



KOMBIPLAST® UNI 2000.

**System Screen Panels
Tensioned and Plane Sieve Panels**

 **STEINHAUS**

POLYURETHANE-Sieve Panels



have been a household name for many years now with regard to reliability and long operational life time. It was as early as 1968 that STEINHAUS GmbH introduced the first polyurethane sieve panel to the public.

Although sieve panels made of polyurethane are more expensive than steel screens they were well received on the market. Because of their extremely long operational life, they have replaced nearly all steel screens in the handling and preparation of bulk materials.

The steel reinforcements embedded in the polyurethane ensure the necessary stability, whereas the flexible hole areas with their downward widening openings are a guarantee for excellent operational characteristics.



The Special Advantages

accurate cut size

because of the very precise sieve openings

self cleaning

because of the flexible hole area with downward widening openings

extremely wear resistant

because of high quality polyurethane and steel reinforcements

noise reduction

because of the noise absorbing characteristics of the polyurethane

economical

since only worn segments have to be replaced

compatibility

polyurethane and steel system screen panels can be used everywhere

easy installation and removal

because of handy screen panel sizes



Different Designs

Apart from a variety of conventional designs, such as tensioned, plane and self bearing frame sieve panels, sieve bends and drums, system screen panels KOMBIPLAST® and UNI 2000 are today's trend.



High Quality Standards by continuous controls

In order to meet the latest technologies for an adequate state of the art sieve panel only high quality polyurethanes are used. Apart from that, narrow tolerances on the sieve openings guarantee an accurate cut size.

Continuous controls ensure a high quality standard.



The Modular Principle simple and trouble-free

Sieve and blind modules with standard dimensions in various lengths and in widths of 100 to 400 mm give a suitability for all screening machine lay outs.

Reinforced designs for extreme mechanical impacts complete our range of products.



Sieve Panels in Different Hardnesses 35, 63 or 85 Shore hardness

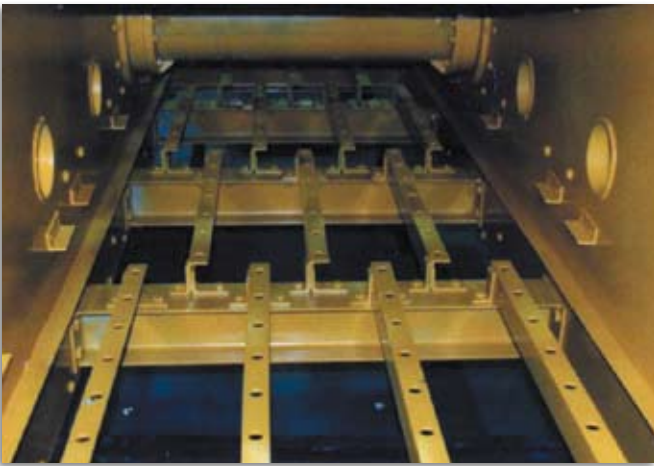
Depending on the application polyurethane grades in either 35, 63 or 85 Shore hardness will be chosen. Their special advantage is the great flexibility in the hole area, avoiding pegging and blinding by materials difficult to screen (other shore grades on request). Standard polyurethane is suitable for screening bulk aggregates with up to 80° C, whereas special grades can be used up to 140° C.



Whipping Screen Panels with Conical Holes and Different Shore Hardnesses

The characteristics of these screen panels are the dynamic whipping or flapping and the grid construction below the sieve mat. Under operational conditions the mat is hitting on this steel reinforced support grid, thus giving a good self cleaning effect in the hole areas from near size particles or adhering fines. Cakes of these fine particles on the sieve mat surface are continuously destroyed by this flapping motion.





The Sub-construction

The sub-construction is made of steel as part of the screen frame. The fastening holes for the peg anchoring system of the modules are drilled into the longitudinal profiles.

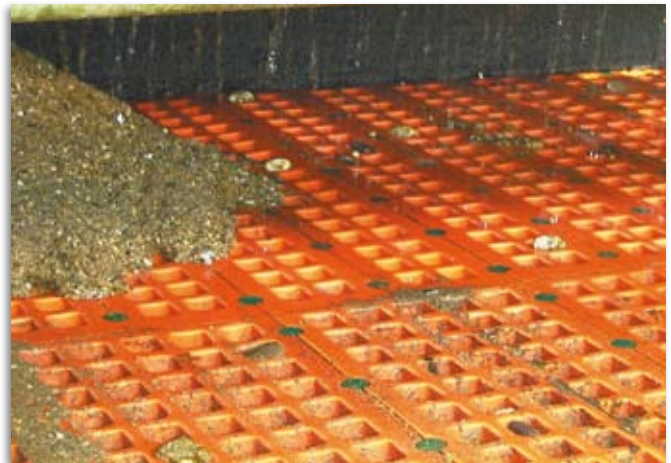
Because of the blind edge areas of the modules the sub-construction is not subject to wear.



