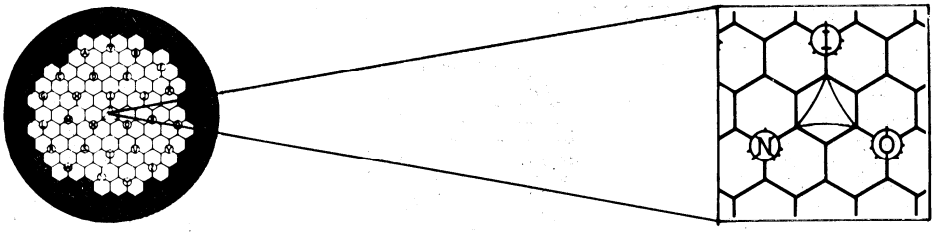
It was Graticules who introduced reference patterns to optical microscopy and carried the advantage into electron microscopy by being the first to make reference grids. The four patterns illustrated will provide the microscopist with a wide choice to suit their particular needs.

Parallel

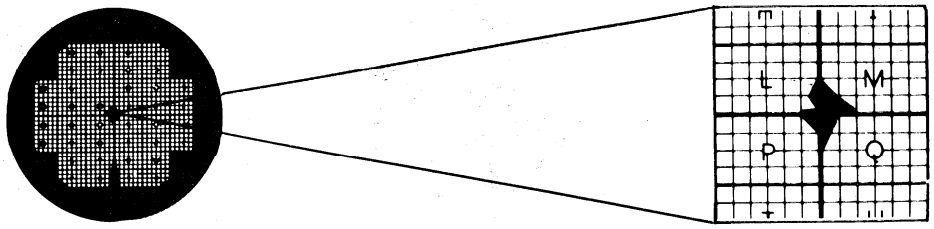
H2



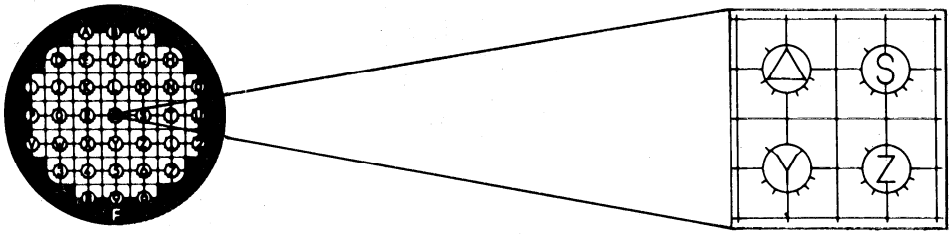
H6



H7



HF15



Lines/inch	GM006/C = H7 Cu		Materials				µm		
Mesh	**Style**	**Cat. no.**	**C**	**N**	**CR**	**G**	**Pitch**	**Bar width**	**Hole width**
200	H2	**GM002/**	✔	✔	—	✔	127	19	108
—	H6	**GM005/**	✔	✔	—	✔	235	25	210
400	H7	**GM006/**	✔	✔	—	✔	63	12	51
135	HF15	**GM010/**	✔	✔	—	✔	188	20	168

Material Legend **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **CR** = Copper with Rhodium flash on one face

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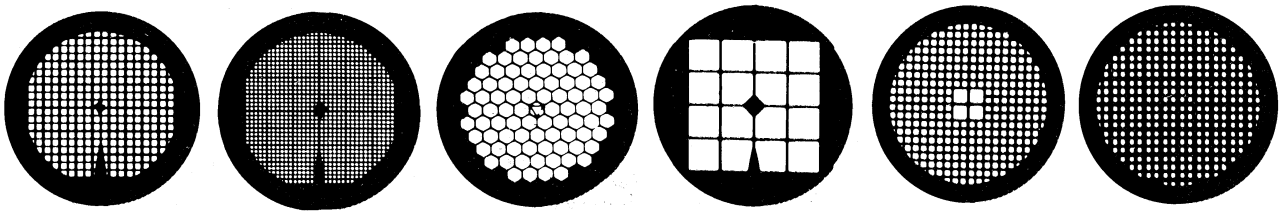
Specialist Range 3.05mm - Maxtaform

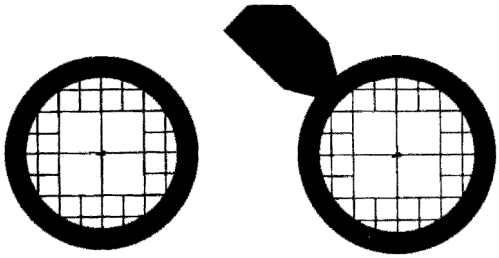


H1 H4 H5 H9 HF14 HF52

Lines/inch	GM001/C = H1 Cu		Materials				µm		
Mesh	Style	Cat.no.	C	N	CR	G	Pitch	Bar width	Hole width
200	H1	GM001/	✔	✔	–	✔	127	15	112
400	H4	GM003/	✔	✔	–	✔	63	12	51
–	H5	GM004/	✔	✔	–	✔	235	25	210
50	H9	GM007/	✔	✔	–	✔	508	25	483
200	HF14	GM009/	–	✔	✔	✔	127	22	105
100	HF52	GM028/	✔	✔	–	–	254/127	47/25	72

Maxtaform Grids

Freeze Fracture Grid 3.05mm - Embra



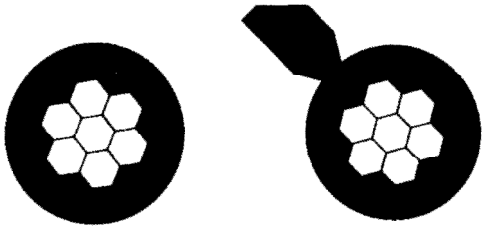
For 200 mesh Freeze Fracture grid - Please see HF14 above.

Freeze

Lines/inch GE033/C = 5G75FF Cu			Materials						µm			
Mesh	Style	Cat. no.	C	N	G	M	S	T	Pitch	Bar width	Hole width	Handle/ Tab
75	5G75FF	GE033/	✔	✔	✔	–	–	–	339	55	284	–
75	5HG75FF	GE034/	✔	✔	–	–	–	–	339	55	284	✔

Embra Grids

7 Hexagon Grid 3.05mm - Embra

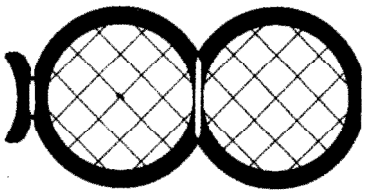


Lines/inch GE013/C = 1G7Hex Cu			Materials						µm			
Mesh	Style	Cat. no.	C	N	G	M	S	T	Pitch	Bar width	Hole width	Handle/ Tab
–	1G7Hex	GE013/	✔	✔	✔	–	–	–	–	–	–	–
–	3G7Hex	GE014/	✔	✔	–	–	–	–	–	–	–	✔

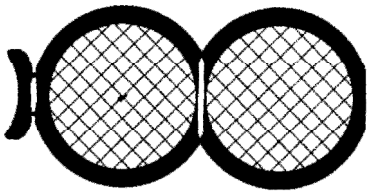
Material Legend **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **CR** = Copper with Rhodium flash on one

Grids & Specimen Supports

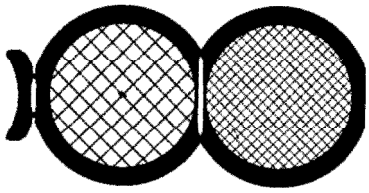
Folding Grids 3.05mm - Embra



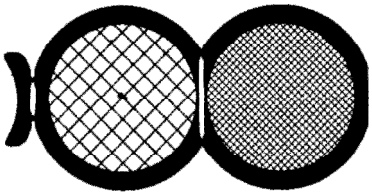
4GF50/50



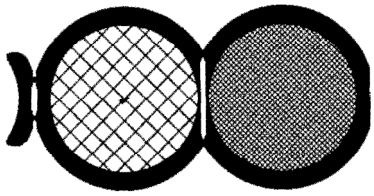
4GF100/100



4GF100/200



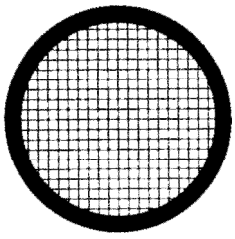
4GF100/300

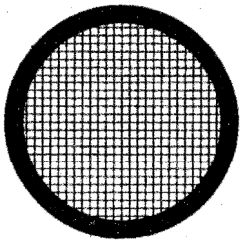


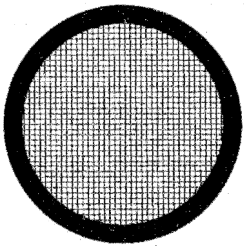
4GF100/400

Lines/inch	GGEO31/C = 4GF50/50 Cu		Materials						µm		
Mesh	Style	Cat. no.	C	N	G	M	S	T	Pitch	Bar width	Hole width
50-50	4GF50/50	**GE035/**	✔	✔	✔	—	—	—	508-508	83-83	425-425
100-100	4GF100/100	**GE036/**	✔	✔	✔	✔	✔	✔	254-254	65-65	189-189
100-200	4GF100/200	**GE037/**	✔	✔	✔	✔	✔	✔	254-127	65-37	189-90
100-300	4GF100/300	**GE038/**	✔	✔	✔	—	✔	✔	254-85	65-28	189-57
100-400	4GF100/400	**GE039/**	✔	✔	—	—	—	—	254-64	65-26	189-38

Embra- Tissue Processing Screen - Diameter 3.8mm







Lines/inch	GGEO31/C = 4GF50/50 Cu		Materials				µm			Transmission
Mesh	Style	Cat. no.	C	N	CR	G	Pitch	Bar width	Hole width	%
150	6G150	**GE040/**	✔	✔	—	—	170	44	126	55
200	6G200	**GE041/**	✔	✔	—	—	127	37	90	50
300	6G300	**GE042/**	✔	✔	—	—	85	28	57	45

Please note that these screens are 3.8mm diameter

Material Legend **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **CR** = Copper with Rhodium flash on one face
S=Stainless Steel **T**= Tungsten **M**= Molybdenum

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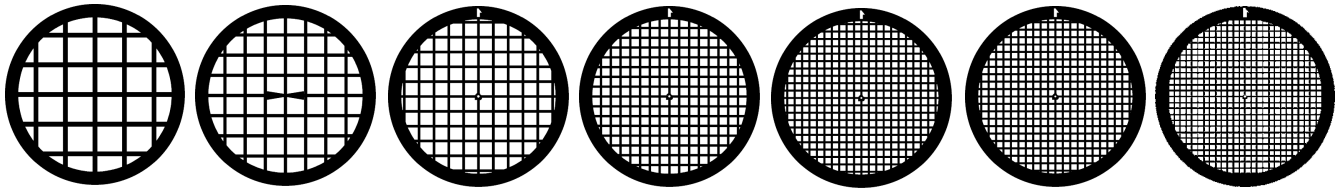
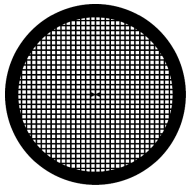
Gilder Grids

Standard Square Mesh - Gilder

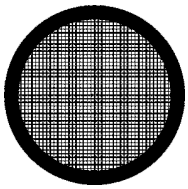


G50 G75 G100 G150 G175 G200 G250

Lines/inch	GG001/C = G50 Cu		Materials						µm		
Mesh	Style	Cat.no.	C	CG	N	NG	P	G	Pitch	Bar width	Hole width
50	G50	**GG001/**	✔	✔	✔	✔	✔	✔	500	80	420
75	G75	**GG002/**	✔	✔	✔	✔	✔	✔	340	55	285
100	G100	**GG003/**	✔	✔	✔	✔	✔	✔	250	45	205
150	G150	**GG004/**	✔	✔	✔	✔	✔	✔	165	40	125
175	G175	**GG070/**	✔	✔	✔	✔	✔	✔	145	37	108
200	G200	**GG005/**	✔	✔	✔	✔	✔	✔	125	35	90
250	G250	**GG071/**	✔	✔	✔	✔	✔	✔	100	30	70
300	G300	**GG007/**	✔	✔	✔	✔	✔	✔	83	25	58



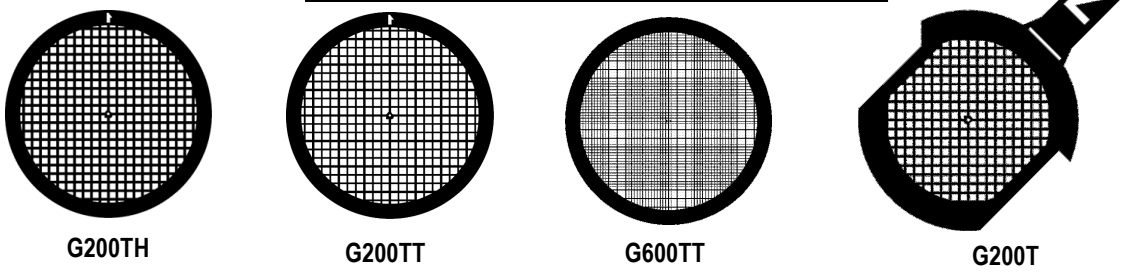
G300



G400

G200 & G100 grids now available in ***Molybdenum*** **GG005/M** (200)

Specialist Square Mesh - Gilder



G200TH G200TT G600TT G200T

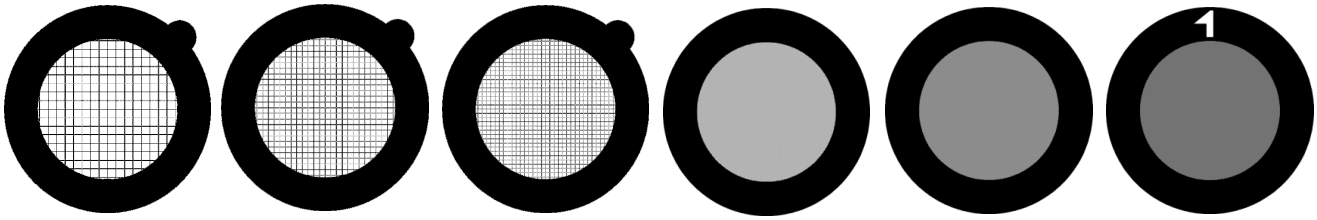
Lines/inch GG001/C = G50 Copper			Materials						µm		
Mesh	Style	Cat. no.	C	CG	N	NG	P	G	Pitch	Bar width	Hole width
A thickened version of the standard G200 with asymetric centre and a mark in the rim for precise orientation in the TEM											
200	G200TH	**GG046/**	✔	✔	✔	✔	✔	✔	125	40	85
Thick-Thin bar square mesh											
200	G200TT	**GG046/**	✔	✔	✔	✔	✔	✔	125	35-25	95
600	G600TT	**GG009/**	✔	✔	✔	✔	✔	✔	42	16-10	30
Handle grid The handle has been designed for ease of handling and is easily removed. The thickness of the metal at the point of attachment to the rim is reduced to allow the handle to be bent up to 90°											
200	G200TT	**GG038/**	✔	✔	✔	✔	✔	✔	125	40	85

Material Legend **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **P** = Copper with Palladium flash on one face
CG = Copper with pure Gold flash on one side **NG** = Nickel with pure Gold flash on one side

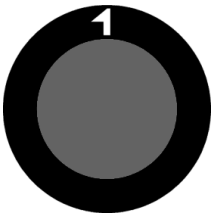
Grids & Specimen Supports

Gilder Grids

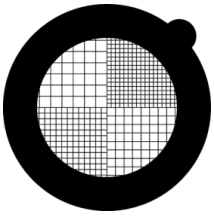
Fine Bar Square Mesh - Gilder



G200HS G300HS G400HS G600HS G1000HS G1500HS



G2000HS

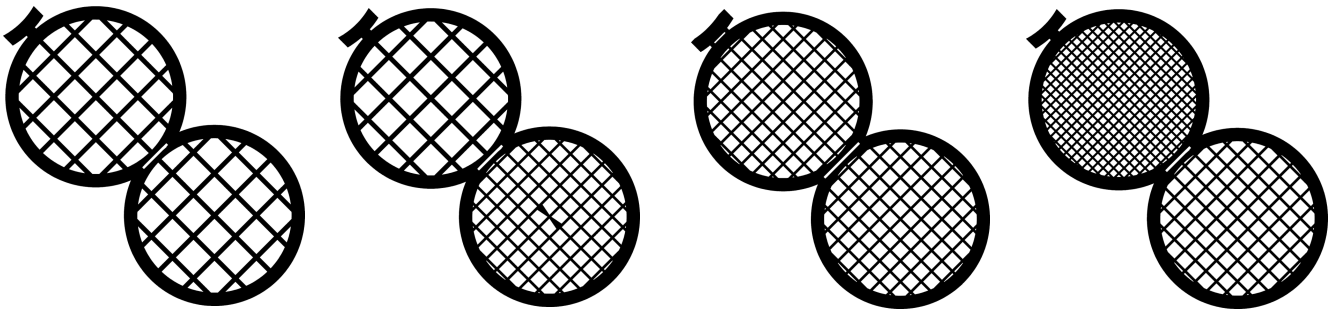


GVHS

Mesh	Style	Cat.no.	C	CG	N	NG	P	G	Pitch	Bar width	Hole width
200	G200HS	GG018/	✔	–	✔	✔	–	✔	125	12	113
300	G300HS	GG020/	✔	–	✔	✔	–	✔	83	10	73
400	G400HS	GG022/	✔	✔	✔	✔	–	✔	62	8	54
600	G600HS	GG069/	✔	✔	✔	✔	–	✔	42	5	37
1000	G1000HS	GG039/	✔	✔	✔	✔	–	✔	25	6	19
1500	G1500HS	GG062/	✔	✔	✔	✔	–	✔	16.5	5	11.5
2000	G2000HS	GG063/	✔	✔	✔	✔	–	✔	12.5	5	7.5
200-250 150-300	GVHS	GG025/	✔	✔	✔	✔	–	✔	125-62 165-83	10-10 10-10	115-52 115-73

The handle has been designed for ease of handling and is eaily removed. The thickness of metal at the point of attachment of the handle to the rim is reduced to allow the handle to be bent up to 90^0

