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POCKETGUIDE TO SCREENCLOTHS

LOCKER GROUP
SCREENCLOTH DIMENSIONS & SPECIFICATIONS

QTY	LENGTH (inc C/B)	WIDTH (OAHE)	APERTURE	WIRE SIZE / THICKNESS
UNIT:				
UNIT:				
UNIT:				
UNIT:				
UNIT:				

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Melbourne

NEW SOUTH WALES
Sydney

QUEENSLAND
Brisbane
Townsville

SOUTH AUSTRALIA
Adelaide

WESTERN AUSTRALIA
Perth

NORTHERN TERRITORY
Darwin

To contact your local branch please call **1800 635 947**

extraction@locker.com.au

NEW ZEALAND
Auckland
Wellington
Christchurch

To contact your local branch please call **0800 285 837**

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THE SCREENING PROCESS

PROCESS

Screening is the process where materials of varying sizes are separated into group sizes. These sizes are generally expressed as Passing or Retained. A "- 20 mm + 12 mm" aggregate will pass a 20 mm aperture and be retained on a 12 mm aperture.

Material presented to a screencloth will move along the surface as a result of vibration transmitted to the screening bed via an out of balance shaft or vibration motor. This vibration is known as amplitude and is measured from the top to bottom of its stroke.

The G-force* created by the amplitude must therefore be sufficient to aid the flow of material over the screencloth surface to at least tilt particles over the crimps of the woven wire. Additionally, the g-force must be sufficient to lift out particles caught in the aperture but unable to pass.

Therefore the g-force must be sufficient to lift particles and create stratification; considering weight of the load, size of the particles, degree of slope and tendency to peg.

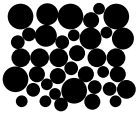
*A unit of force equal to the force exerted by gravity; used to indicate the force to which a body is subjected when it is accelerated.

THE SCREENING PROCESS

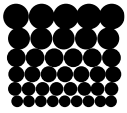
STRATIFICATION

When a mass of particles many grains deep, is presented to a screencloth surface, the coarse and fine particles are likely to be mixed indiscriminately, with the result that many undersize particles are supported in the mass above, and away from the screencloth surface.

If the particles are free to move amongst themselves, ie, not sticky, any subsequent vibration is sufficient to enliven the mass above thoroughly without lifting it from the screencloth surface, then **STRATIFICATION** has occurred with fine particles at the bottom and the coarser at the top.



Poor



Good

Such stratification is essential and is as much the purpose of the motion imparted to the screening surface as the transport of the oversized particles and prevention of pegging.

Excessive vibration, while it increases the ability of the particles to move along the screencloth, defeats stratification and thereby decreases efficiency.

EFFICIENCY

Efficiency is expressed as a percentage and refers to the percentage of undersized particles in the original feed which has actually passed through an aperture.

$$\frac{\textbf{Weight of undersize passed}}{\textbf{Weight of undersize in feed}} \textbf{ x 100 = Efficiency}$$

Example - 100 tph (tonnes per hr) contains 85 tph undersize and 15 tph oversize.
If 80 tph passes and 20 tph is rejected the efficiency would be:

$$\frac{80}{85} \times 100 = 94.11\% \text{ Efficiency}$$

SCREENCLOTH INFORMATION

MATERIAL SELECTION

High Tensile Steel

The most commonly used material in Australasia (AISI 1062 grade steel). Recommended for screening applications as the wire contains a carbon and manganese content to enhance its abrasion resistance.

Welding High Tensile Steel

The following welding consumables are generally recommended for welding wire screens.

- 307 type stainless steel or
- 312 type stainless steel

Please contact Locker Group for further information on different welding consumables to suit your welding process.

Stainless Steel

Commonly used in fine mesh aperture specifications and a popular choice for larger aperture specifications where corrosion, oxidising conditions and galvanic reaction occur.

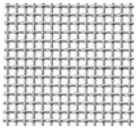
Unless requested AISI Type 304 stainless steel is supplied. AISI Type 316 is available in some specifications.

Other Materials

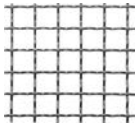
Brass, copper etc available on request.

APERTURE SELECTION

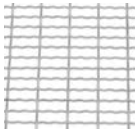
The images below cover Locker Group's standard screening range. These are detailed in the following pages. Please contact your extractive screening solutions representative for detail, regarding non-standard or custom requirements.



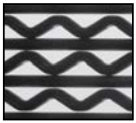
Fine Mesh



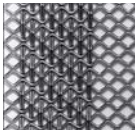
Square Apertures



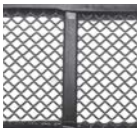
Rectangular Apertures



Split Poly Ripple



Wire Ripple



Poly Ripple

Rubber

Tufflex

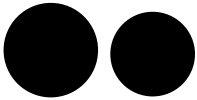
The tables in the following pages include the standard woven wire profiles in our product range. Locker continually reviews customer requirements and market trends to ensure the product range held in our local facilities is ideal for our customers. In addition to standard profiles, Locker can custom weave a wire screen in apertures up to 150mm and wire diameters up to 12.5mm.

In addition, our wire and poly ripple ranges are available in standard or custom manufactured profiles. Modular panels, rubber or polyurethane are manufactured to customer specific apertures as required. Talk to your extractive expert about your site requirements.

APERTURE SELECTION (cont.)

The selection of apertures to produce a given product size can be a complicated process and is governed by many of the following.

(a) Inclination of the screen
(b) Thickness of the screencloth surface
(c) Shape of the aperture
(d) Shape of the product
(e) Speed of the screen unit (rpm)
(f) Amplitude of the screen unit
(g) Moisture content of the product
(h) Rate of feed of material to the screencloth



12.5 **11.2**

In practice, it is normal to consider the angle of inclination of the screen and the thickness of the screencloth surface together with the shape of the product as the subsidiary factor.

25% OPEN AREA

37% OPEN AREA

44% OPEN AREA

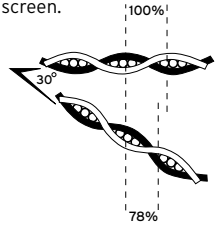
All the same aperture, but different wire diameter

EFFECTIVE APERTURE

Generally an aperture 1.1 times the desired product size will provide good results, but again other factors must be taken into consideration, including the angle of the screen.

ie.

ANGLE	EFFECTIVE APERTURE
8°	98%
15°	95%
20°	90%
30°	78%



* Talk to Locker group for effective aperture selection in alternative screening media.

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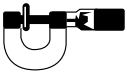
WIRE DIAMETERS



Wire is normally supplied in the following diameters (mm) for screening applications.

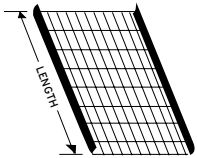
10 8.0 6.3 5.6 (NZ only) 5.0 4.0 3.15 2.5 2.0 1.6 1.25

APERTURE TOLERANCE

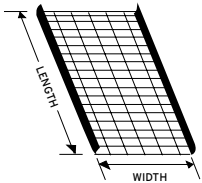
Locker Group adopt a standard manufacturing tolerance of ±5% nominal aperture. This is inline with ISO4783 Part 3:1981. Clients requiring greater precision should consult with their extractive screening solutions representative.

RECTANGULAR APERTURE SPECS

When ordering Hi-ton or Longslot specifications please advise which screen dimension (mm) you require the longer aperture slot dimension (mm) to run parallel with.