Installation

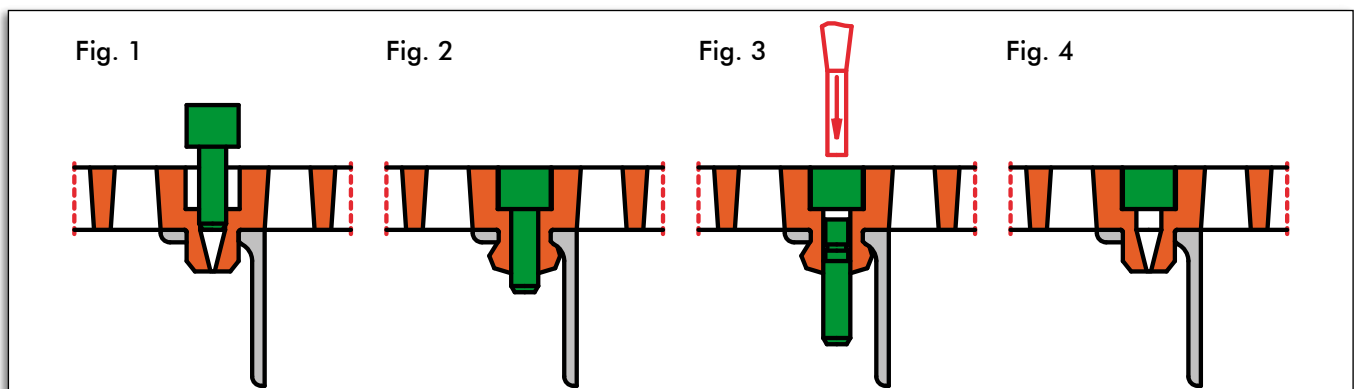
When placing the KOMBIPLAST® modules on the sub-construction their semi-circular fastening anchors will fit into the holes of the longitudinal angles.

By fitting the fastening pins into the anchor opening with the a hammer, a firm vibration-proof connection of the module to the substructure is ensured.



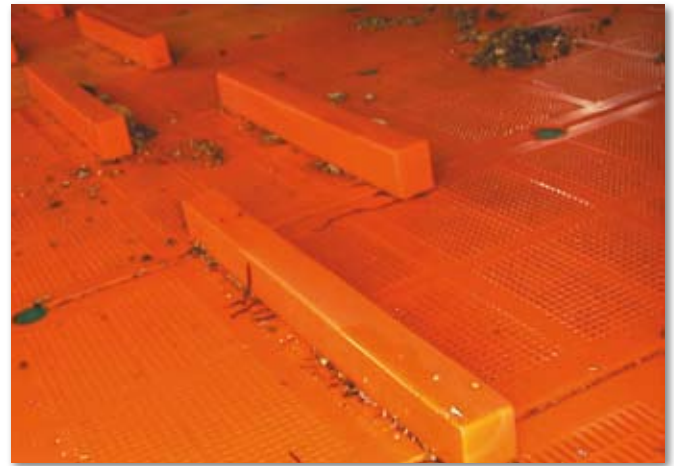
The KOMBIPLAST® Fastening Pin

The sketch below shows the easy fixing and removing of the pins for the KOMBIPLAST® peg anchoring system. The push through pin facilitates the panel removing considerably.



Dam Slats

Due to their integrated fastening pins dam slats can be placed without problems on a KOMBIPLAST® sieve deck by using the modules' peg anchoring holes. Their possible staggered placing helps to achieve an optimum screening result.



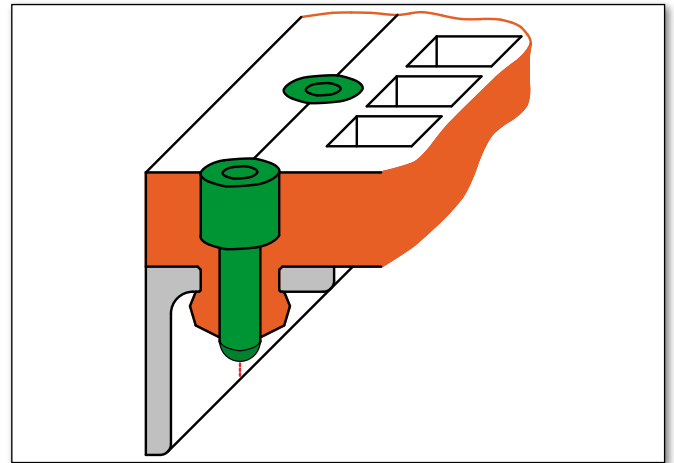
Dam Pins

The blind edges in the fastening area of KOMBIPLAST® modules are a wear protection for the substructure bars, on which they are fixed. In rare cases these uninterrupted blind zones might allow fine, below cut size particles to get into the overflow. In such cases we recommend the use of dam pins, which can replace fastening pins at any place of the screen deck.