Double/Folding Grids - Gilder



GD50/50 GD50/100 GD100/100 GD100/200

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

Lines/inch	GG034/C= GD50/50 Cu		Materials						µm		
Mesh	Style	Cat.no.	C	CG	N	NG	P	G	Pitch	Bar width	Hole width
50-50	GD50/50	**GG034/**	✔	✔	✔	✔	✔	✔	500-500	70-70	430-430
50-100	GD50/100	**GG035/**	✔	✔	✔	✔	✔	✔	500-250	70-55	430-195
100-100	GD100/100	**GG036/**	✔	✔	✔	✔	✔	✔	250-250	50-50	200-200
100-200	GD100/200	**GG037/**	✔	✔	✔	✔	✔	✔	250-125	200-85	200-85

Material Legend: **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **P** = Copper with Palladium flash on one face
CG = Copper with pure Gold flash on one side **NG** = Nickel with pure Gold flash on one side

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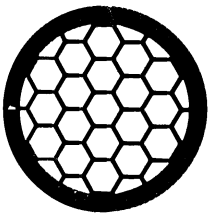
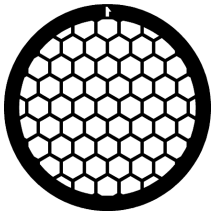
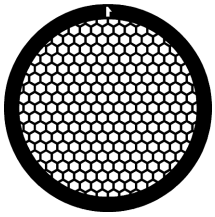
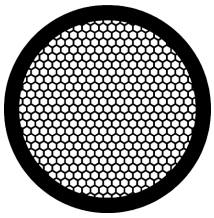
Standard Hexagonal Mesh - Gilder

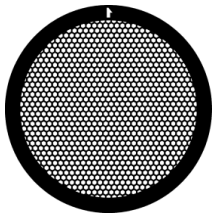

G50HEX


G75HEX

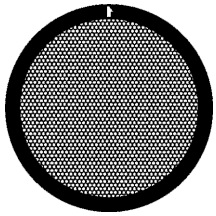
G100HEX


G150HEX


G200HEX

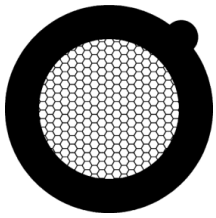

G300HEX

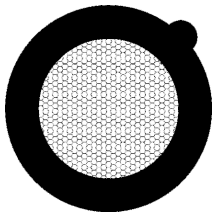
Lines/inch	GG057/N = G50 Hex Nickel		Materials						µm	
Mesh	Style	Cat.no.	C	CG	N	NG	P	G	Pitch	Bar width
50	G50HEX	**GG057/**	✔	✔	✔	✔	✔	✔	500	70
75	G75HEX	**GG058/**	✔	✔	✔	✔	✔	✔	340	50
100	G100HEX	**GG016/**	✔	✔	✔	✔	✔	✔	250	35
150	G150HEX	**GG059/**	✔	✔	✔	✔	✔	✔	165	35
200	G200HEX	**GG017/**	✔	✔	✔	✔	✔	✔	125	25
300	G300HEX	**GG060/**	✔	✔	✔	✔	✔	✔	83	25
400	G400HEX	**GG061/**	✔	✔	✔	✔	✔	✔	62	25

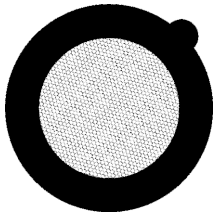

G400HEX

Gilder Grids

Fine Bar Hexagonal Mesh - Gilder


G200HH


G300HH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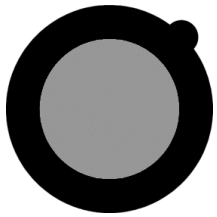
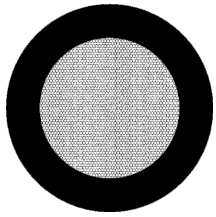
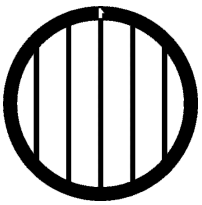

G600HH

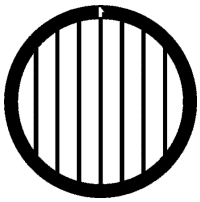

G600HHS

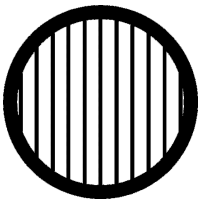
Lines/inch	GG057/N = G50 Hex Nickel		Materials						µm	
Mesh	Style	Cat.no.	C	CG	N	NG	P	G	Pitch	Bar width
200	G200HH	**GG019/**	✔	—	✔	✔	—	✔	125	12
300	G300HH	**GG021/**	✔	—	✔	✔	—	✔	83	10
460	G400HH	**GG023/**	✔	—	✔	✔	—	✔	57	8
698	G600HH	**GG024/**	✔	—	✔	✔	—	✔	37	8
600	G600HHS	**GG072/**	✔	✔	✔	✔	—	✔	42	5
600	G600HSS	**GG069/**	✔	—	✔	✔	—	✔	42	5

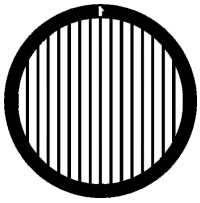
Material Legend **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **P** = Copper with Palladium flash on one face
CG = Copper with pure Gold flash on one side **NG** = Nickel with pure Gold flash on one side

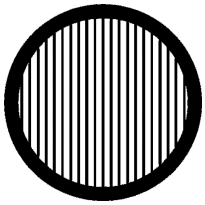
Grids & Specimen Supports

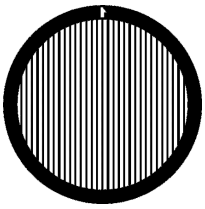

G50P

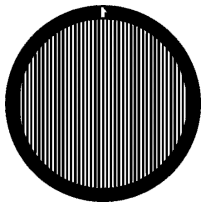

G75P


G100P

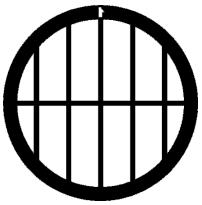

G150P

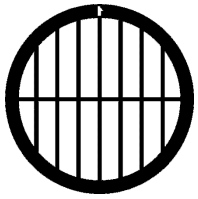

G200P

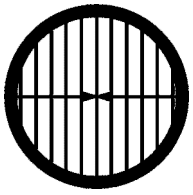

G300P

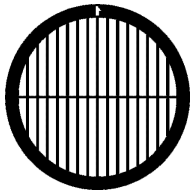

G400P

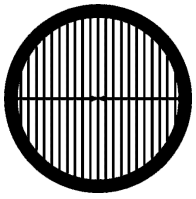
Parallel bar grids have a wide variety of uses and are especially useful for obtaining sequential information from ribbons of sections. The grids have a mark in the rim to allow for precise orientation in the EM

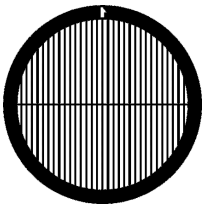

G50PB

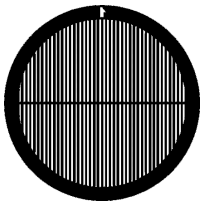

G75PB


G100PB


G150PB


G200PB


G300PB


G400PB

Similar to the parallel bar series except for a single bar which crosses at 90^0 through the centre of the grid. The G100PB and G200PB grid types have reverse arrow centre mark to allow the four quadrants of the grid to be located. The grids have a mark in the rim to allow for precise orientation in the EM

Lines/inch	GG047/G = G50P Gold		Materials						µm	
Mesh	Style	Cat.no.	C	CG	N	NG	P	G	Pitch	Bar width
50	G50P	**GG047/**	✔	✔	✔	✔	✔	✔	500	84
75	G75P	**GG048/**	✔	✔	✔	✔	✔	✔	340	70
100	G100P	**GG010/**	✔	✔	✔	✔	✔	✔	250	65
150	G150P	**GG049/**	✔	✔	✔	✔	✔	✔	165	50
200	G200P	**GG011/**	✔	✔	✔	✔	✔	✔	125	45
300	G300P	**GG050/**	✔	✔	✔	✔	✔	✔	83	35
400	G400P	**GG051/**	✔	✔	✔	✔	✔	✔	62	40

Parallel with cross bar at 90° through the centre of the grid

50	G50PB	**GG052/**	✔	✔	✔	✔	✔	✔	500	84
75	G75PB	**GG053/**	✔	✔	✔	✔	✔	✔	340	70
100	G100PB	**GG012/**	✔	✔	✔	✔	✔	✔	250	65
150	G150PB	**GG054/**	✔	✔	✔	✔	✔	✔	165	50
200	G200PB	**GG013/**	✔	✔	✔	✔	✔	✔	125	45
300	G300PB	**GG055/**	✔	✔	✔	✔	✔	✔	83	35
400	G400PB	**GG056/**	✔	✔	✔	✔	✔	✔	62	40

Material Legend **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **P** = Cu with Palladium flash on one face
CG = Copper with pure Gold flash on one side **NG** = Nickel with pure Gold flash on one side

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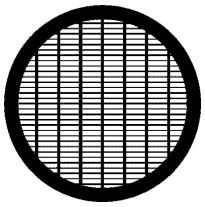
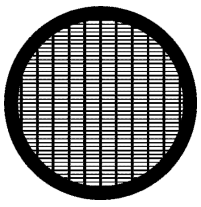
Slotted Mesh Grids



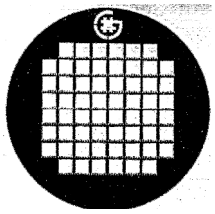
G75/300



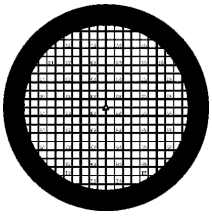
G100/400

Lines/inch	GG0014/N = G75/300 Nickel		Materials						µm	
Mesh	Style	Cat.no.	C	CG	N	NG	P	G	Pitch	Bar width
75-300	G75/300	**GG014/**	✔	✔	✔	✔	✔	✔	340-83	50-25
100-400	G100/400	**GG015/**	✔	✔	✔	✔	✔	✔	250-62	45-25

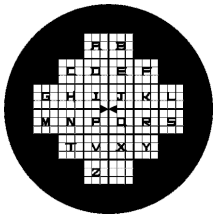
G100F1 see



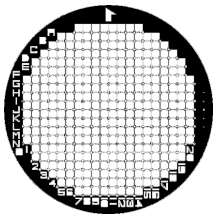
G100F1



G200F1



G200F2



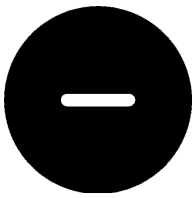
G200HF3

G200F4

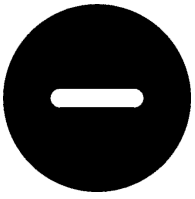
Finder Grids

Lines/inch	GG0014/N = G75/300 Nickel		Materials						µm	
Mesh	Style	Cat.no.	C	CG	N	NG	P	G	Pitch	Bar width
Alpha-numeric identification of each of six grid squares										
200	G200F1	**GG032/**	✔	✔	✔	✔	✔	✔	125	40-28
Alpha-numeric identification of each of nine grid squares										
200	G200F2	**GG033/**	✔	✔	✔	✔	✔	✔	125	25-12
200	G200HF3	**GG064/**	✔	✔	✔	✔	—	✔	125	
Alpha-numeric identification with letter ref. along horizontal and number ref. along vertical axis										
200/250	G200F4	**GG073/**	✔	✔	✔	✔	✔	✔	125-105	20-15

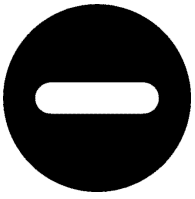
Gilder Grids



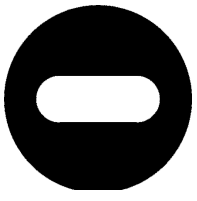
GS1 x 0.2



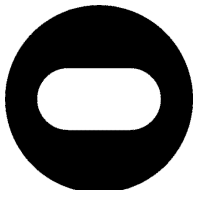
GS1.5 x 0.3



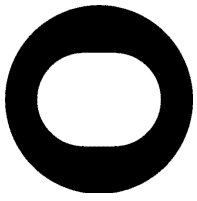
GS2 x 0.5



GS2 x 0.75



GS2 x 1



GS2 x 1.5

Slot Grids

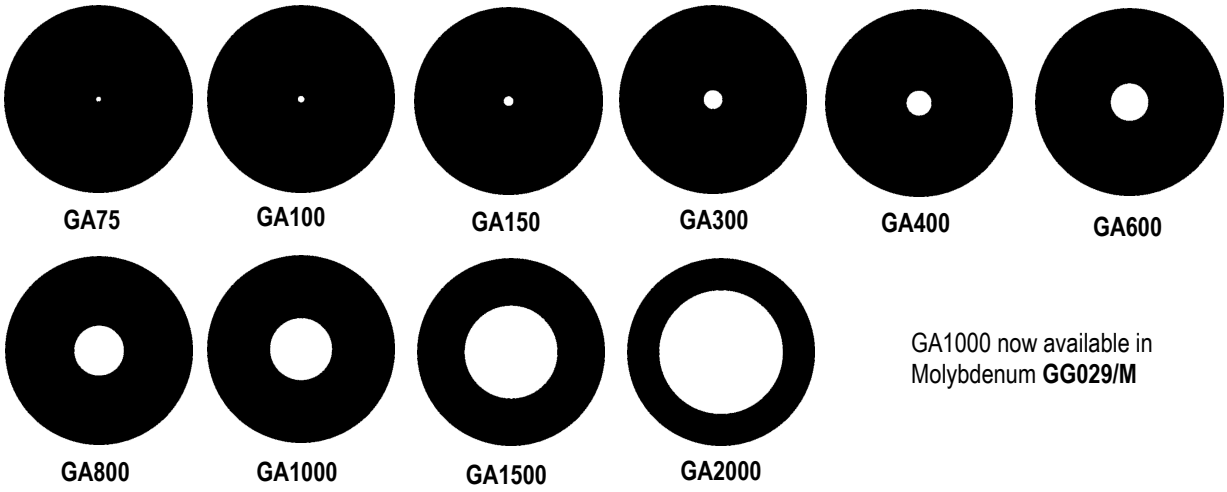
Lines/inch	GG014/N = G75/300 Nickel		Materials						um	
Mesh	Style	Cat. No.	C	CG	N	NG	P	G	Pitch	Bar Width
—	GS1 x 0.2	**GG065/**	✓	✓	✓	✓	✓	✓	—	—
—	GS1.5 x 0.3	**GG066/**	✓	✓	✓	✓	✓	✓	—	—
—	GS2 x 0.5	**GG031/**	✓	✓	✓	✓	✓	✓	—	—
—	GS2 x 0.75	**GG067/**	✓	✓	✓	✓	✓	✓	—	—
—	GS2 x 1	**GG030/**	✓	✓	✓	✓	✓	✓	—	—
—	GS2 x 1.5	**GG068/**	✓	✓	✓	✓	✓	✓	—	—

GS2x1 now available in Molybdenum **GG030/M**

Material Legend **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **P** = Copper with Palladium flash on one face
CG = Copper with pure Gold flash on one side **NG** = Nickel with pure Gold flash on one side

Grids & Specimen Supports

Aperture Grids

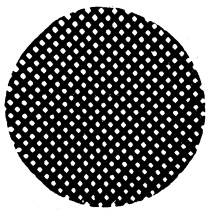


GA1000 now available in Molybdenum **GG029/M**

Gilder Grids

Lines/inch	GG040/C = GA75 Copper		Materials						um		
Mesh	Style	Cat. No.	C	CG	N	NG	P	G	Pitch	Bar Width	Hole Width
—	GA75	**GG040/**	✓	✓	✓	✓	✓	✓	—	—	75
—	GA100	**GG041/**	✓	✓	✓	✓	✓	✓	—	—	100
—	GA150	**GG042/**	✓	✓	✓	✓	✓	✓	—	—	150
—	GA300	**GG043/**	✓	✓	✓	✓	✓	✓	—	—	300
—	GA400	**GG026/**	✓	✓	✓	✓	✓	✓	—	—	400
—	GA600	**GG027/**	✓	✓	✓	✓	✓	✓	—	—	600
—	GA800	**GG028/**	✓	✓	✓	✓	✓	✓	—	—	800
—	GA1000	**GG029/**	✓	✓	✓	✓	✓	✓	—	—	1000
—	GA1500	**GG044/**	✓	✓	✓	✓	✓	✓	—	—	1500
—	GA2000	**GG045/**	✓	✓	✓	✓	✓	✓	—	—	2000

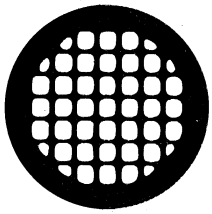
Carbon Nylon Grid



Carbon coated nylon 200 mesh grid 3.05mm diameter, used for low background support membranes. These grids are of woven construction and may exhibit mechanical instability if subjected to an intense electron beam.

G077 Carbon nylon grid tube of 25

Carbon Composite Grid



These are rigid carbonaceous grids of 75 mesh. They have no titanium contamination and are thermally stable.

G138 Carbon composite 75 mesh grid each

Material Legend **C** = Pure Copper **N** = Pure Nickel **G** = Pure Gold **P** = Copper with Palladium flash on one face
CG = Copper with pure Gold flash on one side **NG** = Nickel with pure Gold flash on one side

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Synap Tek Grids

These ultra-rigid grids have a thickness of 0.114mm and are made from a beryllium-copper alloy with many features and formvar film stress is also materially reduced. The grids are very stable in the electron beam, contamination free and reusable after cleaning. All grids are 3.05mm diameter, with a 2 x 1mm slot (0.5 x 2mm are also available)


DOT

5 Types with Special Markings
The DOT variety has two clear dots on one side, visible to the naked eye, so that the side of the grid being used is easily identified. Another variety NUM has random numbers on one side in place of the dots.

NUM

Undercut
An undercut notch on one side makes the grid easy to be picked up with tweezers. When the NOTCH is together with DOT or NUM, the notch is always on the reverse side of the grid to the markings.
The GILDED grids are completely Gold-Plated, suitable for immunology research, autoradiography or any other special application.