Long Aperture Parallel with Length. (ie. parallel to hook)

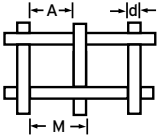


Long Aperture Parallel with Width (ie. perpendicular to hook)

WEIGHT

To calculate the approximate kg/m² of any given specification of woven wire in steel use the following formula. For stainless steel add 1% to your calculated answer.

Square Aperture



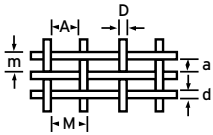
Formula = $\frac{12.7 \times d^2}{M}$ = kg/m²

Where A = Aperture
d = diameter
M = A + d

Example : 3.15 mm Aperture x 2.0 mm diameter

$\frac{12.7 \times 2 \times 2}{5.15}$ = 9.86 kg/m²

Hi Ton Aperture



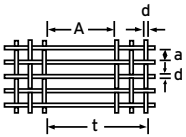
Formula = $\left(\frac{6.35 \times D^2}{M} + \frac{6.35 \times d^2}{m}\right)$ = kg/m²

Where A = larger Aperture
D = Diameter
M = A + D
a = smaller aperture
d = diameter
m = a + d

Example : 20 x 10 mm aperture x 5 mm diameter

$\frac{6.35 \times 5 \times 5}{25} + \frac{6.35 \times 5 \times 5}{15}$ = 16.93 kg/m²

Long Slot Aperture (Triple Wire)



Formula = $\left(\frac{17.44}{t} + \frac{6.35}{m}\right) \times d^2$ = kg/m²

Where A = long Aperture
a = smaller aperture
d = diameter
m = a + d
t = A + 2a + 3d

Example : 8 x 52 mm aperture x 3.15 mm diameter

$= \left(\frac{17.44}{52 + 8 + 8 + 3.15 + 3.15 + 3.15} + \frac{6.35}{8 + 3.15}\right) \times (3.15 \times 3.15)$

$= \left(\frac{17.44}{77.45} + \frac{6.35}{11.15}\right) \times 9.922 = 7.88$ kg/m²

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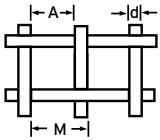
OPEN AREA ?%

The open screening area of screencloths is the clear area of all the apertures and is generally expressed as a percentage in relation to the total area.

Square Aperture

Formula = $\left(\frac{A^2}{M^2}\right)$ x 100 = % open area where

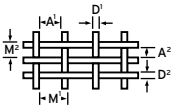
A = Aperture
d = diameter
M = A + d



Hi Ton Aperture

Formula = $\left(\frac{A^1}{M^1} \times \frac{A^2}{M^2}\right)$ x 100 = % open area where

A^1 = larger Aperture
D^1 = adjacent diameter
M^1 = A1 + D1
A^2 = smaller aperture
D^2 = adjacent diameter
M^2 = A2 + D2



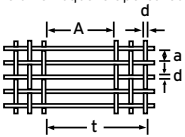
Long Slot Aperture (Triple Wire)

The open area of a longslot may be expressed in two ways:

(a) The area of all apertures
(b) The area of longslot apertures only

Locker Group recommend that you use Option (b) if in your opinion the material being screened by the longslot specification may blind the small square apertures.

Where A = long dimension Aperture
a = small dimension aperture
d = diameter of wire
m = a + d
t = A + a + a + d + d + d



Option (a) Open Area all Apertures

Formula = $\left(\frac{A \times a + a^2 + a^2}{t \times m}\right)$ x 100 = % open area

Option (b) Open Area Longslot Apertures only

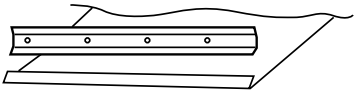
Formula = $\left(\frac{A \times a}{t \times m}\right)$ x 100 = % open area

LENGTHS OF SCREENCLOTHS

Locker Group recommend that all screencloth dimensions be in mm to the nearest 5 mm ie,

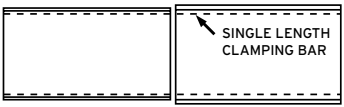
6 feet = 1829 mm = 1830 mm
8 feet = 2438 mm = 2440 mm

The length of a screencloth with hooked edges should be the same length as the length of the clamping bar, to provide for correct tensioning.

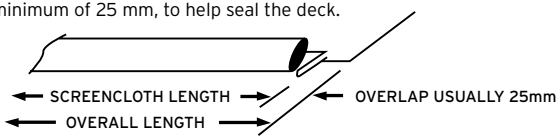


CLAMPING BAR EQUAL TO SCREENCLOTH

Locker Group **DO NOT** recommend the tensioning of two or more screencloths with a single clamping bar, as variation in screencloth width does occur, resulting in the wider cloth not being held in correct tension.



When joining screencloths which are 16.0mm Aperture and/or 5.0mm Diameter and finer, we recommend that the screencloths be overlapped by a minimum of 25 mm, to help seal the deck.



To order simply advise:

Total overall length (screencloth length + overlap)

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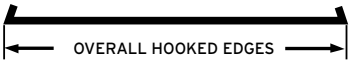
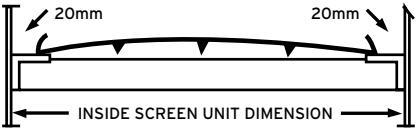
WIDTHS OF SCREENCLOTHS

If ordering **WITHOUT HOOKS** please order width as **FLAT.**

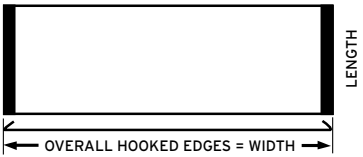
For standardisation of screencloths with hooked edges we measure as '**OVERALL HOOKED EDGES"** (OAHE) in mm to the nearest 10mm.
ie. 1485 = 1480 oahe 1486 = 1490 oahe.



Generally the overall hooked edge dimension is the inside dimension of the screening unit less 40 mm. This provides for 20 mm clearance to each side of the screencloth. * OAHE tolerance +0 - 10mm

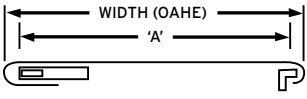


Where the length of the hooked edge side is less than the other dimension, we still refer to the "overall hooked edge" dimension as the width.



How to measure end tensioned screens

WIDTH (OAHE) = 'A' - CLEARANCE (eg; 50mm) + wire dia x 4



ROTARY/TROMMEL SCREENCLOTHS

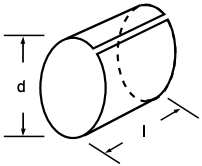
High Tensile Steel

We recommend dimensions be in (mm) and where possible a sketch provided.

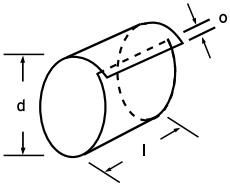
Information required is:

(a) Quantity of screencloths
(b) Number of segments per circumference or angle
(c) Length of overlap or turnup
(d) Diameter required, inside or outside (d)
(e) Length of screencloth (l)

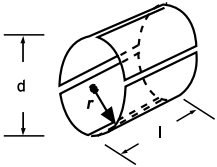
Examples



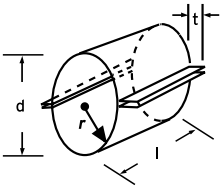
One screencloth ***l*** length rolled to ***d*** diameter.



One screencloth ***l*** length rolled to ***d*** diameter with ***O*** overlap



Four screencloths each ***l*** length rolled to ***r*** radius to suit ***d*** diameter.



Two screencloths each ***l*** length rolled to ***r*** radius to ***d*** diameter with 90° turn ups each ***t*** long.