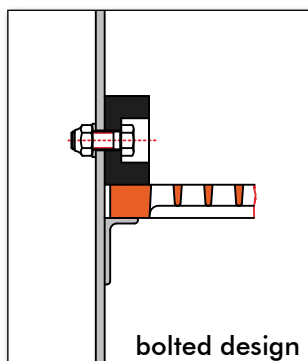
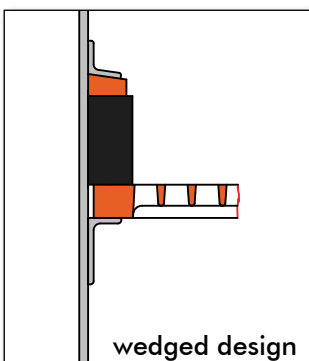
Edge Slats

Edge slats are used in all cases where the side fastening slats should not be demounted when a replacement of an edge panel is necessary. Apart from that they are necessary if KOMBIPLAST® modules are installed across the flow direction. They are available in widths between 20 and 75 mm in increments of 5 mm.



Side Fastening Slats

Side fastening slats for the fixing of modules and for protecting the side plates of the screening machine can be supplied either for wedging, bolting or with a peg anchoring system in combination with fastening wedges or only with pin-and-sleeve fixing.





UNI 2000

The Sub-construction

Adapter slats for all customary substructure designs
With the help of adapter slats the installation on all customary longitudinal substructure profiles is possible without problems.

The choice of the appropriate substructure profile is often subject to the decision of the screening machine manufacturer.

If an existing screening machine should be changed we recommend that you consult our sales engineers.



Installation

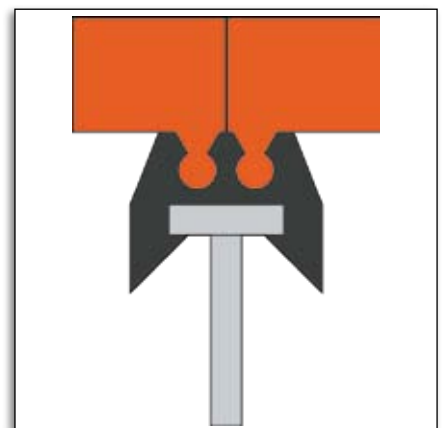
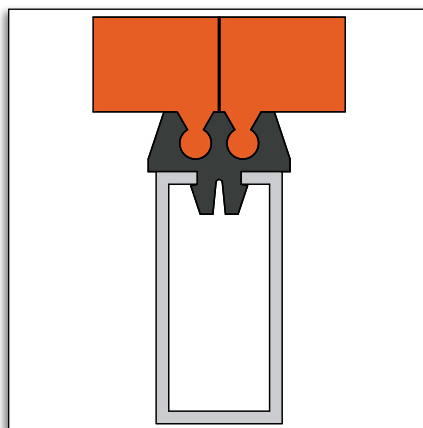
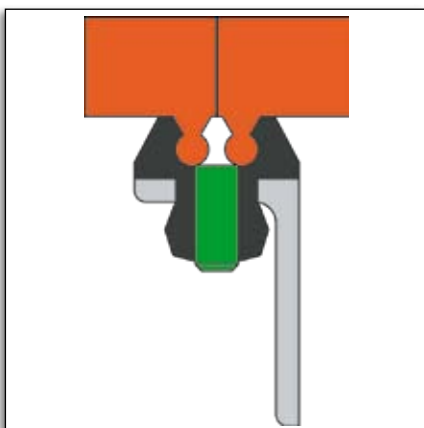
Installing and replacing of modules can be done without special knowledge and simply a hammer and a large screwdriver are needed.

With only some strokes the module will be pushed into the adapter slat.

For the removal of the panels a screwdriver is used. Once one module edge has been extracted from the adapter slat, the panel itself will bend and the click-in profile easily removed from the substructure slat, making removal simpler.



The most demanded substructure profiles



UNI 2000 - Accessories

The adapter slat used for UNI 2000 allows the use of a great variety of module sizes for different applications. Blind segments can be installed as ribs within a certain grid pattern.



Picture 1

Picture 1 shows an adjustable back wall with removable ribs combined with screen segments.

Picture 2 shows a dam slat clamped in between UNI 2000 modules.