NOTCH

G089	Synap Tek DOT grid	tube of 100
G090	Synap Tek NUM grid	tube of 100
G091	Synap Tek NOTCH grid	tube of 100
G092	Synap Tek NOTCHDOT grid	tube of 100
G093	Synap Tek NOTCHNUM grid – random numbers	tube of 100
G094	Synap Tek NOTCHNUM **gold** grid - random	tube of 100


NOTCHDOT

NOTCHNUM

Aluminium and Beryllium Grids

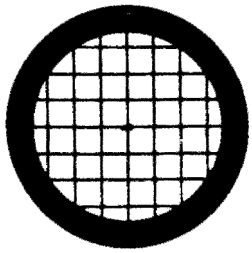
These materials with low atomic number elements are especially useful for X-ray analysis to reduce the background counts.

Aluminium Grids

A selection of etched aluminium grids are shown on **page 1.2**

Beryllium Grids

For the most critical work requiring the lowest background count, beryllium offers the best choice. All are 3.05mm diameter.

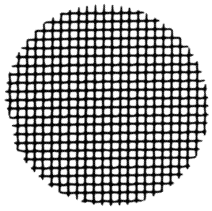


G080	Beryllium 75 mesh grid	each
G115	Beryllium 150 mesh grid	each
G116	Beryllium 2 x 1mm slot grid	each
G169	Beryllium 200 mesh grid	each

Stainless Steel Grids

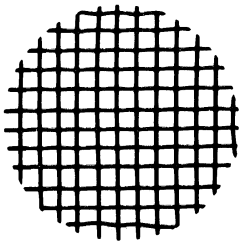
A selection of etched stainless steel grids are shown on **page 1.2** and **1.8**

Also available are 200 mesh 3mm diameter grids stamped out from woven mesh, these provide an economical alternative to etched grids.



G170	Stainless steel 200 mesh grid	tube of 100

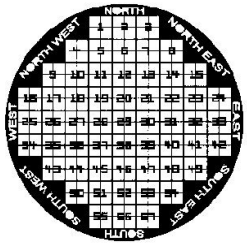
Grids & Specimen Supports



Molybdenum Grids

A selection of etched molybdenum grids are shown on **page 1.2** and **1.8.** Also available are 100 mesh 3mm diameter grids stamped out from woven mesh, these provide an economical alternative to etched grids.

G171 Molybdenum 100 mesh grid tube of 100

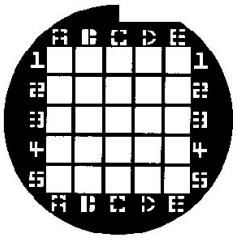


Type SEMF2

When ordering please specify material. C=Cu N=Ni G=Au. e.g. **G271/C** for copper, **/N** for nickel and **/G** for gold.

Finder Grids in Cu, Ni, Au

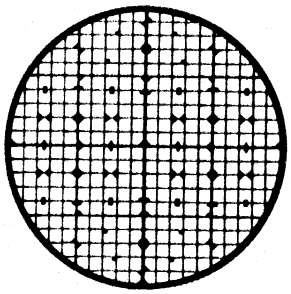
Two grids designed to aid in identification and localisation of SEM specimens when placed on SEM stubs. The SEMF2 is for particles and suspensions whilst SEMF3 uses an alpha numeric index allowing up to 25 predetermined specimens to be fixed and located in the SEM.



Type SEMF3

G271/ Type SEMF2. Larger cells are identified using numbers from 1<57. Each large cell is subdivided into 4, making a total of 228 identifiable cells. Overall diameter 10mm, thickness ~50µm. 10 grids/vial, 5 for gold.

G272/ Type SEMF3. 25 cells are identified by their alpha numeric position. The asymmetric cut-out in the rim enables the right view to be obtained when placing on a SEM stub. Overall diameter 10mm, thickness ~50µm. 10 grids/vial, 5 for gold.

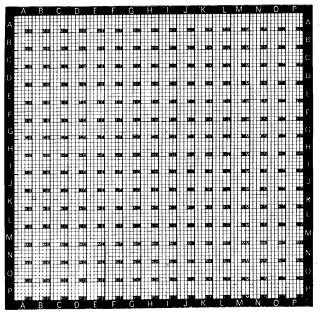


Finder Grids for SEM

See also page 10.10

A valuable tool for analytical studies. The grids are 10mm diameter and can be placed directly on the SEM stub surface and used to identify the area of interest.

G135/C SEM finder grids, Cu tube of 25
G135/N SEM finder grids, Ni tube of 25

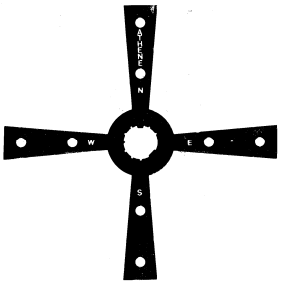


LM-SEM Locator Grid

A large locator grid approximately 65 x 65mm with small squares of 0.8mm. Delineation of 5 x 5 small squares gives unique area labelling which is very useful when comparing LM and SEM images.

G167/C LM-SEM grid, Cu each
G167/N LM-SEM grid, Ni each

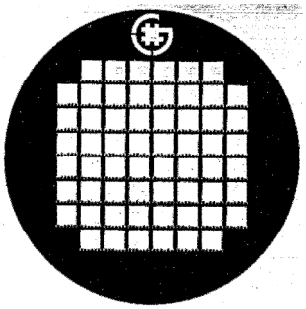
Finder Grid for SEM Specimens



SEM specimens when relatively large can have a rather small area of interest for viewing. This type of grid has been designed to assist in finding the area of interest.
A central annulus surrounds the required area, with small pointer for orientation purposes. The long arms are tapered to show the direction in which to move, and are identified by N,S,E,W. Two small markers of lengths 500µm and 300µm are incorporated in the central ring.

G168 SEM finder grid tube of 5

Finder Grid for TEM Specimens G100F1



Each of the 60 grid squares is identified using a base two binary numbering system.The six binary number symbols appear on the bottom grid bars along the horizontal axis. Zero (0) is represented by a short pillar and one (1) by a longer pillar. The inset view shows grid square nine (9) where the long pillar at the right represents decimal 1 and the long pillar fourth from the right decimal 8.
Overall diameter 3.05mm **Mesh** 100 lines/inch **Pitch** 250 µm **Bar width** vert axis 40µm
Hole width vert axis 210µm
GG074/C TEM finder grid G100F1 Cu (100)
GG074/G G100F1 Au (50)
GG074/N G100F1 Ni (100)
GG074/P G100F1 Cu/Pd (100)

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TAAB Filmed/Coated Grids

Formvar Support Films

Quantity	Copper Grid			
	100 mesh	200 mesh	300 mesh	400 mesh
25	F231/025	F218/025	F232/025	F233/025
50	F231/050	F218/050	F232/050	F233/050
100	F231/100	F218/100	F232/100	F233/100
Nickel Grid				
25	F231/N025	F218/N025	F232/N025	F233/N025
50	F231/N050	F218/N050	F232/N050	F233/N050
100	F231/N100	F218/N100	F232/N100	F233/N100
Gold Grid				
25	F231/G025	F218/G025	F232/G025	F233/G025
50	F231/G050	F218/G050	F232/G050	F233/G050

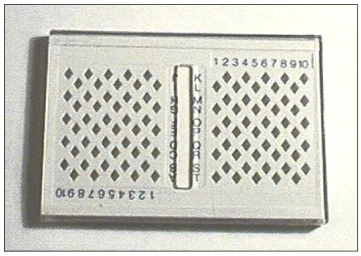
TAAB can offer high quality support films of formvar, formvar/carbon or pure carbon on a wide range of grid styles and makes depending on customer choice.

TAAB **carbon** films are limited to a maximum mesh size of 200 as our experience indicates that larger mesh sizes overstress the carbon and result in splits, tears or other problems either in manufacture, transit or the EM.

Plain **formvar** or **formvar/carbon** can be placed on most types of grid. Please ask for quotation if not listed.

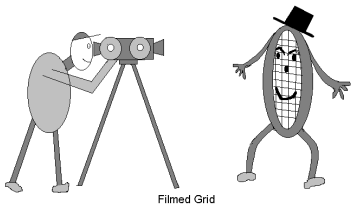
Formvar/Carbon Support Films

Quantity	Copper Grid					
	100 mesh	*100Hex*	200 mesh	300 mesh	400 mesh	*2 x 1mm*
25	F200/025	F180/025	F077/025	F196/025	F098/025	F144/025
50	F200/050	F180/050	F077/050	F196/050	F098/050	F144/050
100	F200/100	F180/100	F077/100	F196/100	F098/100	F144/100
Nickel Grid						
25	F200/N025	F180/N025	F077/N025	F196/N025	F098/N025	F144/N025
50	F200/N050	F180/N050	F077/N050	F196/N050	F098/N050	F144/N050
100	F200/N100	F180/N100	F077/N100	F196/N100	F098/N100	F144/N100
Gold Grid						
25	F200/G025	F180/G025	F077/G025	F196/G025	F098/G025	F144/G025
50	F200/G050	F180/G050	F077/G050	F196/G050	F098/G050	F144/G050



Carbon Support Films

Quantity	Copper Grid					
	100 mesh	*100 Hex*	200 mesh	300 mesh	400 mesh	*2 x 1mm*
1	–	–	C101/001	C267/001	C169/001	–
25	–	–	C101/025	C267/025	C169/025	–
50	–	–	C101/050	C267/050	C169/050	–
100	–	–	C101/100	C267/100	C169/100	–
Nickel Grid						
1	–	–	C101/N001	C267/N001	C169/N001	–
25	–	–	C101/N025	C267/N025	C169/N025	–
50	–	–	C101/N050	C267/N050	C169/N050	–
100	–	–	C101/N100	C267/N100	C169/N100	–
Gold Grid						
1	–	–	C101/G001	C267/G001	C169/G001	–
25	–	–	C101/G025	C267/G025	C169/G025	–
50	–	–	C101/G050	C267/G050	C169/G050	–



Filmed Grid

Standard carbon films are ~ 17-20nm thick but 30nm is available on request

For optically flat, mechanically and solvent resistant electron transparent specimen supports, see our Silicon Nitride Windows page 1.27

Also see Quantifoil or C-Flat Ultra Flat Carbon Grids

Grids & Specimen Supports

Nitro-Cellulose/Carbon

Mounted on 200 mesh 3.05mm copper grids

N056	Nitro-cellulose/Carbon film on 200 mesh cu grid	25
N056/1	Nitro-cellulose/Carbon film on 200 mesh cu grid	100

Silicon Monoxide

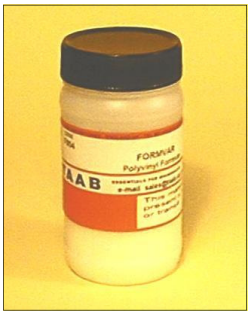
Mounted on 400 mesh 3.05mm copper grids

For certain applications silicon monoxide offers an exceptionally clean film and being carbon free, is valuable in some microanalysis investigations

S531	Silicon monoxide film on 400 mesh cu grid	50

Film Making Materials

POWDERS



F004	Formvar	100g
F005	Formvar	25g

An alternative support film material to Formvar is Butvar B98 as reported by Handley and Olsen, Ultramicrotomy 4,479 (1979). Exhibits good mechanical and high electron beam stability.

B026	Butvar B98	100g
C282	Collodion	25g

SOLUTIONS

F145/025 Formvar in chloroform 0.25%	100ml
F145/050 Formvar in chloroform 0.50%	100ml
F145/100 Formvar in chloroform 1%	100ml
F145/HAZ Formvar in chloroform****	4 x 25ml
F244/025 Formvar in ethylene dichloride 0.25%	100ml
F244/050 Formvar in ethylene dichloride 0.50%	100ml
F244/100 Formvar in ethylene dichloride 1%	100ml
F244/HAZ Formvar in ethylene dichloride****	4 x 25ml
C171/025 Collodion in amyl acetate 0.25%	100ml
C171/050 Collodion in amyl acetate 0.50%	100ml
C171/100 Collodion in amyl acetate 1%	100ml
C171/200 Collodion in amyl acetate 2%	100ml
C171/HAZ Collodion in amyl acetate ****	4 x 25ml

Other strengths of solution can be made to order, please enquire.

**** Any of the above solutions can be packed in 25ml bottles 4 to a pack to avoid its classification as a hazardous chemical for shipping purposes. Please quote the relevant catalogue number and specify when ordering the strength of solution required.

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Graphene and Graphene Oxide Coated Grids

There are currently two Graphene substrates available - Graphene Oxide (GO) and CVD (chemical vapour deposition). Graphene oxide films are typically laid down on lacey carbon films in suspension form with micrometer sized flakes with a less controlled thickness and evenness of coverage over the grid. CVD Graphene oxide on the other hand are produced by oxidizing CVD Graphene films at relatively low temperatures in oxygen (typically 200ºC or less). These are continuous films and typically have well characterized hydrophilic properties which is important for wetting the surface of the Graphene oxide film. This property aids in the dispersion of nano particles for example but is also important for cellular biology and protein chemistry applications. GO films are generally less costly than CVD Graphene.

Graphene Oxide Support Films

Graphene oxide (GO) provides a thinner support film but has a higher mechanical strength, electrical and thermal conductivity compared with support films made from other materials. TAAB Graphene Oxide support films are available on holey and lacey carbon and Quantifoil® support films. These new GO films are hydrophilic and ideally suited to imaging of small nanoparticles, nanowires and suspensions. Their low atomic number and thin-layer thickness result in significantly lower background contrast than conventional supports. GO support films are also ideal for Cryo TEM studies. The vitreous ice layer can be significantly thinner on GO support films providing higher contrast and hence higher resolution for structural determination.

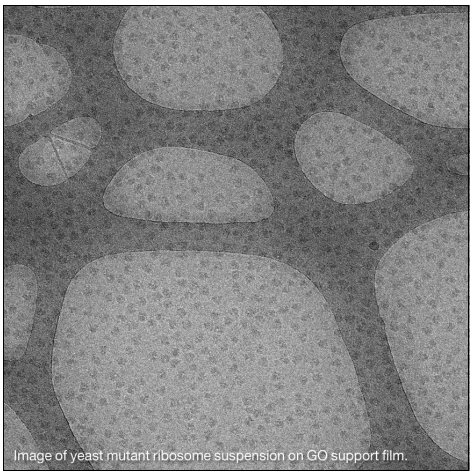


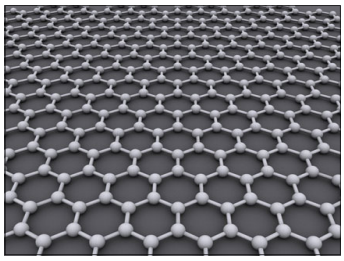
Image of yeast mutant ribosome suspension on GO support film.

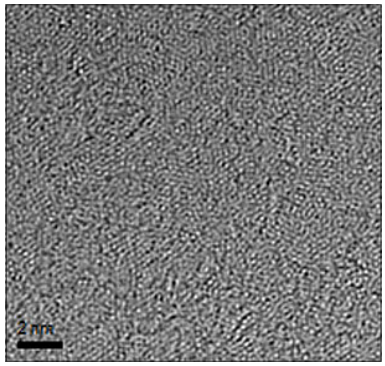
Graphene offers some unique advantages for studying interactions and processes at the atomic level. As the first readily available two-dimensional material, it is a model system for transmission electron microscopy studies; it is almost electron transparent enabling other species to be resolved on its surface with atomic resolution. It is also a well-defined surface, allowing surface science techniques to be integrated with high resolution transmission electron microscopy and scanning probe microscopy.

G203/25 Graphene oxide film on lacey carbon on 400 mesh Copper pack of 25
G204/10 Graphene oxide film on Quantifoil R 2/2 on 300 mesh Cu pack of 10

Graphene TEM Support Films

Our Graphene TEM support films are supported by a lacey carbon film on a 300 mesh copper grid. The single, continuous Graphene sheet covers the entire 300 mesh area of the TEM grid. This creates a usable area of around 75% of the TEM grid, leaving plenty of space for specimens or experiments. These Graphene TEM support films with the large area continuous film can be used directly out of the box. The continuous Graphene film represents a more practical Graphene support film compared to the Graphene enhanced lacey carbon supports.
The Graphene films are available with either 1, 2, 3-5 or 6-8 layers of Graphene. The 2 layer Graphene is ideally suited for high resolution TEM imaging, imaging of nanoparticles and imaging of weak contrast materials. Graphene exhibits excellent conductivity and very high transparency for electrons. The more robust 3-5 and 6-8 layer Graphene are offered for use as an experimental platform for Graphene research. It can be used for nano scale experiments or Graphene applications research with subsequent high resolution imaging.
The Graphene used for these Graphene TEM support films is grown on copper foil using a CVD process. The Graphene is then released by dissolving the copper foil and transferred onto the lacey carbon/300mesh grid by using a proprietary transfer technique.


Crystalline structure of Graphene Film



High resolution TEM image of 3-5 layer Graphene. Marker bar = 2nm.

Graphene Specifications
The sheet resistance for a single layer of the Graphene Film is 600Ω/sq
Thickness for the single layer of Graphene is normally approx. 0.35nm
Transparency of the single layer of Graphene is approx. 96.4%
Thickness for the 2 layers of Graphene is normally approx. 0.7nm
Transparency of the 2 layers of Graphene is approx. 92.7%
Thickness for the 3-5 layers of Graphene is between 1.0 - 1.7nm
Transparency of 3-5 layers of Graphene is in the range of 90.4 - 85.8%
Thickness for the 6-8 layers of Graphene is between 2.1 - 2.8nm
Transparency of 6-8 layers of Graphene is in the range of 83.2 - 78.5%
The Graphene has an in-plane modulus of 0.9TPa (compared with 1.0 TPa for Graphene produced by the scotch tape method)

Continued over page

Grids & Specimen Supports

Graphene Films on Grids

Single Layer Graphene Support Films

All films are on lacey carbon 300 mesh copper grids. Available in packs of 5, 10 or 25 in grid box.