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WOVEN WIRE

FINE MESH APERTURE SPECIFICATIONS

NORMAL APERTURE (mm)	MESH (per inch)	DIAM (mm)	OPEN AREA %	KG/ m^2
0.1	150	0.07	35	0.37
0.16	100	0.10	38	0.49
0.18	80	0.13	38	0.67
0.25	60	0.16	37	0.81
0.32	50	0.18	38	0.82
0.40	40	0.22	41	0.99
0.56	30	0.28	45	1.18
0.71	20	0.56	31	3.1
0.90	20	0.36	51	1.3
1.0	16	0.56	42	2.5
1.25	14	0.56	47	2.2
1.4	12	0.71	44	3.0
2.0	10	0.56	60	1.56
2.5	8	0.71	60	2.0
2.2	8	0.9	51	3.3
3.3	6	0.9	61	2.54
5.0	4	1.6	57	4.93
5.0	4	1.25	65	3.1
7.1	3	1.6	65	3.7
11.2	2	1.6	76	2.5
25.0	$1\,^{1}/_{8}$	3.15	79	4.5

*The above specifications are the most popular/standard specifications. For intermediate specifications not listed, please contact your extractive screening solutions representative.

SQUARE APERTURE SCREENCLOTH SPECIFICATIONS

APERTURE (mm) ACTUAL	DIAMETER (mm)	OPEN AREA %	KG/ m^2
3.15	2.0	37	9.9
4.0	2.5	38	12.2
5.0	2.5	44	10.6
5.0	3.15	38	15.5
5.6	3.15	41	14.8
6.3	2.5	51	9.0
6.3	3.15	44	13.7
7.1	3.15	48	12.6
8.0	3.15	51	11.6
8.0	4.0	44	16.9
9.0	4.0	48	15.6
10.0	4.0	51	14.5
10.0	5.0	44	21.2
11.2	4.0	54	13.4
11.2	5.0	48	19.6
12.5	5.0	51	18.1
13.2	5.0	53	17.7
14.0	5.0	54	16.7
15.0	5.0	56	15.9
16.0	5.0	58	15.1
16.0	6.3	51	22.6
18.0	6.3	55	20.7
19.0	6.3	56	20.0
19.0	8.0	49	30.1

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* For other non standard specifications, please contact your extractive screening solutions representative.

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SQUARE APERTURE SCREENCLOTH SPECIFICATIONS

APERTURE (mm) ACTUAL	DIAMETER (mm)	OPEN AREA %	KG/ m^2
20.0	6.3	58	19.2
20.0	8.0	51	29.0
22.4	6.3	61	17.6
22.4	8.0	54	26.7
24.0	8.0	56	25.4
25.0	6.3	64	16.1
25.0	8.0	57	24.6
28.0	8.0	61	22.6
31.5	8.0	64	20.6
32.0	10.0	58	30.2
35.0	10.0	60	27.9
38.0	8.0	68	16.0
40.0	8.0	69	16.9
40.0	10.0	64	25.4
45.0	10.0	67	23.1
45.0	11.2	64	28.4
50.0	10.0	69	21.2
56.0	11.2	69	23.7
63.0	11.2	72	21.5
63.0	12.5	70	25.1
75.0	11.2	76	18.6
75.0	12.5	72	22.8
100.0	12.5	79	17.6

AUSTRALIA

SQUARE APERTURE SCREENCLOTH SPECIFICATIONS

APERTURE (mm) ACTUAL	DIAMETER (mm)	OPEN AREA %	KG/ m^2
3.15	1.6	44	6.8
3.15	2.0	37	9.9
4.05	2.0	44	8.5
4.05	2.5	38	12.2
5.1	2.5	44	10.6
5.7	2.5	48	9.8
6.3	2.5	51	9.0
6.35	3.15	44	13.7
7.15	3.15	48	12.6
8.05	3.15	51	11.6
9.0	4.0	48	15.6
9.50	4.0	49	15.0
9.6	2.5	63	6.6
9.85	3.15	56	10.0
10.0	4.0	51	14.5
11.2	4.0	54	13.4
12.25	2.0	74	3.6
12.3	4.0	57	12.3
12.5	5.0	51	18.1
12.95	2.5	70	5.1
13.15	3.15	65	7.7
13.9	5.0	54	16.7
14.45	2.5	73	4.7
15.15	5.0	56	15.7

NEW ZEALAND

* For other non standard specifications, please contact your extractive screening solutions representative.

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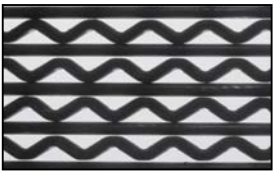
SQUARE APERTURE SCREENCLOTH SPECIFICATIONS

APERTURE (mm) ACTUAL	DIAMETER (mm)	OPEN AREA %	KG/ m^2
15.55	4.0	63	10.4
16.05	5.0	58	15.1
17.15	2.5	76	4.0
17.15	5.0	60	14.3
18.05	5.0	61	13.8
19.0	5.0	63	13.3
19.85	6.3	58	19.2
22.4	5.0	67	11.6
22.7	6.3	61	17.6
25.0	5.6	67	13.0
25.05	6.3	64	16.1
28.5	8.0	61	22.6
30.7	6.3	69	13.3
35.0	8.0	66	18.9
37.5	8.0	68	17.6
40.2	8.0	69	16.9
43.11	8.0	71	16.0
49.35	8.0	75	14.0
57.25	8.0	77	12.3
63.2	10.0	74	17.4
65.2	8.0	79	11.1
81.5	10.0	79	14.1
98.75	10.0	82	11.5

NEW ZEALAND

SPLIT POLY RIPPLE SPECS

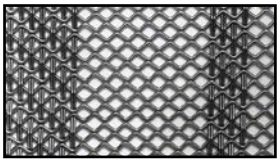
APERTURE (mm)	WIRE DIAMETER (mm)
2.5	2.5
2.5	3.15
3.0	2.5
3.0	3.15
3.5	2.5
3.5	3.15
4.0	2.5
4.0	3.15
4.0	4.0
4.5	3.15
4.5	4.0
5.0	4.0
6.0	4.0
7.0	4.0
7.5	4.0
9.0	5.0
10.0	5.0
11.0	6.3
12.5	6.3
14.0	6.3
16.0	6.3



* For other non standard specifications, please contact your extractive screening solutions representative.

WIRE RIPPLE SPECS

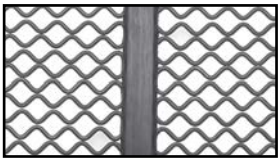
APERTURE (mm)	WIRE DIAMETER (mm)
2.5	1.25
3.15	1.6
4.0	1.6
4.0	2.0
4.5	1.6
4.5	2.0
5.0	2.0
5.0	2.5
5.6	2.0
6.3	2.0
6.3	2.5
7.1	2.5
7.1	3.15
8.0	2.5
8.0	3.15
8.5	3.15
9.0	2.5
9.0	3.15
10.0	2.5
10.0	3.15
10.5	2.5
11.2	2.5
11.2	3.15
12.5	3.15
14.0	3.15
14.0	4.0
16.0	3.15
16.0	4.0
18.0	4.0
20.0	4.0
22.4	4.0



POLY RIPPLE SPECS

APERTURE (mm)	WIRE DIAMETER (mm)
2.5	1.25
3.15	1.6
3.15	2.0
4.0	1.6
4.0	2.0
4.5	1.6
4.5	2.0
5.0	2.0
5.0	2.5
5.0	3.15
5.5	3.15
5.6	2.0
6.3	2.0
6.3	2.5
6.3	3.15
7.1	2.5
7.1	3.15
8.0	2.5
8.0	3.15
9.0	2.5
9.0	3.15
10.0	2.5
10.0	3.15
10.0	4.0
11.2	2.5
11.2	3.15
11.2	5.0
11.5	4.0
31.0	4.0

APERTURE (mm)	WIRE DIAMETER (mm)
12.5	3.15
12.5	4.0
13.2	3.15
13.2	4.0
14.0	3.15
14.0	4.0
14.0	5.0
15.0	3.15
15.0	4.0
16.0	3.15
16.0	4.0
16.0	5.0
18.5	5.0
20.0	3.15
20.0	4.0
20.0	5.0
21.5	6.3
22.4	4.0
22.4	6.3
24.0	5.0
25.0	4.0
25.0	5.0
25.0	6.3
27.0	5.0
28.0	4.0
28.0	5.0
28.0	6.3
31.5	6.3



* Custom wire diameters available on request.

