

WOVEN WIRE MESH

Sometimes known as wire gauze or wire cloth – is an extremely versatile material suitable for many sieving, straining and filtering applications.

It is woven to fine limits and can be used to separate out particles of a given size.

We are specialist suppliers of woven wire mesh, carry very large stocks, in a variety of different metals and can offer a rapid and efficient service.

METALS

We hold stocks of mesh in the following metals:

STAINLESS STEEL

Withstands temperatures up to 800° C. By far the most popular where strength and durability are of prime importance. All standard meshes are stocked in Type 304 quality, and many are also available in Type 316 which is more resistant to corrosion. Certain other qualities obtainable to special order.

Range: 2-500 mesh and Hollanders.

PLAIN STEEL

A low price material for use where corrosion resistance is not important. Mostly supplied plain, but certain meshes also available galvanised. (Zinc coated)

Range: 2-80 mesh

MONEL

An alloy of nickel and copper (70/30 approx.) which combines strength with excellent resistance to acids, alkalis, sea water, etc.

Range: 20-250 mesh and Hollanders.

PHOSPHOR BRONZE

An alloy of copper and tin which is strong and durable and will resist diluted acids and alkalis. Easily soldered.

Range: 30-200 mesh.

BRASS AND COPPER

Brass, an alloy of copper and zinc, is harder but more subject to corrosion. Copper is less corrodible but, because of its softness, should not be used with abrasive substances. Both are easily soldered.

Range: 4-100 mesh.

DEFINITIONS

MESH COUNT

The number of apertures or wires in a linear inch. Most meshes are square woven and will have the same count in both warp and weft.

WARP

The wires running lengthwise in the mesh.

WEFT (OR SHUTE)

The wires running transversely across the mesh.

OPEN (OR FREE) AREA

The proportion of aperture expressed as a percentage of the whole area.

SELVEDGE

The finished edge formed by looped weft wires at either side of the cloth. Some modern shuttleless looms do not produce a looped selvedge.

SPECIFICATIONS

CHOOSING A MESH

Any required mesh count can be achieved using a number of different wire diameters, but certain combinations of mesh count and wire diameter have been accepted as standards throughout industry. These are underlined in our mesh table and are generally held in stock.

The combination of mesh count and wire diameter determines the aperture, the open area and the strength of the material. For any mesh, a thicker wire will provide a more robust weave but the aperture and open area will be reduced, giving a slower flow rate to the material passing through.

Using a thinner wire the converse will apply. If a non-standard mesh is required, it can generally be specially woven provided the quantity is sufficient.

Our table indicates the range of meshes which are technically feasible. Mesh counts are generally quoted per inch, and lengths and widths are given in metric or imperial. This contrasts with the continent of Europe where the size of mesh is normally defined by the aperture in mm or microns rather than the mesh count, and all other measurements are metric.

SIZES AND SHAPES

Wire mesh is woven in rolls approximately 30.5m long and generally in widths of 1.22m, although wider or narrower widths are sometimes available. We can supply any length in the loom width, and other widths can be cut to special order. Cut pieces of mesh can be supplied to your measurements or templates in any shape and quantity.

PRICES

Woven wire mesh is priced by the square metre and price varies according to the quantity.

SCREEN PRINTING MESH

We can supply fine stainless steel mesh for screen process printing. The mesh is specially selected for its quality of weaving and freedom from blemish, and is ideal where stability and fine definition are paramount, e.g. in printed circuit work. The mesh range normally used is 165-325 plain weave.

(See separate screen printing brochure.)