G205/5 Single layer Graphene on 300 mesh lacey carbon pack of 5
G20510 Single layer Graphene on 300 mesh lacey carbon pack of 10
G205/25 Single layer Graphene on 300 mesh lacey carbon pack of 25

2 Layer Graphene Support Films

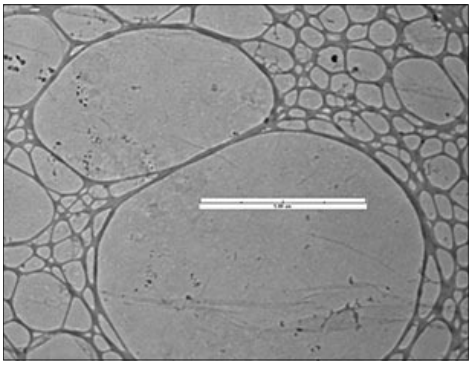
G206/5 Two layer Graphene on 300 mesh lacey carbon pack of 5
G206/10 Two layer Graphene on 300 mesh lacey carbon pack of 10
G206/25 Two layer Graphene on 300 mesh lacey carbon pack of 25

3 to 5 Layer Graphene Support Films

G207/5 3-5 layer Graphene on 300 mesh lacey carbon pack of 5
G207/10 3-5 layer Graphene on 300 mesh lacey carbon pack of 10
G207/25 3-5 layer Graphene on 300 mesh lacey carbon pack of 25

6 to 8 Layer Graphene Support Films

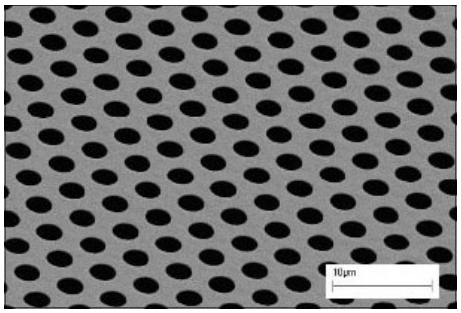
G208/5 6-8 layer Graphene on 300 mesh lacey carbon pack of 5
G208/10 6-8 layer Graphene on 300 mesh lacey carbon pack of 10
G208/25 6-8 layer Graphene on 300 mesh lacey carbon pack of 25



3-5 layer Graphene on Lacey Carbon film. Marker bar = 5µm

Graphene Films on Holey Silicon Nitride

Graphene supported by Holey Silicon Nitride which has 2.5µm holes with a 4.5µm pitch in 200nm Si_3N_4 over a 0.5 x 0.5mm window size. The Graphene sheet covers the complete window with the ultraflat Si_3N_4 holey membrane and leaves free standing Graphene covering the 2.5µm holes. Total usable area is approx. 75% due to unavoidable folds and wrinkles in the Graphene sheet. Available with single, 2, 3-5, and 6-8 layer Graphene sheets. Research-ready product, suitable for UHR imaging or as ultra-flat experimental platform. Graphene specification as for above 300 mesh lacey carbon.



Holey Silicon Nitride Support

G209/5 Single Layer Graphene on Holey Silicon Nitride as above pack of 5
G209/10 Single Layer Graphene on Holey Silicon Nitride as above pack of 10
G209/25 Single Layer Graphene on Holey Silicon Nitride as above pack of 25
G210/5 2 layer Graphene on Holey Silicon Nitride as above pack of 5
G210/10 2 layer Graphene on Holey Silicon Nitride as above pack of 10
G210/25 2 layer Graphene on Holey Silicon Nitride as above pack of 25
G211/5 3-5 layer Graphene on Holey Silicon Nitride as above pack of 5
G211/10 3-5 layer Graphene on Holey Silicon Nitride as above pack of 10
G211/25 3-5 layer Graphene on Holey Silicon Nitride as above pack of 25
G212/5 6-8 layer Graphene on Holey Silicon Nitride as above pack of 5
G212/10 6-8 layer Graphene on Holey Silicon Nitride as above pack of 10
G212/25 6-8 layer Graphene on Holey Silicon Nitride as above pack of 25

Graphene Films on Ultra-flat SiO_2 Substrate

Graphene on Ultra-flat SiO_2 substrate offered for use as a research-ready experimental platform. The Graphene sheet covers the complete 5 x 5mm diced substrate. Total usable area is approx. 75% due to unavoidable folds and wrinkles in the Graphene sheet. Suitable for AFM imaging or as ultra-flat experimental platform. The Specification of the Graphene is the same as mentioned above. Supplied in a Gel-Pak box and packed in class 10 clean room conditions. Consists of a 200nm thermally grown SiO_2 film on an ultra-flat silicon wafer with a normal thickness of 675 µm.

G213/5 Single Layer Graphene on Ultra-flat Thermal SiO_2 Substrate, 5x5mm pack of 5
G213/10 Single Layer Graphene on Ultra-flat Thermal SiO_2 Substrate, 5x5mm pack of 10
G213/25 Single Layer Graphene on Ultra-flat Thermal SiO_2 Substrate, 5x5mm pack of 25
G214/5 2 Layer Graphene on Ultra-flat Thermal SiO_2 Substrate, 5x5mm pack of 5
G214/10 2 Layer Graphene on Ultra-flat Thermal SiO_2 Substrate, 5x5mm pack of 10
G214/25 2 Layer Graphene on Ultra-flat Thermal SiO_2 Substrate, 5x5mm pack of 25
G215/5 3-5 Layer Graphene on Ultra-flat Thermal SiO_2 Substrate 5x5mm pack of 5
G215/10 3-5 Layer Graphene on Ultra-flat Thermal SiO_2 Substrate 5x5mm pack of 10
G215/25 3-5 Layer Graphene on Ultra-flat Thermal SiO_2 Substrate 5x5mm pack of 25
G216/5 6-8 Layer Graphene on Ultra-flat Thermal SiO_2 Substrate 5x5mm pack of 5
G216/10 6-8 Layer Graphene on Ultra-flat Thermal SiO_2 Substrate 5x5mm pack of 10
G216/25 6-8 Layer Graphene on Ultra-flat Thermal SiO_2 Substrate 5x5mm pack of 25

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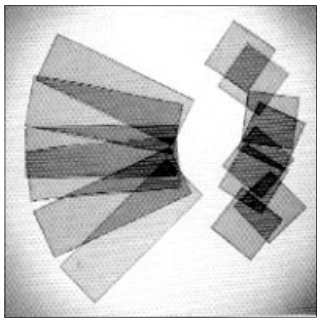
Mica Sheets

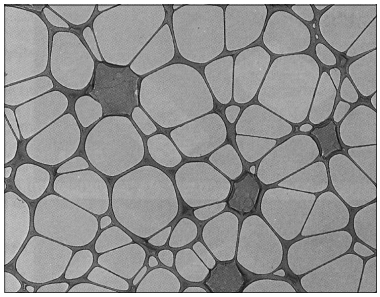
High grade mica for making freshly cleaved surfaces for such EM applications as carbon filming and particle spraying. Also suitable for high reolution AFM studies, growing cells and thin film coating research.
Available in the following sizes as stock items, other sizes can be supplied please enquire.



M054	Mica 3" x 1" x 0.006" thick (75 x 25 x 0.15mm)	20 sheets
M055	Mica 1" x 1" x 0.006" thick (25 x 25 x 0.15mm)	20 sheets
M459	Mica 11 x 11 x 0.15mm thick	20 sheets
M460	Mica 100 x 20 x 0.15mm thick	20 sheets
M461	Mica 150 x 150 0.15mm thick	3 sheets
M462	Mica 9.9mm dia x 0.1mm thick	pack of 10
M463	Mica 20 x 20mm thick ultra clean	10 sheets

Lacey Carbon Films

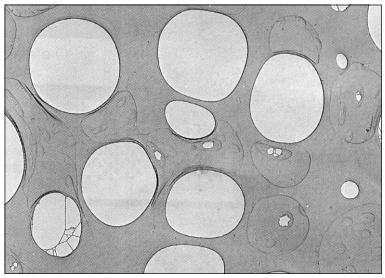
These are carbon films with large holes, which make them particularly suitable for the support of acicular crystals. Much of the crystal is unsupported and therefore subject to a minimum of incoherent scattering from the film.



C269/C	Lacey carbon film 300 mesh, 3.05mm, Cu	50
C269/N	Lacey carbon film 300 mesh, 3.05mm, Ni	50
C270/C	Lacey carbon film 400 mesh, 3.05mm, Cu	50
C270/N	Lacey carbon film 400 mesh, 3.05mm, Ni	50
C270/G	Lacey carbon film 400 mesh, 3.05mm.Au	50

Holey Carbon Films

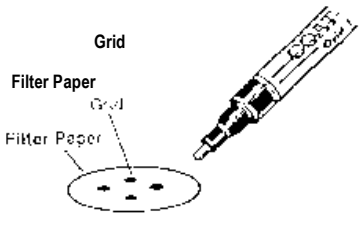
These are similar to lacey carbon films with smaller holes.



C062/C	Holey carbon film 300 mesh, 3.05mm, Cu	50
C062/N	Holey carbon film 300 mesh, 3.05mm, Ni	50
C062/G	Holey carbon film 300 mesh, 3.05mm.Au	50
C274/C	Holey carbon film 400 mesh, 3.05mm, Cu	50
C274/N	Holey carbon film 400 mesh, 3.05mm, Ni	50
C274/G	Holey carbon film 400 mesh, 3.05mm.Au	50

Grid Coating Pen

The Grid Coating pen improves the adherence 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 1-2 minutes at room temperature. After it has dried the grid is ready for section mounting. The pen can also be used in pretreating grids prior to mounting support films such as formvar and carbon. This minimises dislodging, widening or breaking of the support film.

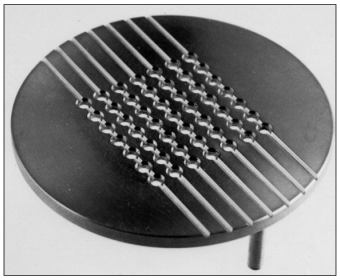


P293	Grid Coating Pen	1

Grid Coating Stand

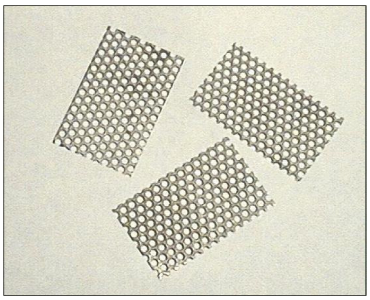
A stand designed with 49 recessed holes suitable for 3.05mm diameter grids. A groove is carefully machined to the correct depth which allows safe and easy access for tweezer manipulation of the grids.

Standing on 3 integral feet it is easily placed in a low glass dish to allow thin collodion or formvar films to be lowered onto the grids by siphoning off the water. The coated grids can then be transferred to the coating unit.



G122	Grid coating stand, thin film	1

Grids & Specimen Supports



Grid Coating Plate

Made from nickel, these perforated plates are very useful in the preparation of grid coating. The plate is placed under distilled water and the surface supporting the film is gradually lowered. Excess water is removed by blotting from below. The plate containing filmed grids can be transferred to a vacuum coating unit for carbon coating or to a freeze-drying unit.

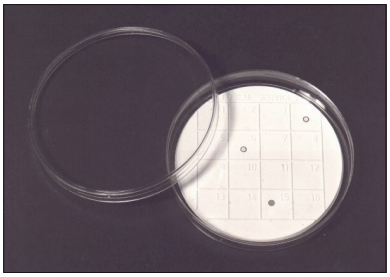
G107	Grid coating plate	pack 3

Grid Transporting Box

Designed to store or transport grids this TAAB box has an indexed silicone rubber plate housed in a transparent viewing box with hinged lid.
The silicone rubber plate is divided into 54 individual compartments of 10mm square, each compartment capable of holding 3 grids. Grids adhere well to the silicone rubber plate and grids cannot migrate from one square to another when the lid is closed and it is easy to pick up grids without damaging tweezer tips.
Overall size of box: 95 x 70 x 6mm deep. Comes complete with a record card.

G117	Grid transporting box	each
G117/1	Grid transporting box	per 10

Grid Plate



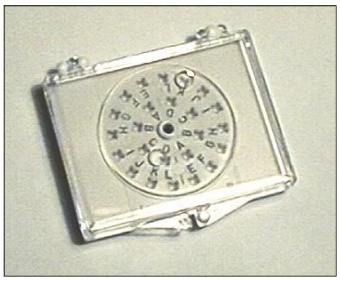
Round silicone rubber indexed grid storage plate numbered. Available in two sizes 85mm and 45mm diameter which are supplied mounted in either 90mm or 50mm plastic Petri dish or supplied loose. This is an ideal way of storing “working grids” or staining grids. The grids adhere lightly to the silicone plate, which eliminates the problem of grids jumping. The grids are easily picked up without damaging the tweezer tips or the grid.
G082 plate has 16 x 14mm squares and the G125 plate has 9 x 10mm squares. The plates can easily be washed clean.
Please note: Not recommended for storing grids which are to be used in X-ray microanalysis work due to Silicone rubber contamination.

G082	Grid plate,(85mm) in Petri dish	each
G082/1	Grid plate,(85mm) in Petri dish	pack 10
G082P	Grid plate,(85mm) - **loose**	pack 10
G125	Grid plate,(45mm) in Petri dish,	each
G125P	Grid plate, 45mm) - **loose**	pack 10

Grid Storage Boxes

See also page 1.26

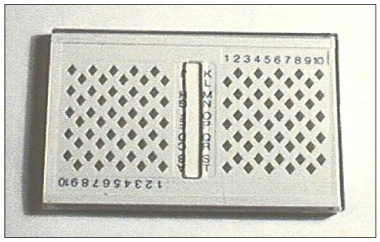
BEEM Dial-a-Grid Box



Indexed grid box containing 24 letter-labelled crossed slots, which accommodate 3.05mm in one direction and 2.3mm in the other. The grids are accessed one at a time through a hole in the clear rotating protection disc . The box is totally enclosed by a hinged lid making the box fully dust proof.
Dimensions; 57 x 45 x 12.5mm high.

G114	BEEM Grid storage box .	each

Specimen Grid Box



These boxes hold up to 100 grids in numbered holes, designed to take either 3.05mm or 2.3mm grids accessed a row at a time through a slot in the sliding cover. Dimensions; 85 x 58 x 7mm high. Complete with grid recording card.

G062	Specimen grid box .	each
G063	Specimen grid box .	per 10

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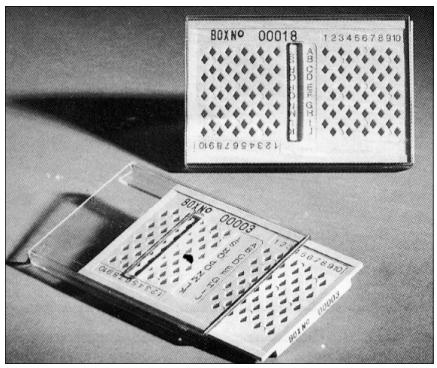
Numbered Specimen Grid Box



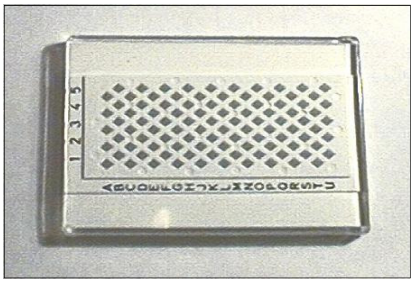
Identical to G062 but with a ***unique*** number printed on the face and one end.
Advantages:

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

Dimensions; 85 x 58 x 7mm high.

G120	Specimen grid box, numbered.	each
G121	Specimen grid box, numbered.	per 10

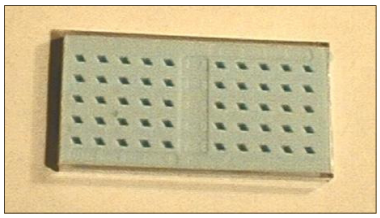
LKB/LEICA Specimen Grid Box



Storage for 100 grids in 5 straight columns of 20 slots all referenced. Takes both 3.05mm and 2.3mm diameter grids.
Dimensions; 80 x 50 x 7mm high.

G133	LKB/Leica grid storage box	per 10
G133/1	LKB/Leica grid storage box.	each

Specimen Grid Box



Storage for 50 grids. Takes both 3.05mm and 2.3mm diameter grids. The box is manufactured from a plastic having a low susceptibility to charging. All holes are numbered.

G126	Specimen grid storage box - 50 grids	each

Grid Staining System





Designed to handle up to 25 grids at one time or as few as a single one. The Matrix has the following features:

* Greatly reduces the chance of mechanical damage
* Ensures equal staining and rinse times
* Has a simple alpha-numeric system for easy identification of each grid.

The plastics used are not acid-resistant and are designed for aqueous solutions only. Note: Do Not use alcohol- based stains; they will damage or destroy the staining vessels. One vessel could, for example, be used for uranyl acetate and the other one for lead citrate.

G270	Grid staining system
GG270/C	Replacement staining vessels - 1 red and 1 blue

Zerostat Anti-Static Gun

Anti-static generator for neutralising static charges of either polarity on any insulating surface. Use to reduce the risk of grids jumping out of boxes and to eliminate a block charging defect during ultramicrotomy.

G083	Zerostat gun .	each

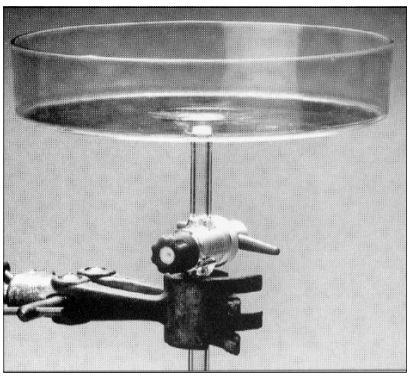
Grids & Specimen Supports

Vacuum Tweezer

Useful for handling without damage, small, delicate items i.e. grids, specimens etc. The suction can be applied through a selection of either fine tubes or rubber suckers actuated by covering the hole in the tube with a finger. The object being lifted is released by lifting the finger from the hole. Nozzle sizes are 0.4mm, 0.7mm and 1.0mm.

T106	Vacuum tweezer – 240 volt model	each
T106/1	Vacuum tweezer – 110 volt model	each
T106/S	Set of spare nozzles and tubing	set

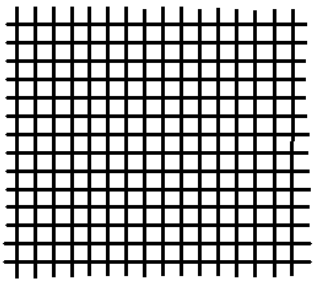
Settlement Dish



Settlement dish, 135mm diameter with drain tap. Useful for removing distilled water when preparing formvar, butvar or collodion support films, or for floating down stripped carbon films on to TEM grids.