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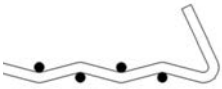
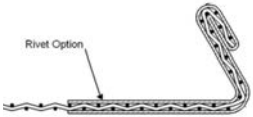
TYPES OF HOOKED EDGES

Generally the specification will determine the type of hook used. Following are some examples of standard hooked edges. If using heated screencloths please advise at time of ordering. For non-standard hook requirements please consult with your extractive screening solutions representative.

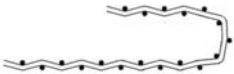


Plain Wire - Type A

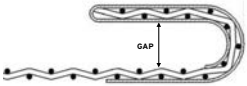
Standard Sheath Metal - Type B



Double Backfold - Type C



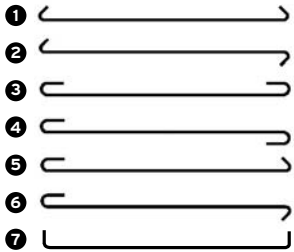
180° Parent Metal - Type D



180° - Type E

HOOK ORIENTATION

It is important to nominate hook orientation, from the list below, when ordering screens.



Side Tension - See ❶

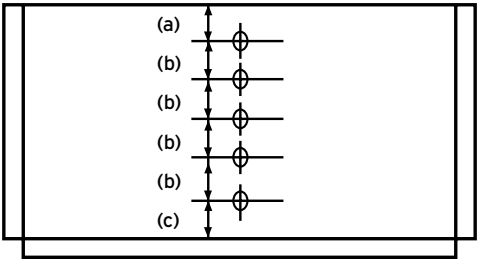
Most common on inclined screens

End Tension - See ❸

Most common for screens in mobile plants

CENTRE HOLES FOR DOUBLE CAMBER

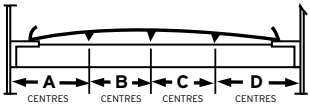
If you require us to provide the screencloth with holes to suit your centre hold down bar please provide the following dimensions (and where possible a sketch). Please indicate if cutback is included in these dimensions.



Typical Sketch

STRINGER CENTRES

For screens requiring stringer centres, please provide dimensions as per diagram below.



PIANO WIRE

HARP SCREEN TYPE CHART

APERTURE (mm)	LIGHT DUTY Wire Dia. (mm)	STANDARD DUTY Wire Dia. (mm)	HEAVY DUTY Wire Dia. (mm)	EXTRA HEAVY DUTY Wire Dia. (mm)
1.0			0.7	0.8
1.2			0.7	0.8
1.5			0.7	0.8
1.75		0.7	0.8	1.0
2.0		0.7	0.8	1.0
2.5		0.7	0.8	1.0
3.0	0.7	0.8	1.0	1.25
4.0	0.8	1.0	1.25	1.4
5.0	1.0	1.25	1.4	1.6
6.0	1.0	1.25	1.4	1.6
7.0	1.25	1.4	1.6	1.8
8.0	1.25	1.4	1.6	1.8
9.0	1.4	1.6	1.8	2.0
10.0	1.4	1.6	1.8	2.0
11.0	1.6	1.8	2.0	
12.0	1.6	1.8	2.0	
14.0	1.8	2.0		
16.0	1.8	2.0		

* For other non standard specifications, please contact your extractive screening solutions representative.

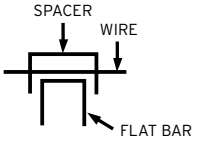
Light Duty
Use for screening wet sticky materials where screening is very difficult or for very high throughput.

Standard Duty
Use for screening damp materials where screening is difficult, offers reasonable throughput.

Heavy Duty
Use for screening dry abrasive materials, with lower throughput.

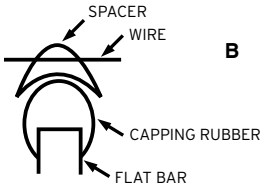
Extra Heavy Duty
Use for screening very abrasive, very dry free flowing materials with very low throughput.

METAL SPACERS*
Used to maintain the integrity of the aperture.
A) Flat bar support



A

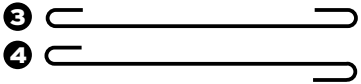
B) Capping rubber on flat bar support



B

* Locker Group plastic spacers are also available on request

Hook Orientation
Piano wire screens use hook orientation in type 3 or 4.
Type 3 is the most common for end tension Piano Wires in mobile screening plants.



* Cross harps available for side tensioned screens.

RUBBER MOULDED SCREENS

Rubber moulded screens are used for impact and abrasion resistance, from medium duty right through to the heaviest impact applications. Rubber moulded screens offer long life, flexibility and reduced noise. Tapered apertures are available.

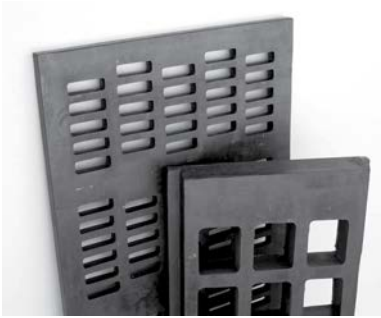
Rubber moulded screens come in the following lengths and widths:

Length varies from 600mm to 2400mm
Width varies from 300mm to 1500mm

Thickness Guide

APPLICATIONS	OVERALL THICK (mm)	PLATE THICK (mm)
Medium Duty	40	6
Medium Duty	50	6
Medium Duty	60	8
Medium Duty	70	8
Heavy Duty	80	8
Heavy Duty	100	10
Heavy Duty	120	10

* For other types of reinforcing please contact your extractive screening solutions representative



* Various rubber grades available

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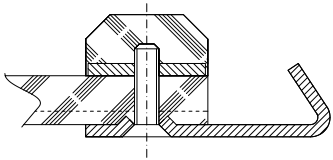
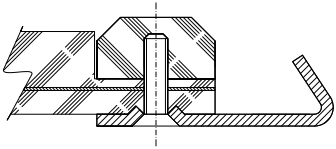
RUBBER TENSION MATS

Rubber screen cloths come in the following standard thicknesses 3, 5, 7, 10, 15, 25 and 35 and 1220 & 1525 widths.

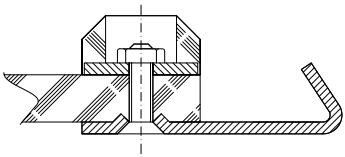
HOOK TYPES



Hook Type – SD
Standard hooking detail for rubber thicknesses 3 to 25mm



Hook Type – SR
Standard hooking with rebate detail for rubber 35mm thick & above, 70mm aperture & below



Hook Type – HD
Heavy Duty bolt through fixing for rubber 35mm thickness, 70mm aperture & above

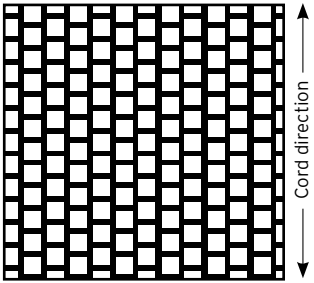
* For other non standard specifications, please contact your extractive screening solutions representative.