USEFUL FORMULAE

Aperture (in mm) = $1/M - d$

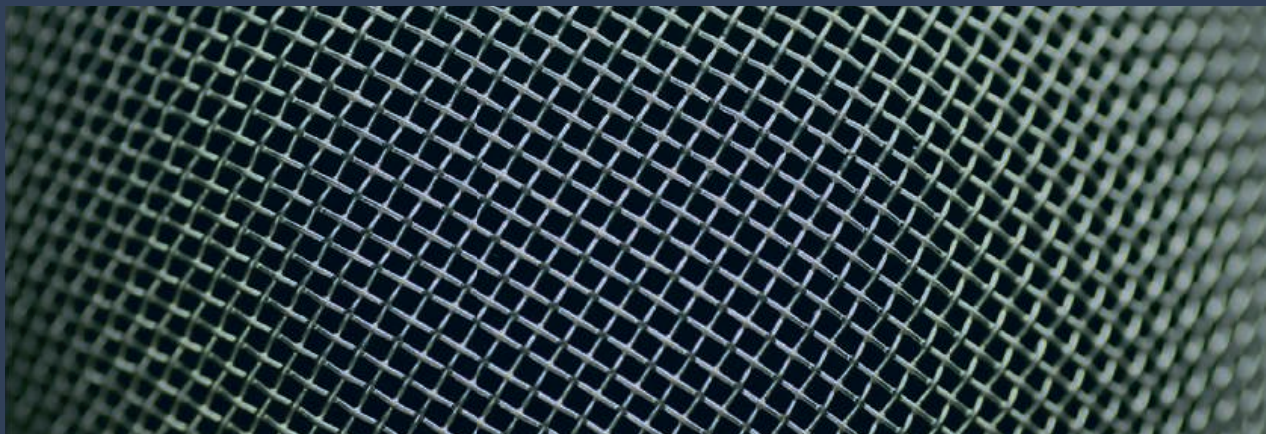
Where 'M' = mesh count per mm

and 'd' = wire diameter in mm.

Open area % = $[a^2/(a+d)^2] \times 100$

Where 'a' = aperture in mm

and 'd' = wire diameter in mm.



MESH COUNT	WIRE DIAMETER		APERTURE		OPEN AREA %
	B.S. (mm)	old SWG	(mm)	(in.)	
2	3.15	(10)	9.55	0.376	57
2	2.80	(11)	9.90	0.390	61
2	2.50	(12)	10.20	0.401	64
2	2.24	(13)	10.46	0.412	68
2	2.00	(14)	10.70	0.421	71
2	1.80	(15)	10.90	0.429	74
2	1.60	(16)	11.10	0.437	76
2	1.40	(17)	11.30	0.445	79
2	1.25	(18)	11.45	0.451	81
3	2.50	(12)	5.97	0.235	50
3	2.24	(13)	6.23	0.245	54
3	2.00	(14)	6.47	0.254	58
3	1.80	(15)	6.67	0.262	62
3	1.60	(16)	6.87	0.270	66
3	1.40	(17)	7.07	0.278	70
3	1.25	(18)	7.22	0.284	73
4	2.50	(12)	3.85	0.151	37
4	2.24	(13)	4.11	0.162	42
4	2.00	(14)	4.35	0.171	47
4	1.80	(15)	4.55	0.179	51
4	1.60	(16)	4.75	0.187	56
4	1.40	(17)	4.95	0.195	61
4	1.25	(18)	5.10	0.201	64
4	1.00	(19)	5.35	0.211	71
4	0.90	(20)	5.45	0.214	74
5	1.25	(18)	3.83	0.151	57
5	1.00	(19)	4.08	0.161	64
5	0.90	(20)	4.18	0.164	68
6	1.80	(15)	2.43	0.096	33
6	1.60	(16)	2.63	0.104	39
6	1.40	(17)	2.83	0.111	45
6	1.25	(18)	2.98	0.117	50
6	1.00	(19)	3.23	0.127	58
6	0.90	(20)	3.33	0.131	62
6	0.80	(21)	3.34	0.135	66
6	0.71	(22)	3.52	0.139	69