D195	Dish, settlement, 135mm diam. glass.	each

Stainless Steel Mesh

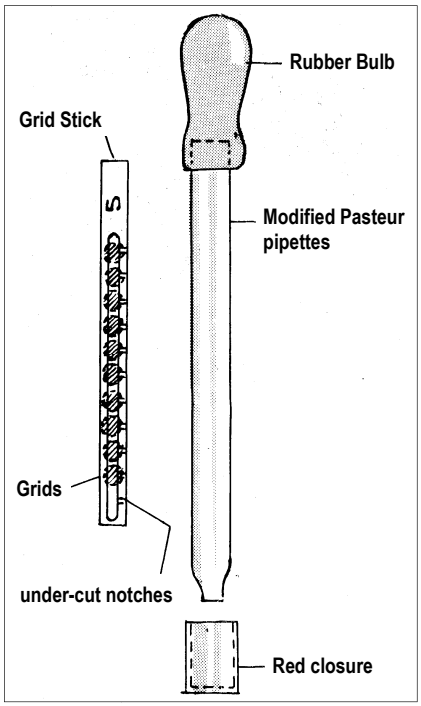


A fine but rigid stainless steel mesh 150 x 150mm square with a mesh size of approximately 0.5mm that can be used with the settlement dish as a support to receive the grids after they are placed on the support film.

Can also have other uses within the laboratory

W100 150 x 150mm stainless steel mesh 3 pieces

Gridstick



An economical and simple solution to staining multiples of grids.

A SynapTek Grid Staining Stick is a device which can take up to 10 grids held to the stick by a self adhesive glue which withstands all organic solvents remains effective for at least six uses. The grids are loaded onto one side of the Grid Stick with the aid of tweezers and they can be processed *in situ* throughout the staining, washing and drying procedures.
The loaded Grid stick is placed inside a modified pipette which has a rubber bulb fitted to one end. It is now a simple operation to pipette the relevant fluids around the grids. The Grid sticks are provided with undercut notches to facilitate easy removal of grids from the stick with tweezers.
Each kit comprises;-

5 Pre-coated Grid Sticks, inside five pipettes with red closures.
10 Modified Pasteur pipettes - five for Uranyl Acetate and five for Lead Citrate
2 Rubber bulbs with flow limiting plugs

Other possible uses;-

Collecting serial sections - Grid support for carbon coating - Emulsion coating for autoradiography - Preliminary inspection of biological material at the light level - using a phase microscope - Special staining procedures.

G088	Gridstick kit
G088/G	Gridstick adhesive 5ml
G088/S	Gridsticks uncoated pack of 10

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New High Mesh Grids with much improved transmission values

There is an increasing interest in life sciences, material science, semi conductor and nanotechnology for specialised supports with high mesh values and with greater transmission performance. To meet this demand TAAB introduces three new products from Gilder Grids designed to improve support for thin specimens and membranes by having high hole/bar ratios that give good transmission values. They are **available in copper, nickel and gold.**

Type G1000HH Hexagonal Mesh 25 grids/vial

Overall diameter	3.05mm
Mesh diameter	2mm
Lines/inch	~1,000
Pitch	25µm
Bar width	~6µm
Hole width	~19µm

GG075/C Gilder grid G1000HH *Cu*

GG075/N Gilder grid G1000HH *Nickel*

GG075/G Gilder grid G1000HH *Gold*

Type G1500HH Hexagonal Mesh 15 grids/vial

Overall diameter	3.05mm
Mesh diameter	2mm
Lines/inch	~1,500
Pitch	16.5µm
Bar width	~6µm
Hole width	~10.5µm

GG077/C Gilder grid G1500HH *Cu*

GG077/N Gilder grid G1500HH *Nickel*

GG077/G Gilder grid G1500HH *Gold*

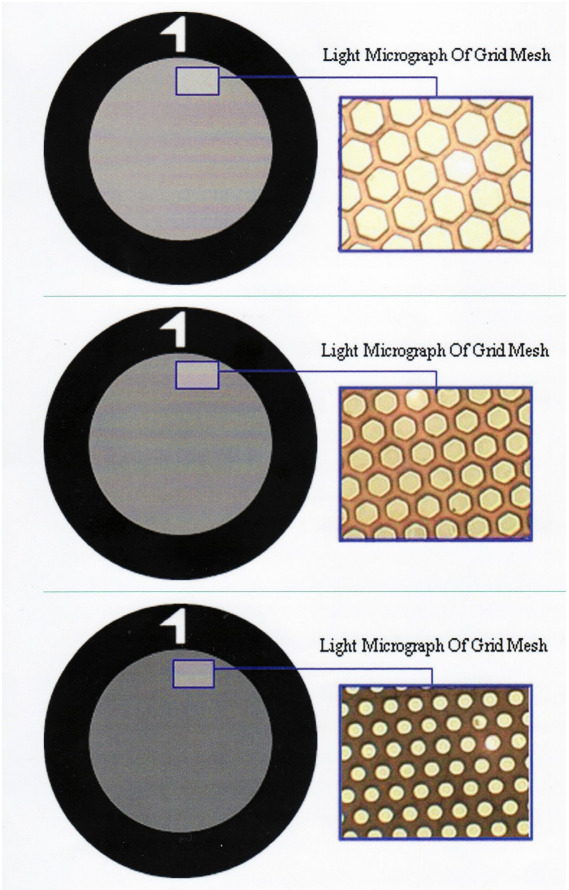
Type G2000HA Circular holes 10 grids/vial

Overall diameter	3.05mm
Mesh diameter	2mm
Lines/inch	~2,000
Pitch	12.5µm
Bar width	~6µm
Hole width	~6.5µm

GG076/C Gilder grid G2000HA *Cu*

GG076/N Gilder grid G2000HA *Nickel*

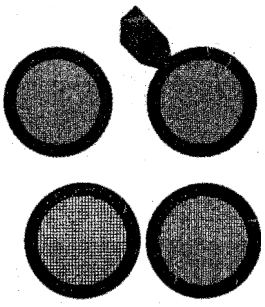
GG076/G Gilder grid G2000HA *Gold*



Grids & Specimen Supports

Extended Maxtaform Range of Research Grids

Maxtaform have increased their range of patterns and mesh sizes in a wide variety of metal foils. There are also mesh sizes from 50 to 600, solid grids with holes 0.4 to 2mm, finder grids with various patterns and folding grids with or without handles. materials include copper, nickel, gold, titanium, molybdenum, stainless steel, aluminium and copper/rhodium.

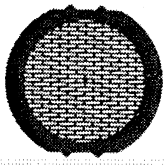


New 600 Mesh Grids

Without handles in copper (1GC600), nickel (1GN600) and copper/rhodium (1GC/Rh600)
With handles in copper (3HGC600), nickel (3HGN600 and copper/rhodium (HGC/Rh600)

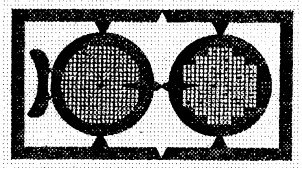
New 300 & 400 Mesh Grids

300 mesh - 1GT300 titanium, 1GA300 aluminium and 1GS300 stainless steel
400 mesh - 1GT400 titanium and 1GS400 stainless steel



New 75/300 Staggered Mesh Grids

Available in Copper, Copper/Rhodium, Nickel and gold (see table below)



New H12 Folding Grids

A combination of H1 and H2 grids in folded format. LH grid is standard 200 mesh, RH grid is 200 mesh reference pattern. Available in Copper, Copper/Rhodium or Nickel.

New IG15H with Handle

1.5mm hole grid in Copper and Nickel with handle. *Also available in Cu/Rh, Au, Al, SS, Mo and Ti - please ask.*

New HF49 Slot Grid now in Copper/Rhodium

2 x 1mm slot

Pattern	Cat. no.	Pitch (µm)	Mesh (µm)	Hole (µm)	Bar (µ)	Transmission %	Tol'ance	Qty/ vial
1GC600	**GE047/C**	41	600	26	15	42	±5µm	100
1GN600	**GE047/N**	41	600	26	15	42	±5µm	100
3HGC600	**GE048/C**	41	600	26	15	42	±5µm	100
3HGN600	**GE048/N**	41	600	26	15	42	±5µm	100
1GA300	**G009/A**	85	300	54	23	40	±5%	25
1GT300	**GE009/T**	85	300	54	31	40	±5µm	25
1GS300	**GE009/S**	85	300	54	31	40	±5µm	25
1GA400	**GE011/A**	64	400	38	30	35	±5µm	25
1GT400	**GE011/T**	64	400	38	21	35	±5µm	25
1GS400	**GE011/S**	64	400	38	21	35	±5µm	25
H12 Cu	**GM046/C**	127/127	200	112/108	15/19	78/72	±2µm	25
H12 Cu/Rh	**GM046/CR**	127/127	200	112/108	15/19	78/72	±2µm	25
H12 Ni	**GM046/N**	127/127	200	112/108	15/19	78/72	±2µm	25
75/300 staggered Cu	**GM047/C**	339 x 85	75/300	284/55	30	55	±5µm	100
75/300 staggered Cu/Rh	**GM047/CR**	339 x 85	75/300	284/55	30	55	±5µm	100
75/300 staggered Ni	**GM047/N**	339 x 85	75/300	284/55	30	55	±5µm	100
75/300 staggered Au	**GM047/G**	339 x 85	75/300	284/55	30	55	±5µm	25
1GC15H	**GM048/C**			1500			±20µm	100
1GN15H	**GM048/N**			1500			±20µm	100
HF49Cu/Rh	**GM049/CR**			2000 x 1000			±10µm	100

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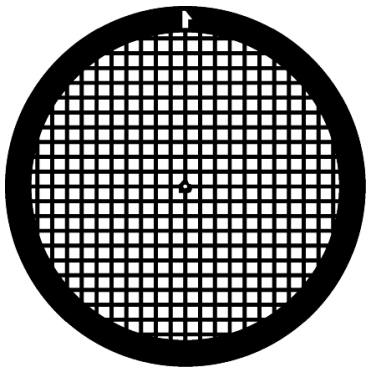
TEM Specimen Supports in Molybdenum

We can offer a new range of four molybdenum grids from Gilder. These new products are manufactured using a process known as 'chemical milling' (etching) instead of the more familiar technique of 'electroforming' (deposition) used to make copper, nickel and gold products. Molybdenum is used principally in applications where resistance to high temperature and corrosion coupled with hardness and a low expansion coefficient are deemed to be important.. The material has a typical purity of 99.9%.

GG005/M G200 **Specifications**

Overall diameter	3.05mm	Pitch	125µm
Rim width	0.225mm	Bar width	35µm
Rim mark	yes	Hole width	90µm
Centre mark	yes	Overall thickness	25µm
Lines/inch	200		

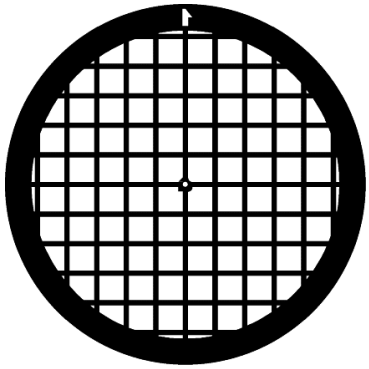
G200



GG003/M G100 **Specifications**

Overall diameter	3.05mm	Pitch	250µm
Rim width	0.225mm	Bar width	45µm
Rim mark	yes	Hole width	205µm
Centre mark	yes	Overall thickness	25µm
Lines/inch	100		

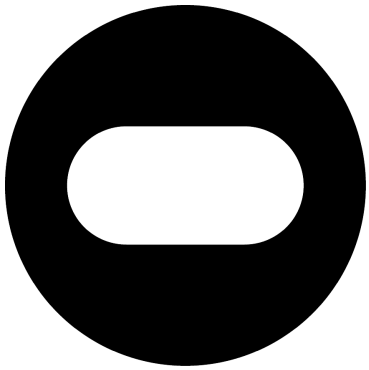
G100



GG030/M GS2X1 **Specifications**

Overall diameter	3.05mm	Pitch	N/A
Rim width	N/A	Bar width	N/A
Rim mark	N/A	Hole width	2 x 1mm
Centre mark	N/A	Overall thickness	50µm
Lines/inch	N/A		

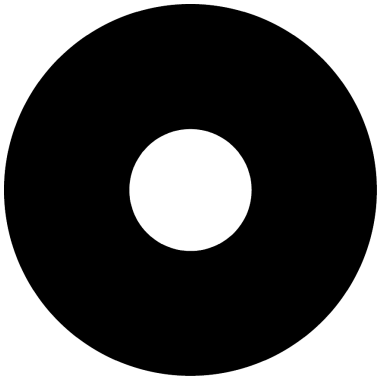
GS2 x 1



GG044/M G200 **Specifications**

Overall diameter	3.05mm	Pitch	N/A
Rim width	N/A	Bar width	N/A
Rim mark	N/A	Hole width	1000µm
Centre mark	N/A	Overall thickness	50µm
Lines/inch	N/A		

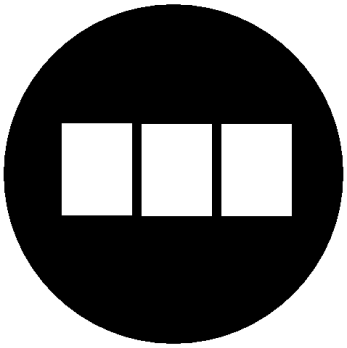
GA1000



Symbol Mo
Atomic no. 42
Melting Point 2617.0°C (2890.15.6°K, 4742.6°F)
Boiling Point 4612.0°C (4885.15°K, 8333.6°F)
Density 10.22g/cm^2

Grids & Specimen Supports

New Slot Grid from Gilder

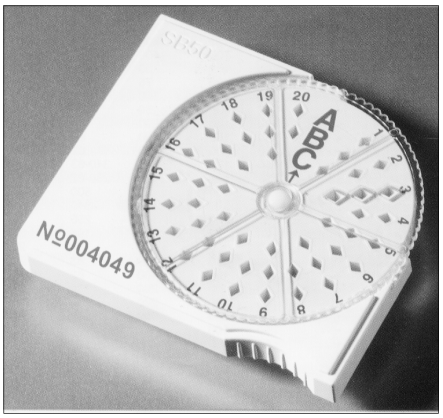


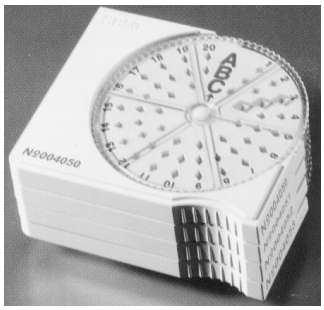
The new GS2/3X1 has two central bars to provide increased support enabling thinner support films to be used. Rigidity has been maintained by making the thickness ~ 50µm. Available in copper with a flash of palladium on one side, nickel and gold. The copper and nickel grids are also available with an immersion coating of gold to increase chemical resistance at an attractive price. Gold in vials of 50 grids, molybdenum in vials of 25, all other vials of 100.

Overall diameter 3.05mm, Hole sizes 606 x 1000µm

GG078/C GS2/3X1 Cu (100)
GG078/N GS2/3X1 Ni (100)
GG078/G GS2/3X1 Au (50)
GG078/P GS2/3X1 Cu/Pd (100)
GG078/M GS2/3X1 Mo (25)

Specimen Grid Storage Boxes





Each **SB50BN** storage box has a unique number so no two boxes can ever be confused.

Specifications SB50 and SB50BN:
Size 75mmL x 65mmW x 6.5mmD
Weight 22 gm
Materials
Base ABS-PHAT (Acrylonitrile Butadiene Styrene + Anti-Static Additive
Clear cover CAB (Cellulose Acetal Butyrate)

These new grid storage boxes are designed for the routine handling and long term storage of 50 standard size TEM grids. The ergonomic design incorporates several features that overcome the disadvantages associated with storage boxes of the more conventional 'sliding cover' design. Each **SB50BN** box has a unique number on the face and one end so no two boxes can ever be confused.

Features:

- A blue arrow at the 12 0'clock position indicates the park position for the cover when not in use. This is a firm 'click' position and cannot be moved accidentally, thus preventing spillage.
- The clear cover can be rotated smoothly through 360° once the slight initial resistance of the park position has been overcome exposing a maximum of 2 or 3 diamond shaped holes at any one time.
- The materials have been chosen for their anti-static properties, the clear cover also having self lubricating properties which reduces friction enabling the cover to move freely whilst remaining in close contact with the face of the base.
- The diamond shaped holes have an alpha numeric referencing system and each box is supplied with an indexed record card for additional information.
- The boxes are designed to be stacked with the base locating precisely over the face of another box.

G202 SB50 grid storage box (holds 50 grids)
G202/BN SB50BN grid storage box with unique number (holds 50 grids)

Lift-out Grid Storage Box

Storage box for 100 standard 3mm lift-out TEM grids. Complete with base, lid and clips. The grids are stored horizontally.

G117 Lift-out grid storage box

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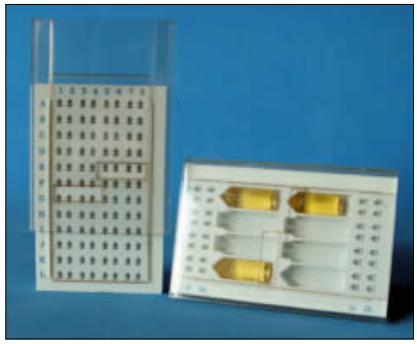
MEM Grid Box Multipurpose EM Specimen Grid Box

A newly designed Grid Box offering **safety, ease and convenience** – This EM specimen grid box is one of the most desirable boxes on the market.

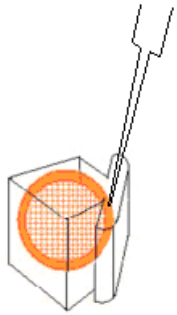
Advantages:

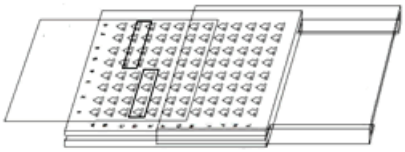
- Eliminates the chances of tweezer insertion damaging the grids – The 'tweezers slot' and 'grid slot' are in a separate location. The tweezers are only able to grip the edge of the grid enabling it to be picked up.
- Stored grids no longer jump out of the box when the cover is removed. There is a separate plastic cover between the box and the sliding lid which allows only four slots to be exposed at any time.
- The Grid Record Card is stored safely along on the reverse side of the box.
  Dimensions: 81mm L x 54mm W x 6mm Thick.