RUBBER TENSION MATS - APERTURE SPECIFICATIONS

SQUARE

APERTURE (mm)	CENTRES (mm)	OPEN AREA %
3	6	25
4	7	33
5	8	39
6	10	36
7	11	40
8	14	33
9	15	36
10	16	39
11	17	42
12	18	44
13	21	38
15	23	43
16	26	38
18	30	36
20	32	39
22	35	40
25	40	39
26	41	40
28	43	42
30	45	44
32	50	41
35	53	44
38	56	46
40	58	48
42	62	46
45	65	48
48	68	50
50	70	51
55	77	51
60	85	50
65	90	52
70	100	49

APERTURE (mm)	CENTRES (mm)	OPEN AREA %
75	105	51
80	110	53
90	130	48
100	140	51
110	160	47
120	170	50
130	190	47
140	200	49
150	225	44
170	245	48
200	280	51



* For other non standard specifications, please contact your extractive screening solutions representative.

* High flow open area patterns available.

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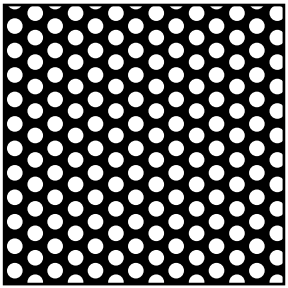
RUBBER TENSION MATS - APERTURE SPECIFICATIONS

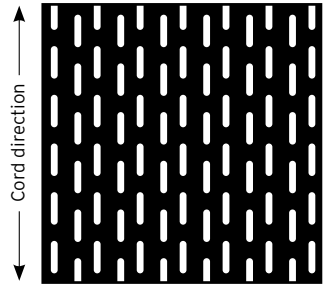
CIRCLE

APERTURE (mm)	CENTRES (mm)	OPEN AREA %
7	11	37
8	13	35
9	14	38
10	15	41
12	18	41
15	23	39
18	28	38
20	31	38
23	35	40
25	37	42
30	42	47
35	47	51
40	55	49
45	60	52
50	65	55
55	70	57
60	80	52
65	90	48
70	100	45
75	105	47
80	110	49
90	125	48
100	135	51
110	145	53
120	160	52
130	170	54
140	180	56
150	200	52
170	220	55
200	250	59

SLOT

APERTURE (mm)	CENTRES (mm)	OPEN AREA %
3x25	8x30	30
4x25	9x30	36
5x25	10x30	40
6x25	12x31	38
7x25	13x31	41
8x25	15x32	39
9x25	16x32	41
10x25	17x34	42
12x25	21x34	38
14x25	23x34	36





POLYURETHANE

Locker Group offer a selection of Polyurethane screens to suit your individual requirements.

Polyurethane is ideal for versatility, accuracy of product sizing and long life when screening fine to medium particles in wet or dry situations.

POLY CROSS TENSION
Provides high wear and corrosive resistance with a multitude of moulded tapered apertures.

POLY MODULAR
Poly modular panels allow only worn panels to be replaced without changing the complete screen deck. Available in a range of aperture size and open areas.

POLY FLIP FLOP (JUMPING SCREENS)
Wear resistant poly, high efficiency, non-blinding screen panel used in "Flip-Flop" type screen machines. Available in various widths, lengths and apertures.

WEAR PLATE SCREENS

Locker Group plates provide increased life and plant capacity and will effectively reduce downtime and associated maintenance costs. There are 2 types of plates:

1. Profile– mainly out of quenched steel i.e. BIS400, in a range of thicknesses, 6, 10 or 12mm. Typically utilised for scalping.
2. Perf – mainly out of mild steel plates in a range of thicknesses, 3, 4, 6mm. Typically used for sizing.

Locker Group offer a variety of plates in different aperture sizes, shapes and spacings enabling selection of the correct configuration to suit your particular application.

Technical Data Sheets are available for further information.

Tufflex

The next generation in efficient screening

Tufflex offers:

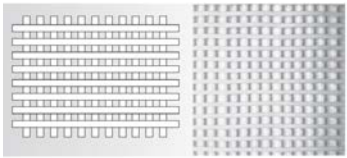
- Up to 10 times life vs woven wire
- ▲ Open Area % compared to equivalent aperture rubber screens
- ▲ Abrasion resistance vs high tensile wire
- ▼ Risk of blinding due to unique construction and smooth rope finish
- OH&S benefits
    - Quieter operations
    - Light and easy to handle

Fully Welded (F)

Ideal for

- Wash decks
- Large apertures
- Dry screening

Welded at all intersections

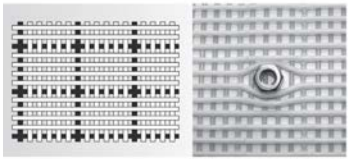


Partially Welded (P)

Ideal for

- Small apertures
- Dry screening
- Mixed shape aggregate

Welded to a set pattern

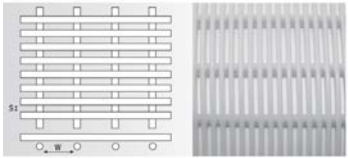


Rectangular Aperture (R)

Ideal for both wet and dry screening

See table for aperture and diameter combinations

Welded at all intersections



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SPECIFICATIONS

All screens are cut and hooked to order, based on individual screen deck requirements.

REGULAR APERTURE

Aperture (mm)		Rope Dia (mm)		
Synthetic (S)	S/S Wire (W)	Synthetic	S/S Wire	Open Area %
0.7	15	3	6	14
1	15	3	6	18
1.5	15	3	6	24
2	18	1.5	3	49
2	18	2	4	41
2.5	10	1.5	3	48
2.5	10	2	6	35
2.5	18	2	4	45
2.7	16	2	6	43
3	18	3	4	41
3.5	13	2	3	52
4	16	3	5	44
4.5	18	2.5	4	53
5	20	4	6	43
6	13	2.5	3	57
7	21	3	3	61

Fully Welded, standard specifications

TUFFLEX - CUSTOM OPTIONS

Tufflex is the original flexible screen. Unlike the imitators, Tufflex can be customised for increased efficiency and wear life.

Options include;

Hooks 45° or 180°
Mild Steel or Stainless Steel
Hook protection flap available

Deck Seals Welded discharge flaps for side tensioned screens
Welded side flaps for end tensioned screens

High Impact Welded Polyurethane impact pads, extends wear life

Aperture Options Bespoke combinations of aperture and rope configurations can be made to order,
subject to minimum order size of $10m^2$
eg. 8mm synthetic rope with 6mm wire rope for high wearing applications.