Picture 2

Side Snap-in Slat with Dewatering Cassettes

The side slats can be supplied with integrated dewatering cassettes with no necessity to change the design of the sieve box (**picture 3**), bringing a substantial capacity increase.

Besides, difficult to design side wall dewatering windows in the sieve box frame can be omitted.



Picture 3



Picture 4

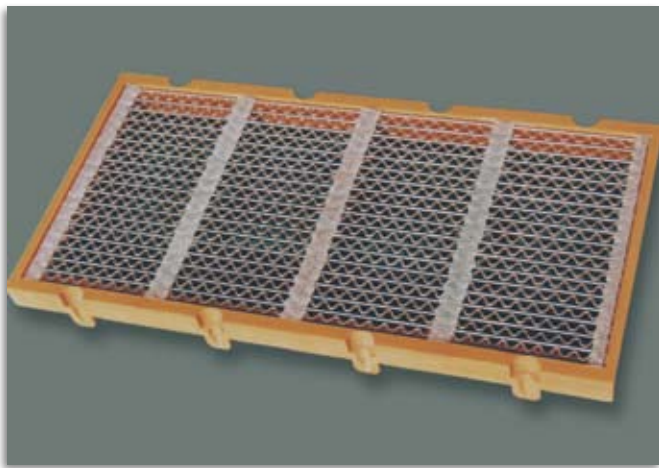
The Side Protection

The side protection of the sieve box is achieved either with a conventional wedge slat design (**picture 4**) or with a snap-in slat engaged to the UNI 2000 adapter (**picture 5**).

Instead of special edge sieve panels, only standard modules are needed, which can be changed with a side levelling slat to an edge module, if necessary. So only standard modules have to be available as spares, which facilitates stock keeping considerably.



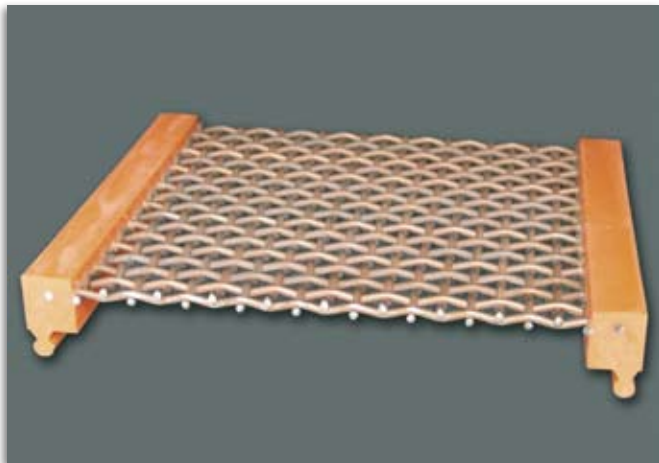
Picture 5



System-Screen Panels Combining Steel with Polyurethane

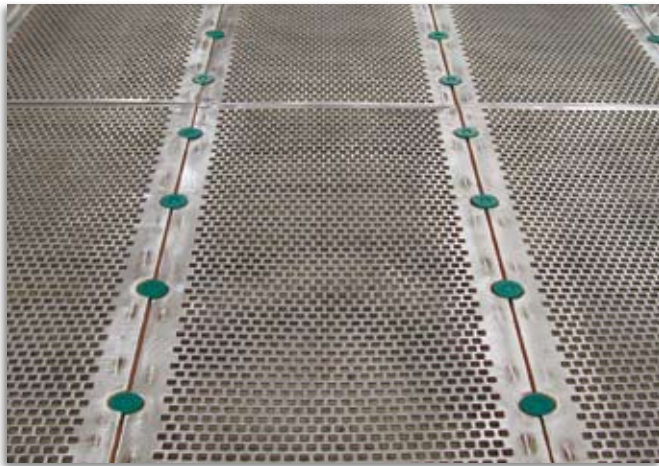
KOMBIPLAST®-TRIA Modules

This type of anti-clogging system screen panels is available with mesh openings of 2 to 12,5 mm.



UNI 2000 - Rekord - Modules

Of wear-resistant spring steel, mesh openings on request.



Hybrid segments are an ideal combination between highly wear resistant polyurethane and steel screen segments of various types.

They stand for the available great variety of our modern system screen panels.