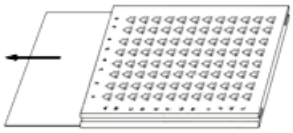
G279	MEM-96 can store up to store up to 96 grids	each
G279/10	MEM-96 to store up to 96 grids	10 pack
G280	MEM 32 can store up to 32 grids and 8 blocks	each
G280/10	MEM 32 to store up to 32 grids and 8 blocks	10 pack

Slot grids are best gripped by curved tweezers, mesh grids by straight *or* curved tweezers.





When moving the plastic cover only four holes are exposed at any time



Record card is stored under the box

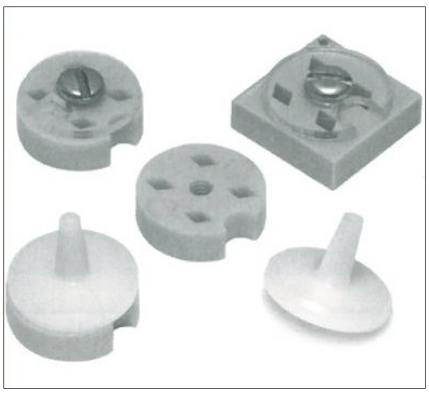
FIB Grid Storage Box

Storage box for four (4) FIB lift-out grids or half grids. Cavity depth is just 1.7mm, thus preventing grids from rotating. The diamond shaped cavities allow grids to be easily loaded or unloaded using fine tweezers.

G277 FIB grid storage box

Cryo Grid Boxes

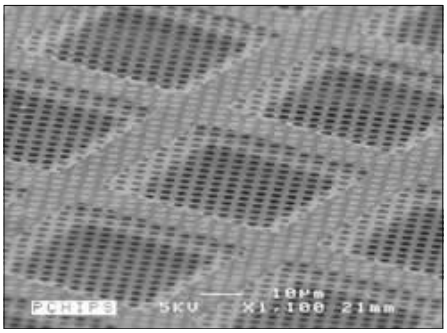
These cryo grid boxes are used for transferring, storing and manipulating vitrified cryo TEM specimens made with cryo devices such as the FEI Vitrobot™, Gatan 626 or Gatan CT4500 cryotransfer systems and others.. There are two versions each with four storage positions. The circular box is the most widely used and is available with or without a non-static rotatable lid. All of the boxes have a 5/40 tap in the centre. On versions with lids, the lid is held in place with a stainless steel screw. They can also be used for storing or transporting small numbers of grids or specimens. A handling tool is available for the cryo grid boxes.



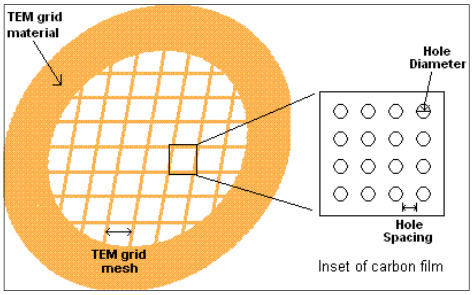
G274 Cryo grid box with lid, circular
G274/B Cryo grid box base only
G278 Cryo grid box with pin type lid, circular
G275 Cryo grid box with lid, square
G276 Cryo grid box handling tool

G276 Cryo grid box handling tool

Ultra Flat Holey Carbon Grids for Cryo TEM



C-flat™ is an ultra-flat, holey, carbon-coated TEM support grid for transmission electron microscopy (TEM). Unlike some other holey carbon films, C-flat™ is manufactured without plastics, so it is clean and without residue. 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 eliminate artefacts such as excess carbon and edges around holes.



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. 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 plus the material type and mesh size of the TEM grid. Standard support thickness is 20nm but 40nm is available on request at extra cost. Add postfix /T to existing code number e.g. G285/C25 becomes G285/C25/T.

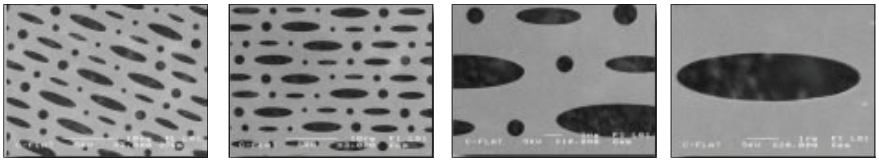
C-flat™ is available in several standard array patterns including hole diameters/hole spacings of 0.6/2, 1/1, 1/2, 1/4, 1.2/1.3, 2/1, 2/2, 2/4, 4/2, and a multi-hole pattern. C-flat™ is supported by your choice of a **200 mesh or 400 mesh copper TEM grid** and sold in quantities of 25, 50, or 100. ***Available on other grid materials (e.g. gold)*** to special order.

Ordering Information

CF-MH-2C and CF-MH-4C

Multi-hole and space. The Multi-hole device has a staggered pattern of six features consisting of three circle patterns of 1µm, 1.4µm and 2µm diameter and three ellipse patterns of 1µm x 4µm, 1.4µm x 5.6µm and 2µm x 8µm.

1500x (45°) 3000x 10,000x 20,000x

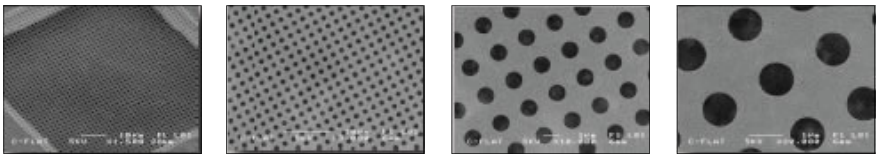


G281/C25 CF-MH-2C Multi-hole on **200** mesh Cu grid (25)
G281/C50 CF-MH-2C Multi-hole on **200** mesh Cu grid (50)
G281C100 CF-MH-2C Multi-hole on **200** mesh Cu grid (100)

G282/C25 CF-MH-4C Multi-hole on **400** mesh Cu grid (25)
G282/C50 CF-MH-4C Multi-hole on **400** mesh Cu grid (50)
G282/C100 CF-MH-4C Multi-hole on **400** mesh Cu grid (100)

CF-1/1-2C and **CF-1/1-4C**
(200 mesh Cu) (400 mesh Cu)

1.0µm hole, 1.0µm space

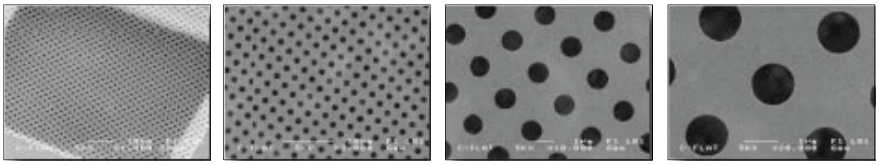


G283/C25 CF-1/1-2C 1µm hole x 1µm space on **200** mesh Cu grid (25)
G283/C50 CF-1/1-2C 1µm hole x 1µm space on **200** mesh Cu grid (50)
G283/C100 CF-1/1-2C 1µm hole x 1µm space on **200** mesh Cu grid (100)

G284/C25 CF-1/1-4C 1µm hole x 1µm space on **400** mesh Cu grid (25)
G284/C50 CF-1/1-4C 1µm hole x 1µm space on **400** mesh Cu grid (50)
G284/C100 CF-1/1-4C 1µm hole x 1µm space on **400** mesh Cu grid (100)

CF-1.2/1.3-2C and **CF-1.2/1.3-4C**
(200 mesh Cu) (400 mesh Cu)

1.2µm hole, 1.3 µm space



G285/C25 CF-1.2/1.3-C 1.2µm hole x 1.3µm space on **200** mesh Cu grid (25)
G285/C50 CF-1.2/1.3-C 1.2µm hole x 1.3µm space on **200** mesh Cu grid (50)
G285/C100 CF-1.2/1.3-C 1.2µm hole x 1.3µm space on **200** mesh Cu grid (100)

G286/C25 CF-1.2/1.3-4C 1.2µm hole x 1.3µm space on **400** mesh Cu grid (25)
G286/C50 CF-1.2/1.3-4C 1.2µm hole x 1.3µm space on **400** mesh Cu grid (50)
G286/C100 CF-1.2/1.3-4C 1.2µm hole x 1.3µm space on **400** mesh Cu grid (100)

CF-2/0.5-2C and **CF-2/0.5-4C** (No Images)
(200 mesh Cu) (400 mesh Cu)

2.0µm hole, 0.5µm space

G287/C25 CF-2/0.5-2C 2µm hole x 0.5µm space on **200** mesh Cu grid (25)
G287/C50 CF-2/0.5-2C 2µm hole x 0.5µm space on **200** mesh Cu grid (50)
G287/C100 CF-2/0.5-2C 2µm hole x 0.5µm space on **200** mesh Cu grid (100)

G288/C25 CF-2/0.5-4C 2µm hole x 0.5µm space on **400** mesh Cu grid (25)
G288/C25 CF-2/0.5-4C 2µm hole x 0.5µm space on **400** mesh Cu grid (50)
G288C/25 CF-2/0.5-4C 2µm hole x 0.5µm space on **400** mesh Cu grid (100)

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

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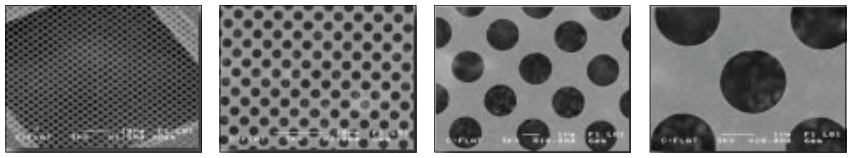
C-flat™ Ultra Flat Holey Carbon Grids Cont...

1500x (45°) 3000x 10,000x 20,000x

CF-2/1-2C and **CF-2/1-4C**
(200 mesh Cu) (400 mesh Cu)

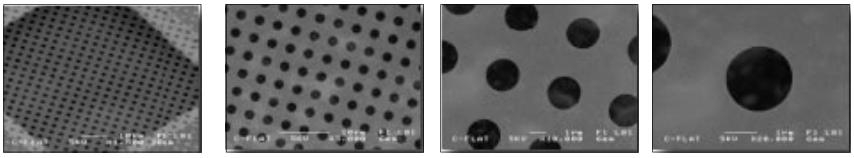


2.0µm hole, 1.0µm space

G289/C25 CF-2/1-2C 2µm hole x 1µm space on **200** mesh Cu grid (25)
G289/C50 CF-2/1-2C 2µm hole x 1µm space on **200** mesh Cu grid (50)
G289/C100 CF-2/1-2C 2µm hole x 1µm space on **200** mesh Cu grid (100)

G290/C25 CF-2/1-4C 2µm hole x 1µm space on **400** mesh Cu grid (25)
G290/C25 CF-2/1-4C 2µm hole x 1µm space on **400** mesh Cu grid (50)
G290/C25 CF-2/1-4C 2µm hole x 1µm space on **400** mesh Cu grid (100)

CF-2/2-2C and **CF-2/2-4C**
(200 mesh Cu) (400 mesh Cu)

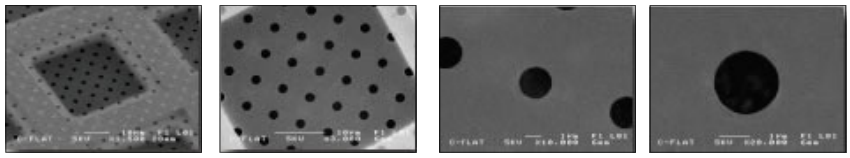


2.0µm hole, 2.0µm space

G291/C25 CF-2/2-2C 2µm hole x 2µm space on **200** mesh Cu grid (25)
G291/C50 CF-2/2-2C 2µm hole x 2µm space on **200** mesh Cu grid (50)
G291/C100 CF-2/2-2C 2µm hole x 2µm space on **200** mesh Cu grid (100)

G292/C25 CF-2/2-4C 2µm hole x 2µm space on **400** mesh Cu grid (25)
G292/C50 CF-2/2-4C 2µm hole x 2µm space on **400** mesh Cu grid (50)
G292/C100 CF-2/2-4C 2µm hole x 2µm space on **400** mesh Cu grid (100)

CF-2/4-2C and **CF-2/4-4C**
(200 mesh Cu) (400 mesh Cu)



2.0µm hole, 4.0µm space

G293/C25 CF-2/4-2C 2µm hole x 4µm space on **200** mesh Cu grid (25)
G293/C50 CF-2/4-2C 2µm hole x 4µm space on **200** mesh Cu grid (50)
G293/C/100 CF-2/4-2C 2µm hole x 4µm space on **200** mesh Cu grid (100)

G294/C25 CF-2/2-4C 2µm hole x 4µm space on **400** mesh Cu grid (25)
G294/C50 CF-2/2-4C 2µm hole x 4µm space on **400** mesh Cu grid (50)
G294/C100 CF-2/2-4C 2µm hole x 4µm space on **400 mesh** Cu grid (100)

CF-4/1-2C and **CF-4/1-4C**
(200 mesh Cu) (400 mesh Cu)

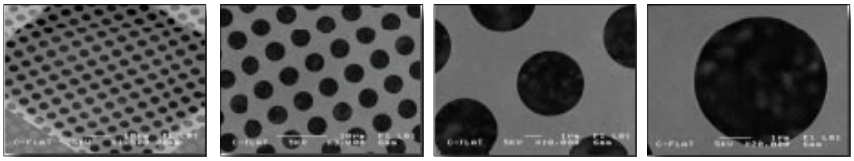
No images

4.0µm hole, 1.0µm space

G295/C25 CF-4/1-2C 4µm hole x 1µm space on **200** mesh Cu grid (25)
G295/C50 CF-4/1-2C 4µm hole x 1µm space on **200** mesh Cu grid (50)
G295/C100 CF-4/1-2C 4µm hole x 1µm space on **200** mesh Cu grid (100)

G296/C25 CF-4/1-4C 4µm hole x 1µm space on **400** mesh Cu grid (25)
G296/C50 CF-4/1-4C 4µm hole x 1µm space on **400** mesh Cu grid (50)
G296/C100 CF-4/1-4C 4µm hole x 1µm space on **400** mesh Cu grid (100)

CF-4/2-2C and **CF-4/2-4C**
(200 mesh Cu) (400 mesh Cu)



4.0µm hole, 2.0µm space

G297/C25 CF-4/2-2C 4µm hole x 2µm space on **200** mesh Cu grid (25)
G297/C50 CF-4/2-2C 4µm hole x 2µm space on **200** mesh Cu grid (50)
G297/C100 CF-4/2-2C 4µm hole x 2µm space on **200** mesh Cu grid (100)

G298/C25 CF-4/2-4C 4µm hole x 2µm space on **400** mesh Cu grid (25)
G298/C50 CF-4/2-4C 4µm hole x 2µm space on **400** mesh Cu grid (50)
G298/C100 CF-4/2-4C 4µm hole x 2µm space on **400** mesh Cu grid (100)

Grids & Specimen Supports

Quantifoil® Holey Carbon Films

QUANTIFOIL® holey carbon films are15-20nm thick and are produced by a semiconductor lithographic process. They are available with different hole sizes, shapes and arrangements. Researchers who would like to try out different types of QUANTIFOIL® holey films in order to find out which one meets their requirements best, can order our MixBox. QUANTIFOIL® R 1/4 may be preferred over R 1.2/1.3 (see below), when an increased tolerance with respect to the position of beam and a larger beam diameter are desired, such as in the case with automated image acquisition. QUANTIFOIL® provide a high percentage of open area in addition to minimising total specimen thickness

The thickness of the foil is about 20 nm, although only 10 nm of carbon is evaporated onto the plastic. 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 ageing QUANTIFOIL® tends to be hydrophobic. The foil can be made hydrophilic by glow discharging in residual air or by metal coating. QUANTIFOIL® grids are packaged with their **coated** sides toward the **centre** of the grid box.. Holey films with new geometric parameters can be designed. In addition, they can be delivered with coatings other than carbon that can be deposited by vacuum evaporation.