SQUARE APERTURE 1.5mm to 12.7mm

Opening (mm)	Rope Diameter (mm)					
	1.5	2	2.5	3	4	5
1.5	**F** 25%					
2.5	FP 39%					
3	FP 44%	F 36%		**P** 25%		
3.5	FP 49%	FP 40%				
4	**FP** 53%	FP 44%		FP 33%		
4.5		**FP** 48%	**FP** 41%	**F** 36%		
5		**F** 51%	FP 44%	FP 39%		
5.5			FP 47%	**FP** 42%		
6			FP 50%	FP 44%	**FP** 36%	
6.5				**FP** 47%		
7			**F** 54%	**FP** 49%	F 40%	
8				F 53%	**FP** 44%	
9					F 48%	
10				**F** 59%	F 51%	F 44%
11						F 47%
12						F 50%
12.7					**F** 58%	

F = Fully Welded Apertures
P = Partially Welded Apertures

FP = Made to Order
Black = Standard Specifications

SQUARE APERTURE 13mm to 45mm

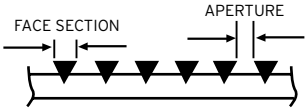
Opening (mm)	Rope Diameter (mm)					
	5	6	7	8	10	12
13	F 52%	F 47%				
14	**F** 54%		F 44%	**F** 40%		
15	F 56%	F 51%	F 46%			
16	F 58%	F 53%		**F** 44%		
17		F 55%	**F** 50%			
18		F 56%				
20		F 59%	**F** 55%	F 51%	F 44%	
21		**F** 60%	**F** 56%	F 52%	F 46%	
22		F 62%	**F** 58%	F 54%	F 47%	
23		**F** 63%		F 55%	F 49%	**F** 43%
24		F 64%			F 50%	
25				F 57%	F 51%	
26					**F** 52%	**F** 47%
27					F 53%	**F** 48%
28				**F** 60%	**F** 54%	
30						F 51%
32						**F** 53%
35						F 55%
38						F 58%
40						F 59%
43						F 61%
44						F 62%
45						**F** 62%

F = Fully Welded Apertures
P = Partially Welded Apertures

FP = Made to Order
Black = Standard Specifications

WEDGE WIRE

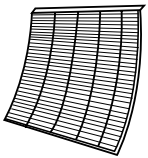
Wedge Wire provides a unique combination of two of the important features required in many screening applications. *Mechanical Strength* because of the thickness of the screen in relation to the aperture and *Efficiency* as the wedge wire shape ensures an uninterrupted flow of material, minimising the possibility of apertures blinding.



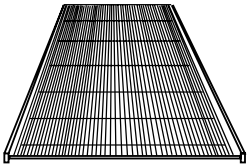
Because of the sharp screening edge, wedge wire is very efficient in dewatering applications.

Apertures offered can be as fine as 0.25 mm to larger than 6.0 mm.

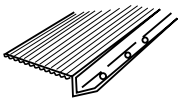
Wedge Wire Screen panels are manufactured to order to suit many screen designs, including:



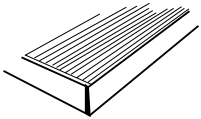
SIEVE BENDS



FLAT PANEL WITH OR WITHOUT FRAMES



ANGLE SIDE FRAME



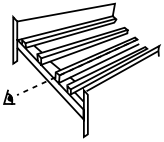
FULLY BANDED

*Frames may be manufactured to your specification.

Technical Data Sheets are available for further information.

INSTALLATION OF A HOOKED EDGE SCREENCLOTH

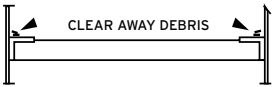
SIDE TENSION



1. Check the Stringer Bars, ensure they are straight and true.

2. Check that the Stringer Rubbers are firmly in place on the Stringer Bars.

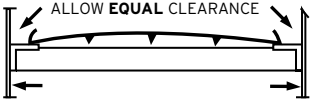
3. Clear away debris from the support ledges.



4. Check you have the correct aperture, screen length and overhook dimensions.

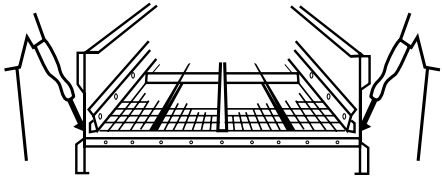
5. Check that the screencloth length is equal to the length of the clamping bar, and ensure clamping bars are straight and sound.

6. Install screencloth allowing equal clearance on both sides.



7. Engage clamping bars securely into hooked edges taking care they clear any sheetmetal lip.

8. From the centre of screencloth install pre-greased tensioning bolts and tighten to ensure screencloth retains approx equal clearance on both sides. Locker Group recommends that tensioning be done simultaneously.



9. Run the screen for 1 hour, then recheck all tension bolts. The amount of retension will depend upon the particular specification but generally all screencloths will require retensioning as the wires bed into the precrimped forms.

END TENSION

For installation of an End Tension hooked screen edge please follow the same steps **1** to **4** & above (side tension) then follow:

5. Check that the fixed end is straight and sound. Check that the banana bar is curved and sound (see below).

BANANA BAR

6. Install the screencloth with one hooked end over the fixed end (banana bar left out).
7. Slide banana bar into position at other end and secure into hooked edge taking care it clears any sheetmetal lip.
8. Tension up screen by using mechanism evenly on either side of banana bar (ratchet or all thread).
9. See side tensioned #9 above.

HOW MUCH TENSION?

This factor will largely depend upon the aperture, wire diameter or width of screen. However, as a guide, satisfactory tension should be achieved on most standard cloths until approx 100 - 120Nm (70-90 ft lbs)
For fine mesh apertures and other fine specifications the general rule is drum tight.

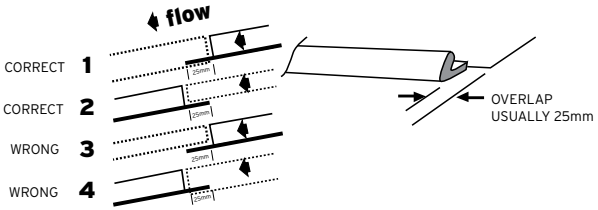
Please refer to manufacturer's recommendations.

JOINING SCREENCLOTHS

For specifications 16.0mm aperture and/or 5.0mm diameter and finer, that require joining, we recommend a minimum of 25 mm overlap.

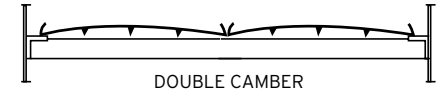
For correct installation ensure the hooked edges are the same length as the clamping bars and install the lower screencloth first, with the overlap facing against the direction of flow.

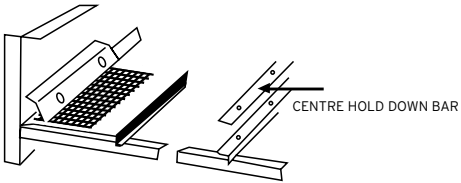
Note: Option 2 shows an overlap set up which can also be used.



DOUBLE CAMBER

For double camber screencloths install the centre hold down bar and tighten, then simultaneously tighten each side of the clamping bars.





TROUBLE SHOOTING – SPLIT SCREENCLOTHS

The most common reported failure of screencloths is splitting. This may be generally attributed to the screencloth being allowed to whip (flap) thereby splitting. This usually occurs along the pivot point, commonly at the stringer bars.

Whipping the screencloth is created by lack of correct tensioning and may be caused by one or more of the following:

1. Lack of even tension
2. Missing tension bolts
3. Single length clamping bar tensioning two or more screencloths
4. Screencloth too wide in overall hooked edge dimension
5. Insufficient camber across the screencloth width
6. Worn stringer rubbers
7. Stringer rails not true
8. Worn/bent clamping bars
9. Screencloth not retensioned following installation
10. Stringer rail support member cracked or damaged
11. Insufficient stringer rails across the width of the screencloth
12. Screencloth too narrow
13. Overlapped screencloth incorrectly installed
14. Tensioning bolt jammed on top of sheet metal hook
15. Coil springs cracked/damaged
16. Single camber spanning 1525 mm or greater
17. End Tension only - uneven tension; banana bar has lost its curve
18. End Tension only - breaking wires regularly; add rubber strip between bar and inside of hook

PEGGING OF APERTURES

Pegging of screencloths (not to be confused with Blinding) is the presence of particles entering an aperture, but being too large to pass and sitting in the aperture with approx 2/3rds the mass below the screencloth surface.