MESH COUNT	WIRE DIAMETER		APERTURE		OPEN AREA %
	B.S. (mm)	old SWG	(mm)	(in.)	
8	1.25	(18)	1.93	0.076	37
8	1.12	(18.5)	2.06	0.081	42
8	1.00	(19)	2.18	0.086	47
8	0.90	(20)	2.28	0.089	51
8	0.80	(21)	2.38	0.093	56
8	0.71	(22)	2.47	0.097	60
8	0.63	(23)	2.55	0.100	64
8	0.56	(24)	2.62	0.103	68
8	0.50	(25)	2.68	0.105	71
10	1.25	(18)	1.29	0.051	26
10	1.12	(18.5)	1.42	0.056	31
10	1.00	(19)	1.54	0.061	37
10	0.90	(20)	1.64	0.064	42
10	0.80	(21)	1.74	0.068	47
10	0.71	(22)	1.83	0.072	52
10	0.63	(23)	1.91	0.075	56
10	0.56	(24)	1.98	0.078	61
10	0.50	(25)	2.04	0.080	64
12	1.00	(19)	1.12	0.044	28
12	0.90	(20)	1.22	0.048	33
12	0.80	(21)	1.32	0.052	39
12	0.71	(22)	1.41	0.055	44
12	0.63	(23)	1.49	0.058	49
12	0.56	(24)	1.56	0.061	54
12	0.50	(25)	1.62	0.064	58
12	0.45	(26)	1.67	0.065	62
12	0.40	(27)	1.72	0.067	66
14	0.56	(24)	1.25	0.049	48
14	0.50	(25)	1.31	0.052	52
14	0.45	(26)	1.36	0.054	56
14	0.40	(27)	1.41	0.056	61
14	0.335	(28.5)	1.46	0.057	65
16	0.80	(21)	0.79	0.031	24
16	0.71	(22)	0.88	0.034	30
16	0.63	(23)	0.96	0.038	36
16	0.56	(24)	1.03	0.040	42

MESH COUNT	WIRE DIAMETER		APERTURE		OPEN AREA %
	B.S. (mm)	old SWG	(mm)	(in.)	
16	0.50	(25)	1.09	0.043	47
16	0.45	(26)	1.14	0.045	51
16	0.40	(27)	1.19	0.047	56
16	0.355	(28.5)	1.23	0.048	60
16	0.315	(30)	1.27	0.050	64
18	0.50	(25)	0.91	0.036	42
18	0.45	(26)	0.96	0.038	46
18	0.40	(27)	1.01	0.040	51
18	0.355	(28.5)	1.06	0.041	56
18	0.315	(30)	1.10	0.043	60
20	0.71	(22)	0.56	0.022	19
20	0.63	(23)	0.64	0.025	25
20	0.56	(24)	0.71	0.028	31
20	0.50	(25)	0.77	0.030	37
20	0.45	(26)	0.82	0.032	42
20	0.40	(27)	0.87	0.034	47
20	0.355	(28.5)	0.92	0.036	51
20	0.315	(30)	0.96	0.037	56
28	0.40	(27)	0.51	0.020	31
28	0.355	(28.5)	0.55	0.022	37
28	0.28	(31.5)	0.63	0.025	48
30	0.355	(28.5)	0.49	0.019	34
30	0.315	(30)	0.53	0.021	39
30	0.28	(31.5)	0.57	0.022	45
30	0.25	(33)	0.60	0.024	50
30	0.224	(34)	0.62	0.025	54
40	0.28	(31.5)	0.36	0.0140	31
40	0.25	(33)	0.39	0.0151	37
40	0.224	(34)	0.41	0.0162	42
40	0.20	(35)	0.44	0.0171	47
40	0.18	(36)	0.46	0.0179	51
40	0.16	(37.5)	0.48	0.0187	56
50	0.224	(34)	0.28	0.0112	31
50	0.20	(35)	0.31	0.0121	37
50	0.18	(36)	0.33	0.0129	42
50	0.16	(37.5)	0.35	0.0137	47
50	0.15	(38)	0.36	0.0141	49