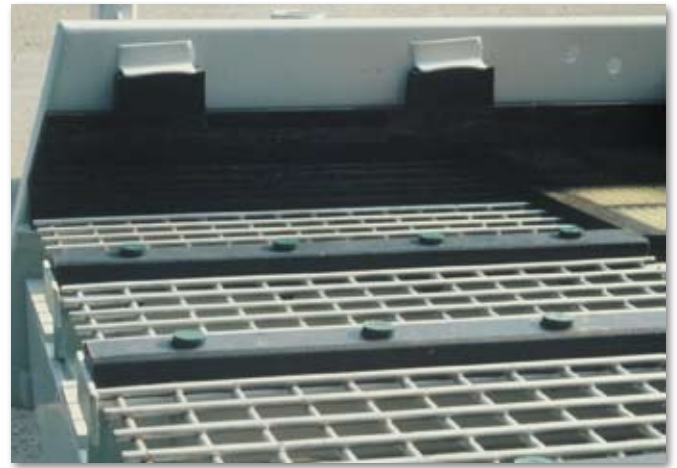


KOMBIPLAST®-LB Modules

LB-system screen panels with specially wear resistant perforated plates are a further option of our KOMBIPLAST® system with its modular principle.

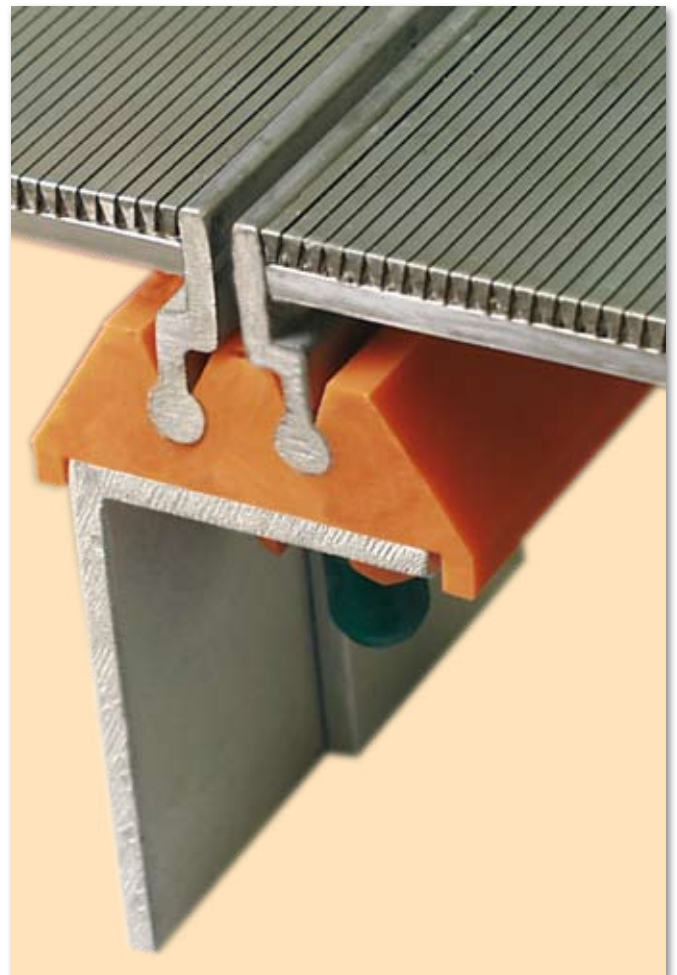
Having an extremely high wear resistance, a rigid design and withstanding high operational temperatures, LB-modules are especially suitable for the iron and steel industry and comparable applications.

System-Screen Panels Combining Steel with Polyurethane



SOLIDA on KOMBIPLAST® - Sub-construction

SOLIDA sieve panels are pressure welded grids with mesh openings from 10 to 200 mm. Their use on a KOMBIPLAST® sub-construction is easily possible, if the screening capacity has to be improved and an increase in open screen area is the only way for it.



OPTIMA System

Available Screen Size = Usable Screening Area

OPTIMA System modules are welded wedge wire screens with rigid crossbars and special shape side slats with which they are fixed into UNI 2000 adapter slats. The adapter slats protect the substructure bars from wear. OPTIMA System modules are made of all profiles, in all slot widths and all steel grades stated in detail in our catalogue "OPTIMA Welded Wedge Wire Screens" (WB 112).



Polyurethane Sieves designed as Tensioned Screens or Plane Sieve Panels

Ready to Fit, Nearly Maintenance Free, Suitable for Any Screening Installation

In 1968 STEINHAUS sieve panels made of polyurethane with completely integrated steel reinforcements were the first industrially produced, ready to install screens of such type. We produce polyurethane screens for screening installations of all types, for example for: screening machines, de-watering screens, screen chutes, sieve drums and bends, mill discharges etc.

Polyurethane cross- or lengthwise tensioned screens have a high tensile reinforcement between the tensioning hooks, which absorbs the tensioning forces and prevents the elongation of the sieve panels. Between these reinforcements the flexible hole areas are arranged.