Issues to consider when experiencing pegging:

1. Is the screencloth under-loaded?

2. Is the screencloth over-loaded and stratification is poor?

3. Is the amplitude excessive? While it increases the ability to throw more material along the cloth, it may defeat stratification and screening efficiency.

4. Have you considered reversing the flow of the vibrator from counter flow? This can have an effect on reducing pegging.

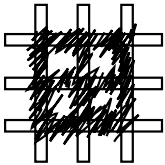
5. Is the wire diameter too large for the given type of particle shape?

6. Is it possible to increase open area by choosing a smaller wire diameter, and/or selecting a slotted aperture specification?

7. Is there an excess of water jet pressure at the inflow end? This can cause a large number of fines to be screened and creates a fewer number on the discharge end, therefore causing the screencloth to peg due to lack of stratification in this area.

BLINDING OF APERTURES

Blinding of a screencloth can be described as the process where damp material, due to the surface moisture contents, clogs up the apertures.



Surface moisture is defined as the film of moisture adhering to the exposed surface of a given particle. Since the surface area of a given weight of fine material is as many times that of an equal weight of coarse lumps, it follows that fine material will carry much more surface moisture than coarse.

As the surface moisture of material increases from bone dry, a point is reached where the individual particles begin to adhere to each other by the surface tension of the moisture film. Often when this point is reached the fine particles will adhere to the coarse particles resulting in poor screen efficiency.

As the surface moisture increases, another point is reached where damp particles will wet the screencloth surface, and blinding commences particularly in the corners where screencloth wires meet. No exact figure can be given where surface moisture content of material will cause blinding. The figure will vary depending upon the aperture size, the type and size of material being screened, the amount of clay or soil in the feed etc.

Blinding may be reduced or overcome by:

(a) Using heated screencloths
(b) Using a stainless steel specification
(c) Using bouncing ball screencloth decks
(d) Reducing the wire diameter size
(e) Using Hi-Ton apertures or a longslot aperture with a greater percentage of open area
(f) Talking to the Locker Group about the latest innovations

LOCKER GROUP STROKE INDICATOR

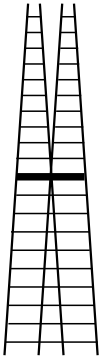
Locker Group stroke indicators are designed to assist the measurement of a vibrating screen.

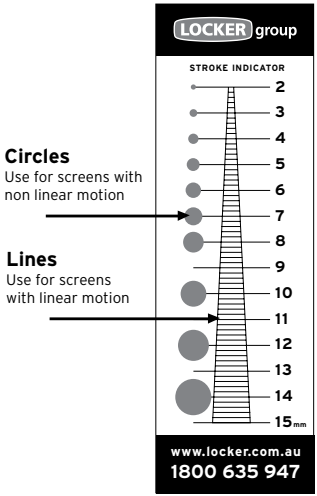
1. Position above spring as shown in fig over the page
   Note: For linear motion orient indicator lines to be with the direction of motion

2. With machine in motion, measure the stroke by looking for either:

a) Non linear motion

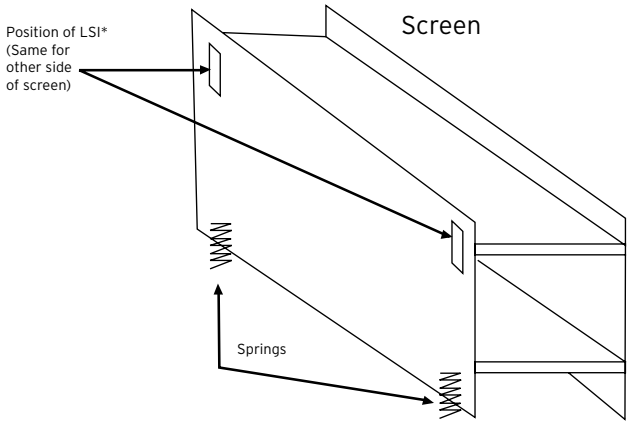
b) Linear motion





Circles
Use for screens with non linear motion

Lines
Use for screens with linear motion



* Locker Stroke Indicator

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POLY SPRAY NOZZLES

APPLICATIONS

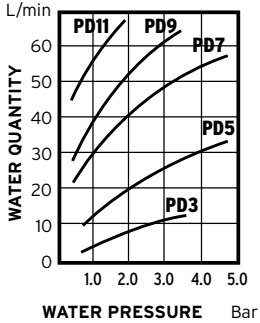
- Washing, sand, gravel, coal, etc.
- Many other uses where high intensity washing and spraying is required.

FEATURES/BENEFITS

- 7 sizes to choose from
- Economical
- Fan shaped curtain of water
- Abrasion resistant
- Corrosion resistant
- Even distribution
- High washing intensity
- Self sealing thread

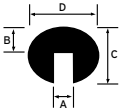
POLY SPRAY NOZZLE DATA

Colour	White PD3		Green PD5		Blue PD7		Yellow PD9		Red PD11		Tan PD13		Black PD16	
HEIGHT OVER DECK	1.5 BAR	2.5 BAR	1.5 BAR	2.5 BAR	1.5 BAR	2.5 BAR	1.5 BAR	2.5 BAR	1.5 BAR	2.5 BAR	1.5 BAR	2.5 BAR	1.5 BAR	2.5 BAR
200mm	300	400	500	800	1000	1200	900	1100	900	1000	TBA	TBA	TBA	TBA
300mm	350	450	800	900	1100	1300	1100	1400	1200	1300	TBA	TBA	TBA	TBA
400mm	400	500	1050	1200	1200	1400	1300	1500	1400	1500	TBA	TBA	TBA	TBA



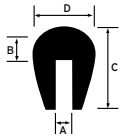
CAPPING RUBBER

Locker Group recommend the use of capping rubber to maximize screencloth life. It is important that worn capping rubbers are replaced immediately.



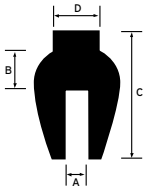
ROUND TOP SHORT LEG

CODE	DIM A	DIM B	DIM C	DIM D
SBCSB4	8	12	26	30
SBCSB7	10	14	26	30
SBCSB5	12	14	27	30
TYPE A	10	12.5	NZ ONLY	
TYPE B	15	10	NZ ONLY	



ROUND TOP LONG LEG

CODE	DIM A	DIM B	DIM C	DIM D
SBCRT1	8	15	50	30
SBCRT2	10	15	50	30
SBCRT3 HP	12	21	56	30

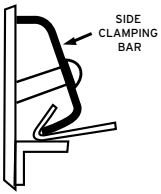


FLAT TOP LONG LEG

CODE	DIM A	DIM B	DIM C	DIM D
SBCFT1	8	20	60	30
SBCFT1 HP	10	25	65	30
SBCFT2	12	20	60	30

* Minimum length available = 20m

* Capping rubber can also be supplied in polyurethane upon request.



SIDE CLAMPING BARS

STANDARD LENGTHS (Supplied with or without holes)

1220mm	1525mm	1830mm
(4'0")	(5'0")	(6'0")

Side clamping bars are available in steel, rubber coated or poly coated.

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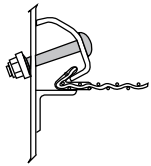
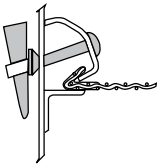
SIDE CLAMP HARDWARE

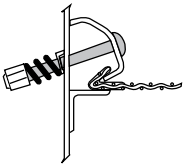
Locker Group supplies all types of side clamp hardware.