QUANTIFOIL® with **circular** holes is mainly used in cryo-EM. The roundness of the holes is advantageous for the formation of an ice layer of constant thickness. The hole size that is chosen depends on the magnification used and on whether or not one wishes to include a support film in the image. Assessment of the image quality is easier when foil is included in the picture as the power spectrum of a foil is stronger than that of unsupported ice. **For those customers unsure of which Quantifoil® to use please try our MixBox .**

Quantifoil® with Round Holes on Copper, Nickel & Gold Grids
200, 300 & 400 Mesh and in 50 or 100 pack sizes

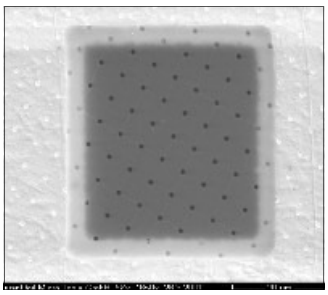
Quantifoil R 0.6/1

G299/2C/50 Quantifoil 0.6um dia x 1.0um **200** Mesh *Cu* 50 pack
G299/2C/100 Quantifoil 0.6um dia x 1.0um **200** Mesh *Cu* 100 pack
G299/2N/50 Quantifoil 0.6um dia x 1.0um **200** Mesh *Ni* 50 pack
G299/2N/100 Quantifoil 0.6um dia x 1.0um **200** Mesh *Ni* 100 pack
G299/2G/50 Quantifoil 0.6um dia x 1.0um **200** Mesh *Au* 50 pack
G299/2G/100 Quantifoil 0.6um dia x 1.0um **200** Mesh *Au* 100 pack

G299/3C/50 Quantifoil 0.6um dia x 1.0um **300** Mesh *Cu* 50 pack
G299/3C/100 Quantifoil 0.6um dia x 1.0um **300** Mesh *Cu* 100 pck
G299/3N/50 Quantifoil 0.6um dia x 1.0um **300** Mesh *Ni* 50 pack
G299/3N/100 Quantifoil 0.6um dia x 1.0um **300** Mesh *Ni* 100 pck
G299/3G/50 Quantifoil 0.6um dia x 1.0um **300** Mesh *Au* 50 pack
G299/3G/100 Quantifoil 0.6um dia x 1.0um **300** Mesh *Au* 100 pck

G299/4C/50 Quantifoil 0.6um dia x 1.0um **400** Mesh *Cu* 50 pack
G299/4C/100 Quantifoil 0.6um dia x 1.0um **400** Mesh *Cu* 100 pack
G299/4N/50 Quantifoil 0.6um dia x 1.0um **400** Mesh *Ni* 50 pack
G299/4N/100 Quantifoil 0.6um dia x 1.0um **400** Mesh *Ni* 100 pack
G299/4G/50 Quantifoil 0.6um dia x 1.0um **400** Mesh *Au* 50 pack
G299/4G/100 Quantifoil 0.6um dia x 1.0um **400** Mesh *Au* 100 pack

Quantifoil® Holey Carbon Films with **0.6µm holes** separated by **1µm spaces**



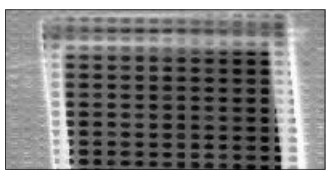
Quantifoil R 1.2/1.3

G300/2C/50 Quantifoil 1.2µm dia x 1.3µm **200** Mesh *Cu* 50 pack
G300/2C/100 Quantifoil 1.2µm dia x 1.3µm **200** Mesh *Cu* 100 pack
G300/2N/50 Quantifoil 1.2µm dia x 1.3µm **200** Mesh *Ni* 50 pack
G300/2N/100 Quantifoil 1.2µm dia x 1.3µm **200** Mesh *Ni* 100 pack
G300/2G/50 Quantifoil 1.2µm dia x 1.3µm **200** Mesh *Au* 50 pack
G300/2G/100 Quantifoil 1.2µm dia x 1.3µm **200** Mesh *Au* 100 pack

G300/3C/50 Quantifoil 1.2µm dia x 1.3µm **300** Mesh *Cu* 50 pack
G300/3C/100 Quantifoil 1.2µm dia x 1.3µm **300** Mesh *Cu* 100 pck
G300/3N/50 Quantifoil 1.2µm dia x 1.3µm **300** Mesh *Ni* 50 pack
G300/3N/100 Quantifoil 1.2µm dia x 1.3µm **300** Mesh *Ni* 100 pck
G300/3G/50 Quantifoil 1.2µm dia x 1.3µm **300** Mesh *Au* 50 pack
G300/3G/100 Quantifoil 1.2µm dia x 1.3µm **300** Mesh *Au* 100 pck

G300/4C/50 Quantifoil 1.2µm dia x 1.3µm **400** Mesh *Cu* 50 pack
G300/4C/100 Quantifoil 1.2µm dia x 1.3µm **400** Mesh *Cu* 100 pck
G300/4N/50 Quantifoil 1.2µm dia x 1.3µm **400** Mesh *Ni* 50 pack
G300/4N/100 Quantifoil 1.2µm dia x 1.3µm **400** Mesh *Ni* 100 pck
G300/4G/50 Quantifoil 1.2µm dia x 1.3µm **400** Mesh *Au* 50 pack
G300/4G/100 Quantifoil 1.2µm dia x 1.3µm **400** Mesh *Au* 100 pck

Quantifoil® Holey Carbon Films with **1.2µm holes** separated by **1.3µm spaces**



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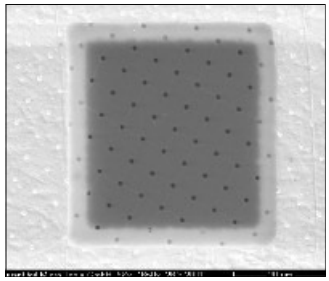
Quantifoil R 1/4

G301/2C/50 Quantifoil 1um dia x 4um **200** Mesh *Cu* 50 pack
G301/2C/100 Quantifoil 1um dia x 4um **200** Mesh *Cu* 100 pack
G301/2N/50 Quantifoil 1um dia x 4um **200** Mesh *Ni* 50 pack
G301/2N/100 Quantifoil 1um dia x 4um **200** Mesh *Ni* 100 pack
G301/2G/50 Quantifoil 1um dia x 4um **200** Mesh *Au* 50 pack
G301/2G/100 Quantifoil 1um dia x 4um **200** Mesh *Au* 100 pack

G301/3C/50 Quantifoil 1um dia x 4um **300** Mesh *Cu* 50 pack
G301/3C/100 Quantifoil 1um dia x 4um **300** Mesh *Cu* 100 pack
G301/3N/50 Quantifoil 1um dia x 4um **300** Mesh *Ni* 50 pack
G301/3N/100 Quantifoil 1um dia x 4um **300** Mesh *Ni* 100 pack
G301/3G/50 Quantifoil 1um dia x 4um **300** Mesh *Au* 50 pack
G301/3G/100 Quantifoil 1um dia x 4um **300** Mesh *Au* 100 pack

G301/4C/50 Quantifoil 1um dia x 4um **400** Mesh *Cu* 50 pack
G301/4C/100 Quantifoil 1um dia x 4um **400** Mesh *Cu* 100 pack
G301/4N/50 Quantifoil 1um dia x 4um **400** Mesh *Ni* 50 pack
G301/4N/100 Quantifoil 1um dia x 4um **400** Mesh *Ni* 100 pack
G301/4G/50 Quantifoil 1um dia x 4um **400** Mesh *Au* 50 pack
G301/4G/100 Quantifoil 1um dia x 4um **400** Mesh *Au* 100 pack

Quantifoil® Holey Carbon Films with **1µm holes** separated by **4µm spaces**



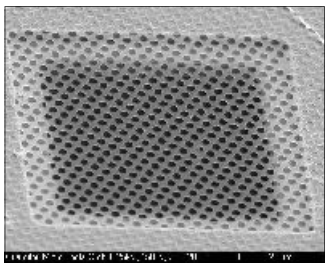
Quantifoil R 2/1

G310/2C/50 Quantifoil 2µm dia x 1µm **200** mesh *Cu* 50 pack
G310/2C/100 Quantifoil 2µm dia x 1µm **200** mesh *Cu* 100 pack
G310/2N/50 Quantifoil 2µm dia x 1µm **200** mesh *Ni* 50 pack
G310/2N/100 Quantifoil 2µm dia x 1µm **200** mesh *Ni* 100 pack
G310/2G/50 Quantifoil 2µm dia x 1µm **200** mesh *Au* 50 pack
G310/2G/100 Quantifoil 2µm dia x 1µm **200** mesh *Au* 100 pack

G310/3C/50 Quantifoil 2µm dia x 1µm **300** mesh *Cu* 50 pack
G310/3C/100 Quantifoil 2µm dia x 1µm **300** mesh *Cu* 100 pack
G310/3N/50 Quantifoil 2µm dia x 1µm **300** mesh *Ni* 50 pack
G310/3N/100 Quantifoil 2µm dia x 1µm **300** mesh *Ni* 100 pack
G310/3G/50 Quantifoil 2µm dia x 1µm **300** mesh *Au* 50 pack
G310/3G/100 Quantifoil 2µm dia x 1µm **300** mesh *Au* 100 pack

G310/4C/50 Quantifoil 2µm dia x 1µm **400** mesh *Cu* 50 pack
G310/4C/100 Quantifoil 2µm dia x 1µm **400** mesh *Cu* 100 pack
G310/4N/50 Quantifoil 2µm dia x 1µm **400** mesh *Ni* 50 pack
G310/4N/100 Quantifoil 2µm dia x 1µm **400** mesh *Ni* 100 pack
G310/4G/50 Quantifoil 2µm dia x 1µm **400** mesh *Au* 50 pack
G310/4G/100 Quantifoil 2µm dia x 1µm **400** mesh *Au* 100 pack

Quantifoil® Holey Carbon Films with **2µm holes** separated by **1µm spaces**



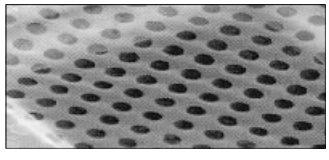
Quantifoil R 2/2

G302/2C/50 Quantifoil 2um dia x 2um **200** Mesh *Cu* 50 pack
G302/2C/100 Quantifoil 2um dia x 2µm **200** Mesh *Cu* 100 pack
G302/2N/50 Quantifoil 2um dia x 2um **200** Mesh *Ni* 50 pack
G302/2N/100 Quantifoil 2um dia x 2um **200** Mesh *Ni* 100 pack
G302/2G/50 Quantifoil 2um dia x 2um **200** Mesh *Au* 50 pack
G302/2G/100 Quantifoil 2um dia x 2um **200** Mesh *Au* 100 pack

G302/3C/50 Quantifoil 2um dia x 2um **300** Mesh *Cu* 50 pack
G302/3C/100 Quantifoil 2um dia x 2um **300** Mesh *Cu* 100 pack
G302/3N/50 Quantifoil 2um dia x 2um **300** Mesh *Ni* 50 pack
G302/3N/100 Quantifoil 2um dia x 2um **300** Mesh *Ni* 100 pack
G302/3G/50 Quantifoil 2um dia x 2um **300** Mesh *Au* 50 pack
G302/3G/100 Quantifoil 2um dia x 2um **300** Mesh *Au* 100 pack

G302/4C/50 Quantifoil 2um dia x 2um **400** Mesh *Cu* 50 pack
G302/4C/100 Quantifoil 2um dia x 2um **400** Mesh *Cu* 100 pack
G302/4N/50 Quantifoil 2um dia x 2um **400** Mesh *Ni* 50 pack
G302/4N/100 Quantifoil 2um dia x 2um **400** Mesh *Ni* 100 pack
G302/4G/50 Quantifoil 2um dia x 2um **400** Mesh *Au* 50 pack
G302/4G/100 Quantifoil 2um dia x 2um **400** Mesh *Au* 100 pck

Quantifoil® Holey Carbon Films with **2µm holes** separated by **2µm spaces**



Please ask for our data sheet

Grids & Specimen Supports

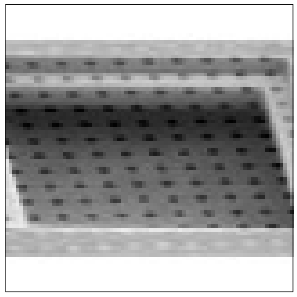
Quantifoil R 2/4

G303/2C/50 Quantifoil 2um dia x 4um **200** Mesh *Cu* 50 pack
G303/2C/100 Quantifoil 2um dia x 4um **200** Mesh *Cu* 100 pack
G303/2N/50 Quantifoil 2um dia x 4um **200** Mesh *Ni* 50 pack
G303/2N/100 Quantifoil 2um dia x 4um **200** Mesh *Ni* 100 pack
G303/2G/50 Quantifoil 2um dia x 4um **200** Mesh *Au* 50 pack
G303/2G/100 Quantifoil 2um dia x 4um **200** Mesh *Au* 100 pack

G303/3C/50 Quantifoil 2um dia x 4um **300** Mesh *Cu* 50 pack
G303/3C/100 Quantifoil 2um dia x 4um **300** Mesh *Cu* 100 pack
G303/3N/50 Quantifoil 2um dia x 4um **300** Mesh *Ni* 50 pack
G303/3N/100 Quantifoil 2um dia x 4um **300** Mesh *Ni* 100 pack
G303/3G/50 Quantifoil 2um dia x 4um **300** Mesh *Au* 50 pack
G303/3G/100 Quantifoil 2um dia x 4um **300** Mesh *Au* 100 pack

G303/4C/50 Quantifoil 2um dia x 4um **400** Mesh *Cu* 50 pack
G303/4C/100 Quantifoil 2um dia x 4um **400** Mesh *Cu* 100 pack
G303/4N/50 Quantifoil 2um dia x 4um **400** Mesh *Ni* 50 pack
G303/4N/100 Quantifoil 2um dia x 4um **400** Mesh *Ni* 100 pack
G303/4G/50 Quantifoil 2um dia x 4um **400** Mesh *Au* 50 pack
G303/4G/100 Quantifoil 2um dia x 4um **400** Mesh *Au* 100 pack

Quantifoil® Holey Carbon Films with **2µm holes** separated by **4µm spaces**



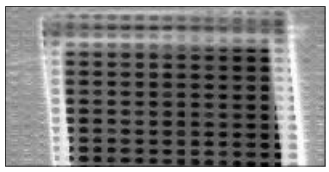
Quantifoil R 3.5/1

G304/2C/50 Quantifoil 3.5µm dia x 1µm **200** Mesh *Cu* 50 pack
G304/2C/100 Quantifoil 3.5µm dia x 1µm **200** Mesh *Cu* 100 pack
G304/2N/50 Quantifoil 3.5µm dia x 1µm **200** Mesh *Ni* 50 pack
G304/2N/100 Quantifoil 3.5µm dia x 1µm **200** Mesh *Ni* 100 pack
G304/2G/50 Quantifoil 3.5µm dia x 1µm **200** Mesh *Au* 50 pack
G304/2G/100 Quantifoil 3.5µm dia x 1µm **200** Mesh *Au* 100 pack

G304/3C/50 Quantifoil 3.5µm dia x 1µm **300** Mesh *Cu* 50 pack
G304/3C/100 Quantifoil 3.5µm dia x 1µm **300** Mesh *Cu* 100 pck
G304/3N/50 Quantifoil 3.5µm dia x 1µm **300** Mesh *Ni* 50 pack
G304/3N/100 Quantifoil 3.5µm dia x 1µm **300** Mesh *Ni* 100 pck
G304/3G/50 Quantifoil 3.5µm dia x 1µm **300** Mesh *Au* 50 pack
G304/3G/100 Quantifoil 3.5µm dia x 1µm **300** Mesh *Au* 100 pck

G304/4C/50 Quantifoil 3.5µm dia x 1µm **400** Mesh *Cu* 50 pack
G304/4C/100 Quantifoil 3.5µm dia x 1µm **400** Mesh *Cu* 100 pck
G304/4N/50 Quantifoil 3.5µm dia x 1µm **400** Mesh *Ni* 50 pack
G304/4N/100 Quantifoil 3.5µm dia x 1µm **400** Mesh *Ni* 100 pck
G304/4G/50 Quantifoil 3.5µm dia x 1µm **400** Mesh *Au* 50 pack
G304/4G/100 Quantifoil 3.5µm dia x 1µm **400** Mesh *Au* 100 pck

Quantifoil® Holey Carbon Films with **3.5µm holes** separated by **1µm spaces**



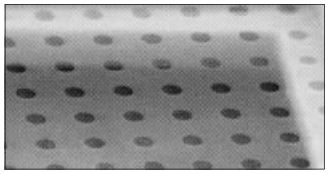
Quantifoil R 5/20

G305/2C/50 Quantifoil 5µm dia x 20µm **200** Mesh *Cu* 50 pack
G305/2C/100 Quantifoil 5µm dia x 20µm **200** Mesh *Cu* 100 pack
G305/2N/50 Quantifoil 5µm dia x 20µm **200** Mesh *Ni* 50 pack
G305/2N/100 Quantifoil 5µm dia x 20µm **200** Mesh *Ni* 100 pack
G305/2G/50 Quantifoil 5µm dia x 20µm **200** Mesh *Au* 50 pack
G305/2G/100 Quantifoil 5µm dia x 20µm **200** Mesh *Au* 100 pack

G305/3C/50 Quantifoil 5µm dia x 20µm **300** Mesh *Cu* 50 pack
G305/3C/100 Quantifoil 5µm dia x 20µm **300** Mesh *Cu* 100 pck
G305/3N/50 Quantifoil 5µm dia x 20µm **300** Mesh *Ni* 50 pack
G305/3N/100 Quantifoil 5µm dia x 20µm **300** Mesh *Ni* 100 pck
G305/3G/50 Quantifoil 5µm dia x 20µm **300** Mesh *Au* 50 pack
G305/3G/100 Quantifoil 5µm dia x 20µm **300** Mesh *Au* 100 pck

G305/4C/50 Quantifoil 5µm dia x 20µm **400** Mesh *Cu* 50 pack
G305/4C/100 Quantifoil 5µm dia x 20µm **400** Mesh *Cu* 100 pck
G305/4N/50 Quantifoil 5µm dia x 20µm **400** Mesh *Ni* 50 pack
G305/4N/100 Quantifoil 5µm dia x 20µm **400** Mesh *Ni* 100 pck
G305/4G/50 Quantifoil 5µm dia x 20µm **400** Mesh *Au* 50 pack
G305/4G/100 Quantifoil 5µm dia x 20µm **400** Mesh *Au* 100 pck

Quantifoil® Holey Carbon Films with **5µm holes** separated by **20µm spaces**



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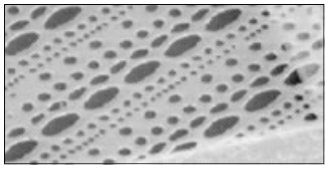
Quantifoil Multi A

G306/2C/50 Quantifoil Multi A **200** Mesh *Cu* 50 pack
G306/2C/100 Quantifoil Multi A **200** Mesh *Cu* 100 pack
G306/2N/50 Quantifoil Multi A **200** Mesh *Ni* 50 pack
G306/2N/100 Quantifoil Multi A **200** Mesh *Ni* 100 pack

G306/3C/50 Quantifoil Multi A **300** Mesh *Cu* 50 pack
G306/3C/100 Quantifoil Multi A **300** Mesh *Cu* 100 pck
G306/3N/50 Quantifoil Multi A **300** Mesh *Ni* 50 pack
G306/3N/100 Quantifoil Multi A **300** Mesh *Ni* 100 pack

G306/4C/50 Quantifoil Multi A **400** Mesh *Cu* 50 pack
G306/4C/100 Quantifoil Multi A **400** Mesh *Cu* 100 pck
G306/4N/50 Quantifoil Multi A **400** Mesh *Ni* 50 pack
G306/4N/100 Quantifoil Multi A **400** Mesh *Ni* 100 pack

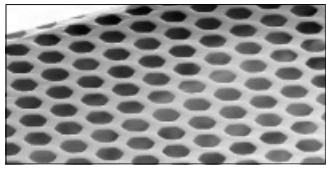
Quantifoil® Holey Carbon Films with **different hole sizes** and **patterns**



Quantifoil Hex15

G307/Hex15/C/50 Quantifoil hexagonal mesh on 0.5 x 2mm slot grids Cu 50 pack
G307/Hex15/C/100 Quantifoil hexagonal mesh on 0.5 x 2mm slot grids Cu 100 pack

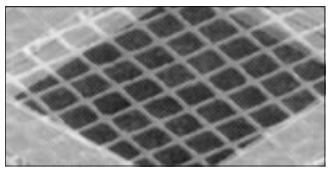
Quantifoil® **Hexagonal** on slot grid 0.5 x 2mm
For **section support** giving greatest open area
Hole size 26µm
Bar width 15µm repeat distance 41µm



Quantifoil® with Square Holes on copper, nickel and gold grids

Quantifoil S 7/2

G308/C/S72/50 Quantifoil S 7/2 square 7 x 7µm holes *Cu* 50 pack
G308/C/S72/100 Quantifoil S 7/2 square 7 x 7µm holes *Cu* 100 pack
G308/N/S72/50 Quantifoil S 7/2 square 7 x 7µm holes *Ni* 50 pack
G308/N/S72/100 Quantifoil S 7/2 square 7 x 7µm holes *Ni* 100 pack
G308/G/S72/50 Quantifoil S 7/2 square 7 x 7µm holes *Au* 50 pack
G308/G/S72/100 Quantifoil S 7/2 square 7 x 7µm holes *Au* 100 pck



Quantifoil® with **square holes** and **narrow bars** can be used in TEM 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® MixBox

The MixBox contains 5 pieces each of the following on 300 mesh copper grids

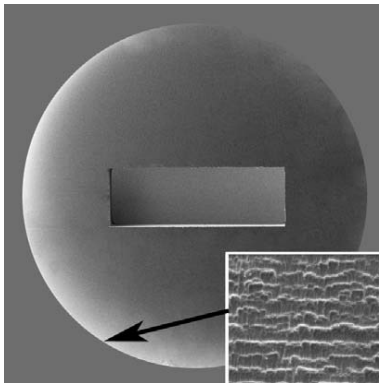
R 1.2/1.3
R 2/1
R 3.5/1
S 7/2
Multi A

G309 Quantifoil® MixBox

Grids & Specimen Supports

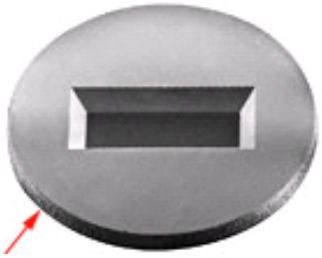
Silicon Nitride (Si_3N_4) Thin Film Windows for Microscopy

TAAB introduces a new generation of Silicon Nitride Support Films for EM imaging and analysis from Ted Pella. These resilient, ultra-smooth low stress inorganic silicon nitride support films have been developed as an addition to our available range of TEM support films to enable specific nanotechnology and molecular biology research. Each window has an EasyGrip™ edge.