MESH COUNT	WIRE DIAMETER		APERTURE		OPEN AREA %
	B.S. (mm)	old SWG	(mm)	(in.)	
60	0.20	(35)	0.22	0.0088	28
60	0.18	(36)	0.24	0.0096	33
60	0.16	(37.5)	0.26	0.0103	39
70	0.15	(38)	0.212	0.0083	34
80	0.14	(39)	0.178	0.0070	31
80	0.125	(40)	0.193	0.0076	37
90	0.14	(39)	0.142	0.0056	25
90	0.125	(40)	0.157	0.0062	31
90	0.112	(41)	0.170	0.0067	36
100	0.112	(41)	0.142	0.0056	31
100	0.10	(42)	0.154	0.0061	37
100	0.09	(43)	0.164	0.0064	42
100	0.08	(44)	0.174	0.0068	47
120	0.09	(43)	0.122	0.0048	33
120	0.08	(44)	0.132	0.0052	39
140	0.08	(44)	0.101	0.0040	31
150	0.071	(45)	0.098	0.0039	34
150	0.065	(46)	0.109	0.0043	42
165	0.05	(47)	0.104	0.0041	46
180	0.06	(46)	0.081	0.0032	33
180	0.05	(47)	0.091	0.0036	42
200	0.05	(47)	0.077	0.0030	37
200	0.04	(48)	0.087	0.0034	47
230	0.035	(48.5)	0.075	0.0029	45
250	0.04	(48)	0.062	0.0024	37
270	0.035	(48.5)	0.059	0.0023	39
270	0.04	(48)	0.054	0.0021	33
300(T)	0.04	(48)	0.045	0.0017	28
300(T)	0.036	(48.5)	0.049	0.0019	33
325(T)	0.036	(48.5)	0.042	0.0016	29
325	0.028	(49.5)	0.050	0.0019	41
350(T)	0.030	(49)	0.043	0.0017	34
400(T)	0.030	(49)	0.034	0.0013	28
500(T)	0.025	(50)	0.026	0.0010	26

(T)=Twill Weave

PRINCIPLE STOCK SPECIFICATIONS INDICATED BY COLOURED BARS:

TWILLED DUTCH WEAVE

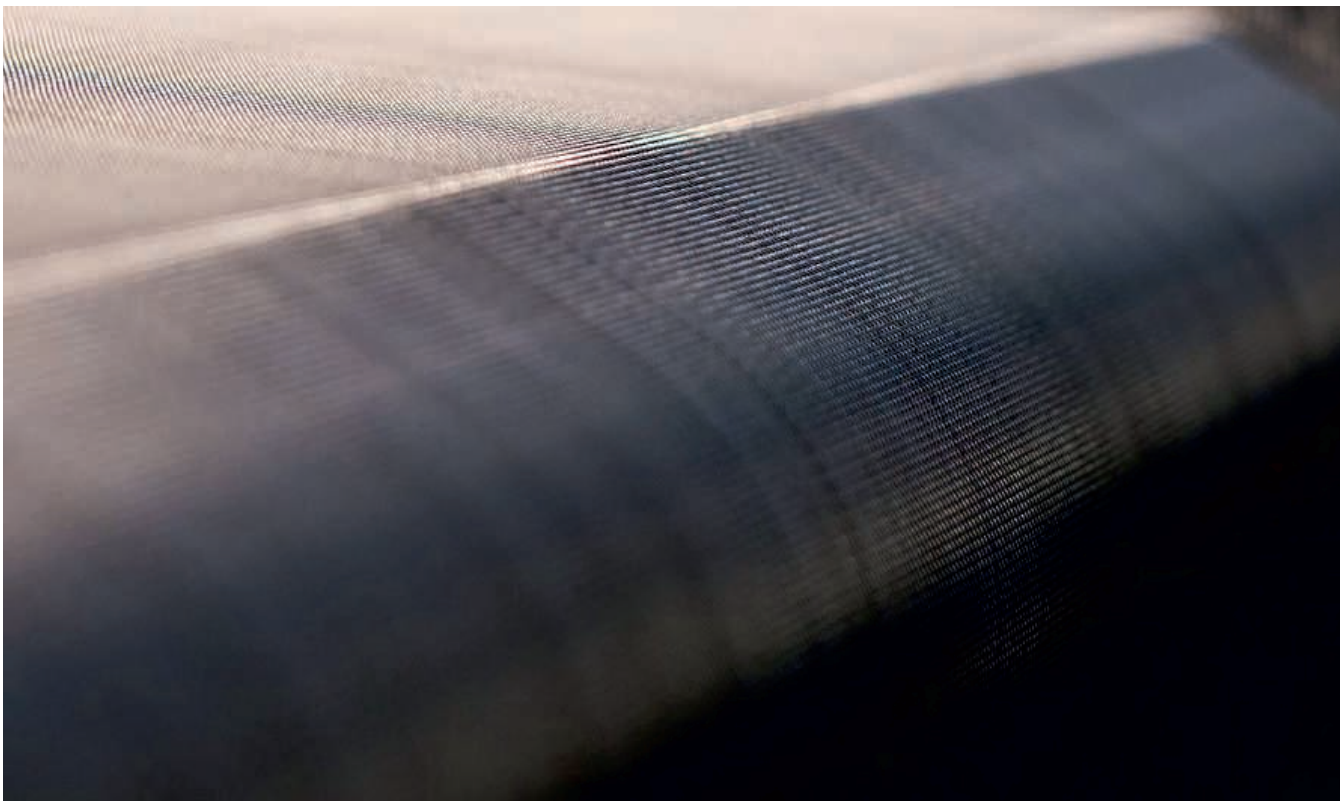
MESH COUNT		WIRE DIA		MICRON RETENTION
WARP	WEFT	WARP	WEFT	
200	600	0.058	0.046	25
80	700	0.100	0.075	25
165	800	0.700	0.050	20
165	1400	0.710	0.040	15
165	1400	0.710	0.041	10
325	2330	0.350	0.025	5