Polyurethane plane sieve panels for screening installations with plane sieve decks are made with completely or partly embedded steel reinforcements.



Tensioning Hooks

The proper tensioning hook design is essential for the vibration proof fastening and a quick and simple mounting of the polyurethane sieves.

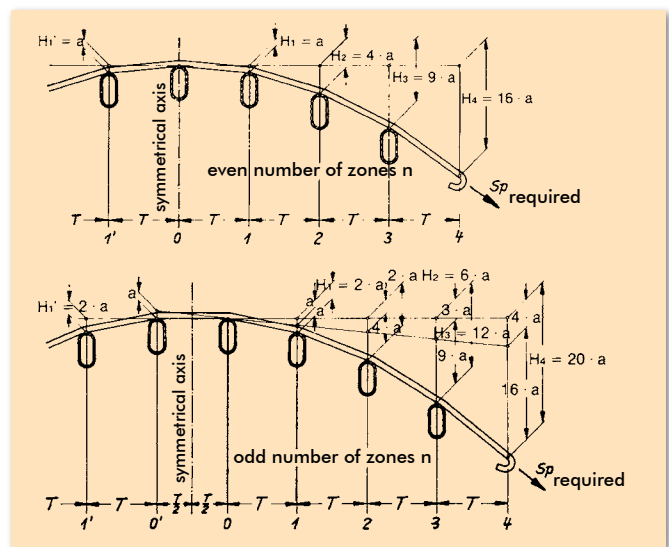
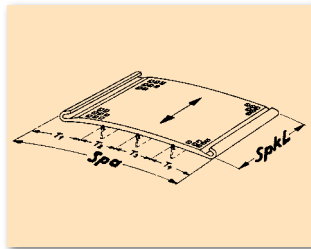
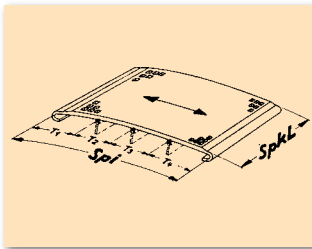
In order to comply with the requirements by our clients there are 4 different standard hook designs available.

To prevent wear and corrosion during the long operational life of these screens their tensioning hooks are completely polyurethane covered.

type of hook	graph	mm-sizes for various panel thicknesses		
		S1	h±4	a
1.1		20	46	50
		25	51	72
		30	56	99
1.2		20	46	
		25	51	
		30	56	
1.3		20	46	
		25	51	
		30	56	
1.4		20	25	
		25	37	
		30	50	

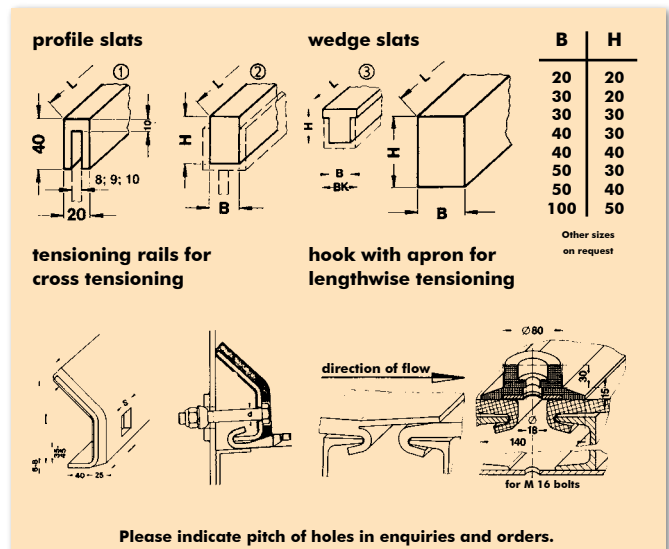
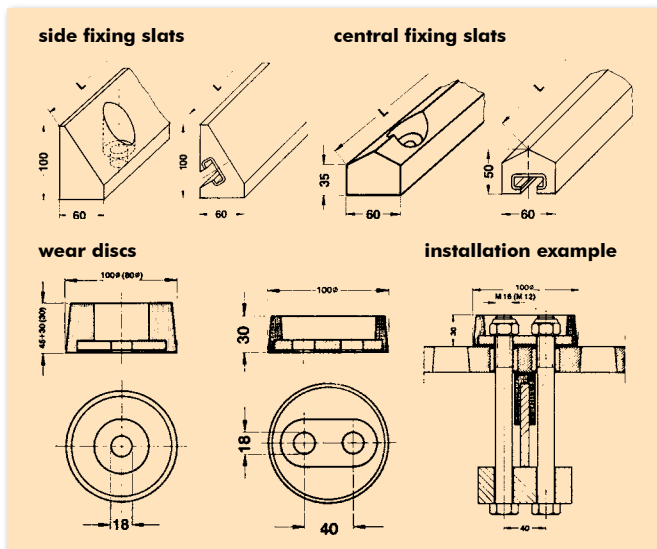
Correct Tensioning

A vibration-proof fixing of tensioned sieves is necessary to prevent breakages by "whipping". This is achieved when the parabolic raising of the support bars in the screening machine is as per the min. figures in the adjacent graph and the pitch T between the supports is not bigger than 420 mm.