Silicon nitride support films have the great advantages of being chemically and mechanically robust and are able to withstand temperature changes up to 1000°C. They are extremely stable and suitable to conduct a variety of nanotechnology experiments with particles or cells mounted directly on the support films. They have greatly improved handling capabilities with EasyGrip™ edges. The frame is manufactured as a 3mm x 200µm silicon disc and will fit perfectly in standard TEM holders.

Each Silicon Nitride Support Film is manufactured with a 3mm diameter structure compatible with TEM grids and is completely free from debris particles. The purpose designed packaging and clean room assembly and packaging keeps the support films free from artefacts and contamination. **The mechanical and chemical stability allow for cleaning of the silicon nitride support films** with chemicals (solvents, acids and bases), glow discharge and plasma cleaning. *Ultrasonic cleaning is not recommended* as it may shatter the silicon nitride membrane.



EasyGrip™ Edge

Examples of Application Fields

The Silicon Nitride Support Films are indispensable tools for virtually all fields of nanotechnology research. They enable direct deposition and in-situ observations of dynamic reactions over a wide temperature range. Applications fields include, but are not limited to:

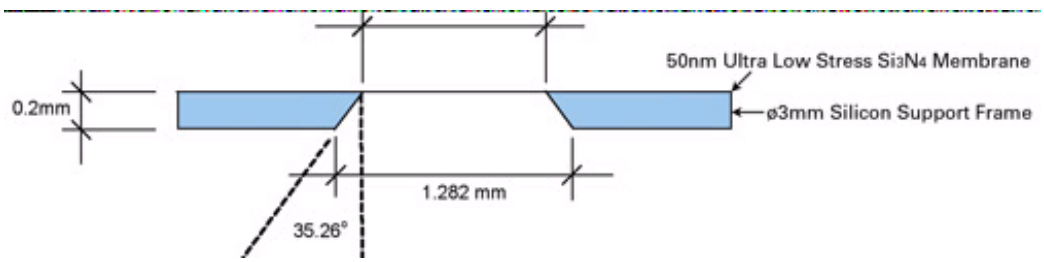
- **Cell biology:** attached cells can be grown in their environment on the support film and subsequently analysed
- **Analysis of colloids, aerosols, nanoparticles**
- **Self-assembled mono-layers**
- **Polymer research**
- **Thin film research (directly deposited on the silicon nitride support film)**
- **Materials science**
- **Properties of nano-structures for semiconductor devices**
- **Semiconductor; characterisation of thin films**
-

Catalyst development

These superior Silicon nitride support films are made by state-of-the-art semiconductor and MEMS fabrication techniques using resilient, low-stress inorganic silicon nitride thin films supported by a sturdy silicon frame. **The thin silicon nitride film is grown on a 200µm thick silicon wafer** to the desired membrane thickness of 50nm. The specimen viewing area is created by etching away a window in the silicon wafer substrate underneath the Si_3N_4 membrane, leaving a perfectly smooth, resilient and chemically robust silicon nitride film. The membrane is not supported in the window area, enabling large viewing areas without any disturbing bars. A new addition is Hydrophobic and Hydrophilic Substrates for Nanotechnology and Biotechnology applications. The 50nm membranes have been Atomic Layer-Deposited (ALD) modified to created these surfaces.

Window sizes and shape

The following window sizes are available with 8, 15, 35 or 50nm thin support on 3mm Ø frame :
0.25 x 0.25mm, 0.5 x 5mm, 0.75 x 0.75mm, 1 x 1 mm. and 1.5 x 0.5mm. There are multiple window versions with 9 windows of 0.1 x 0.1mm in a 3x3 array or 2 windows of 0.1 x 1.5mm.
Due to the structure of the silicon and the etching process the window in the silicon substrate is etched with a 35° angle, leaving a much larger opening than the membrane window at the back of the frame.



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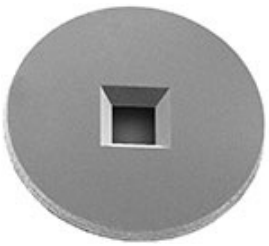
Effects of tilt

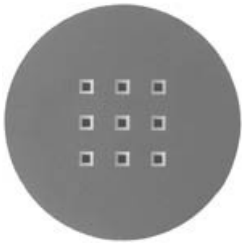
Due to the 35° etching angle the Si_3N_4 support films on the frames can be tilted to 35° for unobstructed viewing, even if the specimen is close to the edge of the membrane. For higher tilting angles, the specimen needs to be in the centre of the membrane. To allow for the highest possible tilt angle a window size of 1.5 x 0.5mm has been made available which allows for tilting angles up to 70° with a viewable area of 40%. Maximum tilt angle with a specimen in the centre is 75°.

Surface Roughness: The RMS (Rq) is 0.65 +/- 0.06nm which gives a mean roughness (Ra) of 0.45 +/- 0.02nm.

Packaging: The Silicon Nitride Support Films are packaged under cleanroom conditions in a TEM Grid Storage Box. Each box holds 10 support films.

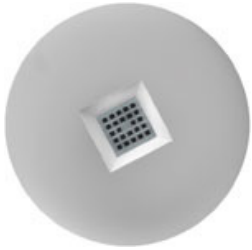


Single or multiple windows



9 each 0.1 x 0.1mm apertures

2 each 0.1 x 1.5mm Apertures



Ultra thin 8nm

Utra-thin Membrane Versions 25 Apertures - 200µm Frame Thickness

SXXX	Silicon Nitride Support Film, 8nm, 60 x 60µm Apertures (25) on 0.5x0.5mm window	pack of 10

15nm membrane thickness - 200µm Frame Thickness

SXXX	Silicon Nitride Support Film, 15nm with 0.25 x 0.25mm window	pack of 10
SXXX	Silicon Nitride Support Film, 15nm with 9 each 0.1 x 0.1mm windows	pack of 10

35nm membrane thickness 25 apertures - 200µm frame thickness

SXXX	Silicon Nitride Support Film, 50nm with 0.25 x 0.25mm window	pack of 10
SXXX/1	Silicon Nitride Support Film, 50nm with 0.25 x 0.25mm window	pack of 100
SXXX	Silicon Nitride Support Film, 50nm with 0.5 x 0.5mm window	pack of 10
SXXX/1	Silicon Nitride Support Film, 50nm with 0.5 x 0.5mm window	pack of 100
SXXX	Silicon Nitride Support Film, 50nm with 0.75 x 0.75mm window	pack of 10
SXXX/1	Silicon Nitride Support Film, 50nm with 0.75 x 0.75mm window	pack of 100
SXXX	Silicon Nitride Support Film, 50nm with 1.0 x 1.0mm window	pack of 10
SXXX/1	Silicon Nitride Support Film, 50nm with 1.0 x 1.0mm window	pack of 100
SXXX	Silicon Nitride Support Film, 50nm with 0.5 x 1.5mm window	pack of 10
SXXX/1	Silicon Nitride Support Film, 50nm with 0.5 x 1.5mm window	pack of 100
SXXX	Silicon Nitride Support Film, 50nm with 2 each 0.1 x 1.5mm windows	pack of 10
SXXX	Silicon Nitride Support Film, 50nm with 9 each 0.1 x 0.1mm windows	pack of 10

200nm membrane thickness - 200µm Frame Thickness

SXXX	Silicon Nitride Support Film, 200nm with 0.25 x 0.25mm window	pack of 10
SXXX/1	Silicon Nitride Support Film, 200nm with 0.25 x 0.25mm window	pack of 100
SXXX	Silicon Nitride Support Film, 200nm with 0.5 x 0.5mm window	pack of 10
SXXX/1	Silicon Nitride Support Film, 200nm with 0.5 x 0.5mm window	pack of 100
SXXX	Silicon Nitride Support Film, 200nm with 0.75 x 07.5mm window	pack of 10
SXXX/1	Silicon Nitride Support Film, 200nm with 0.75 x 07.5mm window	pack of 100
SXXX	Silicon Nitride Support Film, 200nm with 1.0 x 1.0mm window	pack of 10
SXXX/1	Silicon Nitride Support Film, 200nm with 1.0 x 1.0mm window	pack of 100
SXXX	Silicon Nitride Support Film, 200nm with 0.5 x 1.5mm window	pack of 10
SXXX/1	Silicon Nitride Support Film, 200nm with 0.5 x 1.5mm window	pack of 100
SXXX	Silicon Nitride Support Film, 200nm with 0.1 x 1.5mm window	pack of 10
SXXX	Silicon Nitride Support Film, 200nm with 0.1 x 0.1mm window	pack of 10

50nm membrane thickness - 50µm Frame Thickness

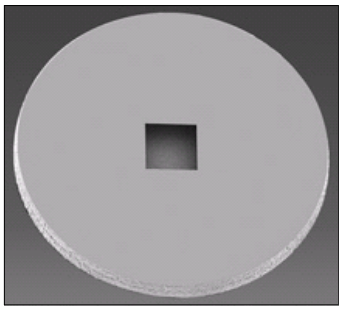
SXXX	Silicon Nitride Support Film, 50nm on 50µm thick frame with 0.25 x 0.25mm window	pack of 10
SXXX	Silicon Nitride Support Film, 50nm on 50µm thick frame with 2 each 0.1 x 1.5mm windows	pack of 10
SXXX	Silicon Nitride Support Film, 50nm on 50µm thick frame with 9 each 0.1 x 0.1mm windows	pack of 10

Silicon Nitride Assortment Pack

With various membrane thicknesses and sizes. The Assortment Pack is the ideal way to determine which membrane thickness or size of silicon nitride or silicon dioxide is the optimum product for your application. The assortment pack includes the following thickness and window sizes on **200um thick silicon frames**:

Position in grid box	Unit no.	Membrane Type
1A	1	Si_3N_4 15nm membrane with 0.25 x 0.25mm window
1B	1	Si_3N_4 15nm membrane with 0.25 x 0.25mm window
1C	1	Si_3N_4 50nm membrane with 0.25 x 0.25mm window
1D	1	Si_3N_4 50nm membrane with 9 each 0.1 x 0.1mm windows
1E	1	Si_3N_4 50nm membrane with 0.5 x 0.5mm window
2A	1	Si_3N_4 50nm membrane with 0.75 x 0.75mm window
2B	1	Si_3N_4 200nm membrane with 0.25 x 0.25mm window
2C	1	Si_3N_4 200nm membrane with 0.5 x 0.5mm window
2D	1	SiO_2 40nm membrane with 0.5 x 0.5mm window
2E	1	Holey Si_3N_4 200nm membrane with 2.5µm holes with 0.5x0.5mm window

SXXX Silicon nitride assortment pack (10 different membranes)



Hydrophilic and Hydrophobic Si_3N_4 Membrane Surfaces

15nm, 50nm and 200nm Silicon Nitride membranes are Atomic Layer-Deposited (ALD) modified to change their properties. Depending on the process used both Hydrophobic and Hydrophilic substrates have been created with the following advantages:

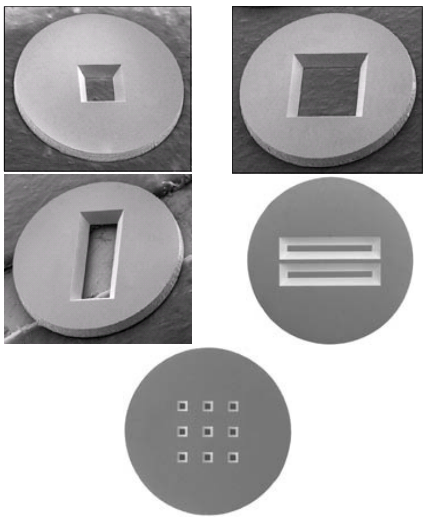
- Choice between low and high surface energies
- Smooth and conformal substrates
- Enhanced wetting and biocompatibility (hydrophilic)
- Removes need for plasma treatment of surface prior to cell growth
- Hydrophobic coating offers novel platform for deposition and growth of

Both coatings are available on 50nm and 200nm Silicon Nitride Membranes with a 0.5 x 0.5mm window and 15nm Si_3N_4 membrane with 9 each 0.1 x 0.1nm windows on a 200µm silicon frame with a diameter of 3mm, compatible with all standard TEM grid holders. Both sides of the membrane and frame are coated. We advise handling the discs by gripping at the edge.

Specifications

Hydrophilic: 2.5nm atomic layer-deposited hydroxylated alumina on 15, 50 and 200nm ultra - low-stress silicon nitride membrane
Hydrophobic: 2.5nm atomic layer-deposited alumina and fluoro-methyl-silane on 15, 50 and 200nm ultra-low-stress silicon nitride membrane

SXXX Hydrophilic 15nm Silicon Nitride Membrane, 9 each 0.1 x 0.1mm windows pack of 10
SXXX Hydrophilic 50nm Silicon Nitride Membrane 0.5 x 0.5mm window pack of 10
SXXX Hydrophilic 200nm Silicon Nitride Membrane, 0.5x0.5mm window pack of 10
SXXX *Hydrophobic* 15nm Silicon Nitride Membrane 9 each 0.1 x 0.1mm windows pack of 10
S435 *Hydrophobic* 50nm Silicon Nitride Membrane 0.5 x 0.5mm window pack of 10
SXXX *Hydrophobic* 200nm Silicon Nitride Membrane, 0.5 x 0.5mm window pack of 10



Silicon Nitride Aperture Discs - No Film

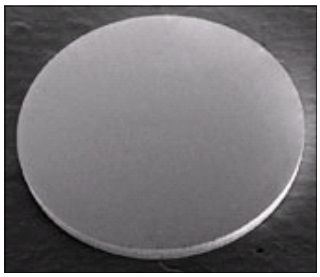
These Silicon Nitride Aperture Discs are 3mm disc type frames with a thickness of 200µm and square or rectangular apertures. They have found a variety of applications:

- Support frame to attach TEM lamellas made with FIB
- Support frame for thin films, foils, wires and fibres
- Mask for thin film research (deposition mask)

SXXX	Silicon nitride aperture disc.(no film) 0.25 x 0.25mm	pack 10
SXXX	Silicon nitride aperture disc (no film) 0.5 x 0.5mm	pack 10
SXXX	Silicon nitride aperture disc (no film) 0.75 x 0.75mm	pack 10
SXXX	Silicon nitride aperture disc (no film) 1.0 x 1.0mm	pack 10
SXXX	Silicon nitride aperture disc (no film) 0.5 x 1.5mm	pack 10
SXXX	Si_3N_4 aperture disc (no film) with two 0.1 x 1.5mm apertures	pack of 10
SXXX	Si_3N_4 aperture disc (no film), with nine 0.1 x 0.1mm apertures	pack of 10

Phone: +44 (0) 118 981 7775 Fax: +44 (0) 118 981 7881 E-mail: sales@taab.co.uk www.taab.co.uk

Silicon Nitride 3mm Blank Discs



These 3mm Ø silicon discs have an ultra-flat (Ra 0.45 ± 0.2nm) 50nm ultra-low-stress Silicon Nitride layer on both sides. Also available with a hydrophilic or hydrophobic surface coating or just as a silicon disc. The discs are made with the same state-of-the-art manufacturing techniques as our other Silicon Nitride Support Films. The disk are perfectly round and have the Easygrip™ edge for easy handling. Clean surface, no broken edges and free of debris often associated with other manufacturing processes. The ultra-low-stress film is nonstoichiometric and closer to SiN than Si_3N_4. They can be used for a number of applications:

Specimen mounts for SEM and FESEM applications
Specimen discs for AFM applications which need a Si_3N_4 background

SXXX	Silicon nitride 3mm Ø blank discs	pack of 10
SXXX	Silicon nitride coated 3mm Ø discs with hydrophilic coating	pack of 10
SXXX	Silicon nitride coated 3mm Ø discs with hydrophobic coating	pack of 10
SXXX	Silicon discs 3mm Ø no coating	pack of 10

Holey Silicon Nitride Support Films