Bolt Type Clamp



Wedge Type Clamp Bolt
(straight or curved wedge)

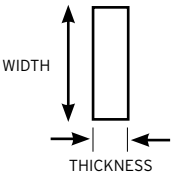


Spring Type Clamp Bolt

SKIRTING RUBBER

Locker Group offers 2 types of skirting rubber in a variety of thicknesses. Most commonly available in 30m rolls.

1. Soft (longer life)
2. Hard



THICK (MM)	WIDTH (MM)
6	100
6	150
6	200
6	250
6	300
10	100
10	150
10	200
10	250
10	300
12	100
12	150
12	200
12	250
12	300
16	100
16	150
16	200
16	250
16	300
20	100
20	150
20	200
20	250
20	300

WEDGETYPE CLAMP BOLTS

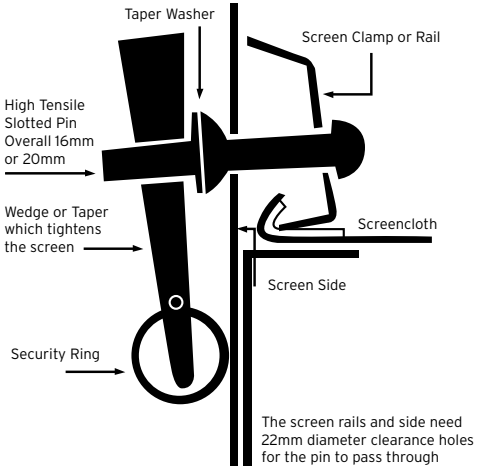
A wedge system used to tension the clamping bars securing the screencloth replaces the bolts and nuts mostly in use now.

With a wedge system, the bottom deck screen cloth can be replaced in about ten minutes instead of two hours. It is easy to drive the wedge into the "tight" position. Locker Group offer two wedge shapes:

1. "Straight" as shown
2. "Curved" allowing greater access to wedge head

The tension can be adjusted with the screen running.

Ideal where access to screen is difficult.



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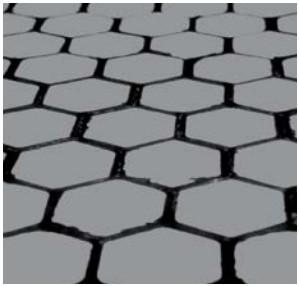
CORROCERAMIC WEARLINERS

The excellent high wear resistance of alumina-silica ceramics combined with energy absorbing rubber, moulded onto a steel backing plate. Superior performance to many steel grades.



RUBBER WEARLINERS

Locker Group wearliners are designed to reduce impact on supporting structures and reduce maintenance and downtime on equipment. It also increases the wear life of plant and machinery whilst reducing noise.

SCREENCLOTH DIMENSIONS: in millimetres (to nearest 5mm)

FEET	INCHES															
	0	**1/2"**	**1"**	**2"**	**3"**	**4"**	**5"**	**6"**	**7"**	**8"**	**9"**	**9 3/8"**	**10"**	**10 1/2"**	**11"**	**11 1/2"**
		12.7	**25.4**	**50.8**	**76.2**	**101.6**	**127**	**152.4**	**177.8**	**203.2**	**228.6**	**238.1**	**254**	**266.7**	**279.4**	**292.1**
1'	305	320	330	355	380	405	430	460	485	510	535	545	560	570	585	595
2'	610	620	635	660	685	710	735	760	780	815	840	850	865	875	890	900
3'	915	925	940	965	990	1015	1040	1065	1090	1120	1145	1150	1170	1180	1195	1205
4'	1220	1230	1245	1270	1295	1320	1345	1370	1400	1420	1450	1455	1475	1485	1500	1510
5'	1525	1535	1550	1575	1600	1625	1650	1675	1700	1725	1755	1760	1775	1790	1805	1815
6'	1830	1840	1855	1880	1905	1930	1955	1980	2005	2030	2055	2065	2085	2095	2110	2120
7'	2135	2145	2160	2185	2210	2235	2260	2285	2310	2335	2360	2370	2390	2400	2415	2425
8'	2440	2450	2465	2490	2515	2540	2565	2590	2615	2640	2665	2675	2695	2705	2720	2730
9'	2745	2755	2770	2795	2820	2845	2870	2895	2920	2945	2970	2980	2995	3010	3025	3035
10'	3050	3060	3075	3100	3125	3150	3175	3200	3225	3250	3275	3285	3300	3315	3325	3340
11'	3355	3365	3375	3405	3430	3455	3480	3505	3530	3555	3580	3590	3605	3620	3630	3645
12'	3660	3670	3685	3710	3735	3760	3785	3810	3835	3860	3885	3895	3910	3925	3935	3950

CONVERSION TABLES

A x X = B **B x Y = A**

A	B	X	Y
Inches	Millimeteres	25.4	0.39
Feet	Metres	0.304	3.281
Miles	Kilometres	1.609	0.621
Sq inches	Sq mm	645.16	0.0015
Sq feet	Sq metres	0.093	10.764
Cu. inches	Cu. cms	16.387	0.061
Cu. feet	Cu. metres	0.28	35.315
Ft/second	Km/hour	1.097	0.911
Pounds	Kg	0.453	2.204
Tons	Tonnes	1.016	0.984
Ft Lbs	Nm	1.356	0.7376
Lbs/sq. in.	kg/sq. cm	0.070	14.223
T.P.S.I	kg/sq mm	1.575	0.635
Pints	Litres	0.568	1.76
Gallons	Litres	5.546	0.22

Please note in this Screencloth booklet, we have only specified a small overview of our range, Locker Group offer an extensive selection of materials for your requirements. Speak to your Locker Group extractive screening solutions representative for further information.

HOW TO ORDER SCREENCLOTHS

Please provide the following information:

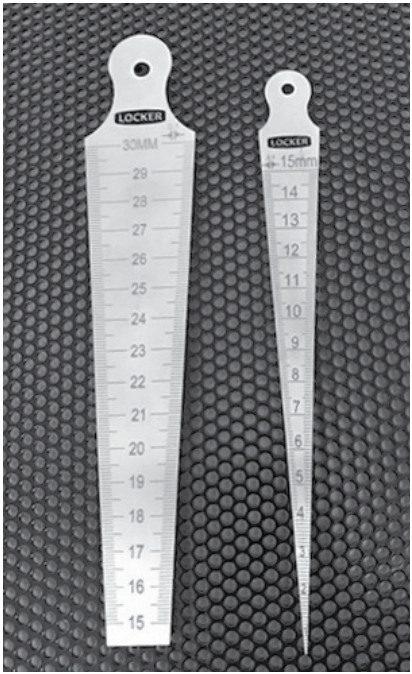
1. Number required
2. Aperture required
3. Diameter of wire
4. Material
5. Length of screencloth
6. Width over hooks or flat
7. Hook type
8. Hook orientation

AND IF REQUIRED

9. Special hooks
10. Centre holes for Double Camber
11. Stringer Centres (for Ripple & Rubber Screens)
12. Direction for rectangular aperture dimensions
13. Rolling dimensions for Trommel screens
14. Stringer rubber type x length
15. Clamping bars qty x length
16. Spray nozzles qty x size

OTHER PRODUCTS PROVIDED BY LOCKER

- **Handrail**
- **Walkway Mesh**
- **Grating**
- **Perforated Metal**
- **Expanded Metal**



Taper Gauges available from Locker

LOCKER

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