Sieve Deck Accessories

Excellent performances and especially the long operational life of our polyurethane screens give the answer to our clients' wish for installations with little maintenance. The optimum in this respect is however only achieved if also the fastening accessories are PUR-protected. The drawings below show a selection of our extensive range of such accessories.



Please indicate pitch of holes in enquiries and orders.



Installation, Maintenance, Storage and Repair reducing your costs

Simple and quick mounting and removing, low maintenance requirements, space saving storage and the possibilities for repairs are the advantages offered by STEINHAUS - system screen panels.

Long idle time and expensive overtime for repairs and replacing screen decks belong to the past. The maintenance staff is free to do other work.

The proper sieve opening

For determining the right sieve opening "w" please refer to the adjacent graph. It shows the relation between the plant sieve opening and that of the test sieve, both with square openings.

When using a test sieve with round openings, the diameter of its holes have to be multiplied with 0,8 and this figure should be used in the graph.

Example:

The test sieve opening of 8 mm square corresponds with a plant sieve of 9 to 10 mm square.

The round test sieve opening of 10 mm, multiplied by 0,8 equals to 8 mm and consequently corresponds with a plant sieve opening of 9 to 10 mm square, too.

In order to achieve identical cut sizes with differently shaped openings the following factors should be obeyed:

Square to rectangular opening about 1,0 : 0,8
 Square to slotted opening about 1,0 : 0,71

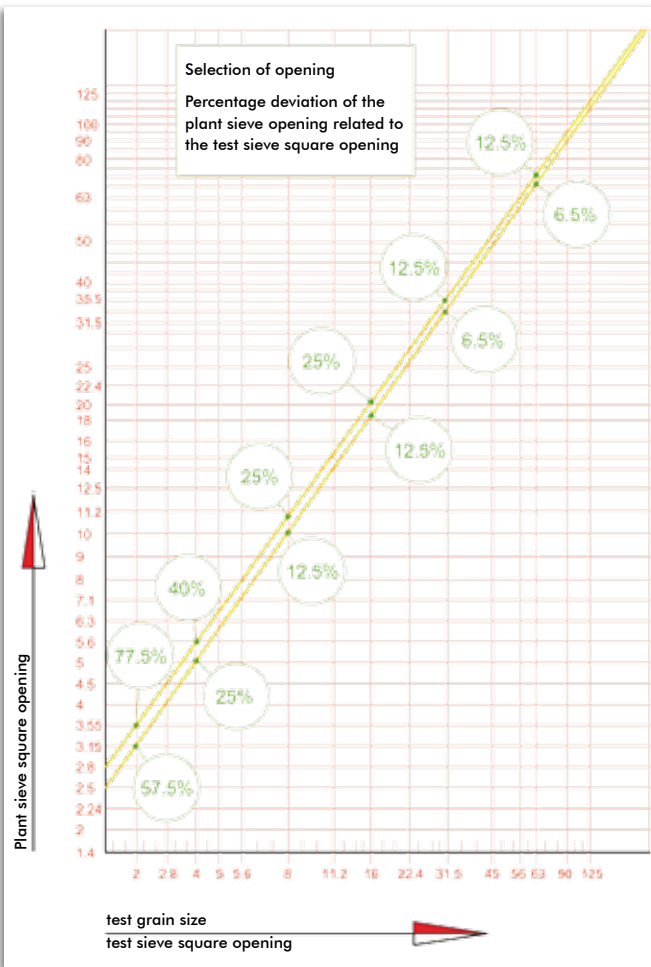
Example:

10 mm square opening corresponds with about 8 mm rectangular width
 10 mm square opening corresponds with about 7,1 mm slot width.

This applies only to rectangular and slotted openings along flow direction on screening machines with normal speed.

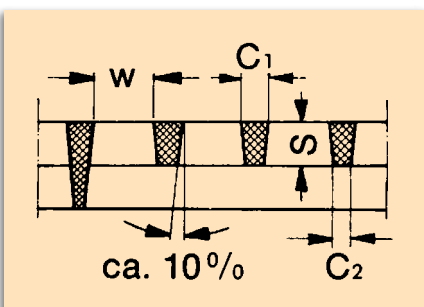
Slots across flow direction or sieves on high-speed screening machines show a different behaviour.