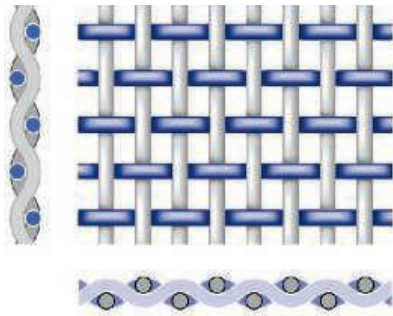
REVERSE PLAIN DUTCH

MESH COUNT		WIRE DIA		MICRON RETENTION
WARP	WEFT	WARP	WEFT	
86	24	0.30	0.40	150
132	36	0.20	0.40	80
175	50	0.15	0.30	60
290	72	0.09	0.20	40
625	102	0.04	0.16	25
625	130	0.04	0.13	17

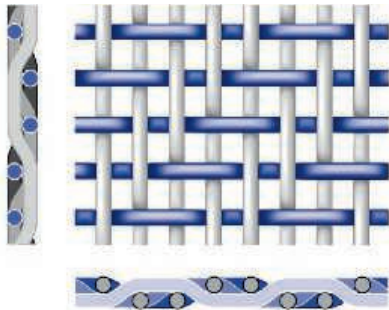
PLAIN DUTCH WEAVE

MESH COUNT		WIRE DIA		MICRON RETENTION
WARP	WEFT	WARP	WEFT	
12	64	0.600	0.400	300
14	88	0.50	0.300	200
24	110	0.350	0.250	150
30	150	0.230	0.180	100
30	280	0.280	0.100	90
40	200	0.180	0.140	80
40	340	0.230	0.080	78
50	400	0.160	0.068	60
50	250	0.140	0.110	50
60	490	0.160	0.058	48
80	330	0.120	0.090	40
80	400	0.125	0.071	40
80	700	0.130	0.040	34
120	930	0.065	0.030	25

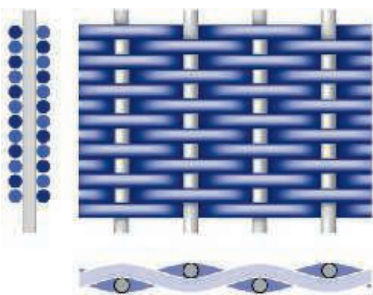




PLAIN WEAVE is woven from wires of the same diameter for both warp and weft, arranged in a symmetrical “over one and under one” pattern to provide square openings of precise dimensions. Plain mesh has great dimensional stability.



TWILL WEAVE is woven so that the individual wires in one direction pass over two and under the next two cross wires. It is less rigid than plain weave and is often used in very fine meshes.



HOLLANDER (DUTCH) WEAVE is made with relatively thin weft wires packed closely together, and thicker more widely spaced warp wires. It resembles a ‘basket’ weave and does not have square apertures. Dimensionally very stable and having high bursting strength, it is suitable for pressure filtration where a large open area is not required.

Hollander cloth can be woven in plain, twill, or reverse twill format, in Stainless and Mild Steel.