If certain cut sizes cannot be achieved with one aperture only, KOMBIPLAST® or UNI 2000 modules with different openings can be installed on the very same deck. In doing so, the ever-increasing demands for precise cut sizes can be complied to.



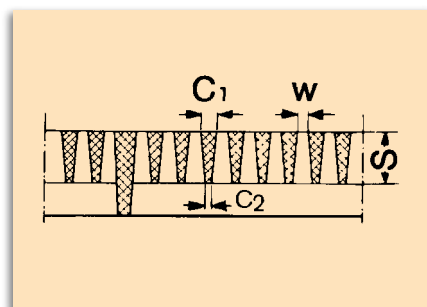
Design "Q"

Square or rectangular sieve opening with uniform downward widening holes



Design "SP"

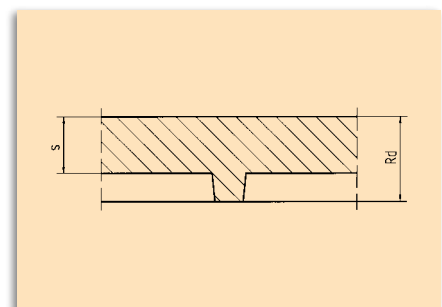
Slotted sieve openings with uniform downward widening slots

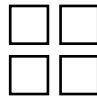


Design "BB"

(blind - without holes)

In rim thicknesses of 30, 40 and 50 mm





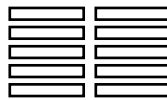
Execution		Aperture w mm	Web width C ₁ mm	Rim thickness		Web thickness in the hole area s mm	eff. open screening area	
FO	LO			modules Rd mm	other sieves Rd mm		other sieves a ₀ %	modules A ₀ (300 x 1000) %
■		0,8	1,15	30	20	2,3	16,61	9,24
■		1,0	1,3	30	20	2,5	18,25	10,38
■		1,25	1,25	30	20	3,0	24,45	13,81
■		1,4	1,35	30	20	3,0	25,46	14,38
■		1,6	1,5	30	20	3,5	25,83	15,02
■		2,0	1,9	30	20	4,0	25,79	14,35
■		2,24	2,0	30	20	4,0	27,33	15,50
■		2,5	2,0	30	20	4,0	30,19	16,43
■	■	2,8	2,4	30	21	4,0	28,28	19,70
■	■	3,15	2,3	30	20	4,0	32,68	18,12
■	■	3,55	2,6	30	20	4,5	32,63	18,66
■	■	4,0	2,8	30	20	5,0	33,93	18,75
■	■	4,5	3,5	30	20	6,0	30,98	18,14
■	■	5,0	3,0	30	20	6,0	38,31	22,43
■	■	5,6	3,8	30	20	7,0	34,87	20,70
■	■	6,3	3,2	30	20	7,0	43,03	26,09
■	■	7,1	4,4	30	20	8,0	37,47	23,12
■	■	8,0	3,5	30	20	9,0	47,46	29,29
■	■	9,0	5,0	30	20	14	40,47	23,69
■	■	10,0	4,4	30	20	15	47,29	29,29
■	■	11,2	8,0	30	20	11	33,31	20,63
■	■	12,5	7,0	30	20	12	40,19	25,67
■	■	14,0	5,5	30	20	13	50,64	32,35
■	■	15,0	8,5	30	20	14	39,77	25,62
■	■	16,0	12,0	30	20	15	31,97	18,71
■	■	18,0	10,0	30	20	20	40,53	23,72
■	■	20,0	9,0	30	20	20	46,64	29,29
■	■	22,4	9,6	30	20	20	48,10	36,74
■	■	25,0	14,0	30	20	20	40,19	25,67
■	■	28,0	12,0	40	20	20	48,05	32,29
■	■	30,0	10,0	30	20	19	55,16	37,07
	■	31,5	18,0	40	30	30	39,71	30,80
	■	33,5	18,5	40	30	30	40,70	34,85
	■	35,5	16,5	40	30	30	45,71	39,15
	■	37,5	21,0	40	20-40	20-40	40,30	29,42
	■	40,0	22,0	40	20-40	20-40	40,82	33,47
	■	45,0	25,0	40	20-40	20-40	40,53	37,07
	■	47,5	27,0	40	20-50	20-50	39,87	38,35
	■	50,0	28,0	50	20-50	20-50	40,30	31,87
	■	56,0	32,0	50	20-50	20-50	39,71	33,83
	■	60,0	34,0	50	20-60	20-60	39,96	35,30
	■	63,0	35,0	50	20-60	20-60	40,53	38,92
	■	71,0	40,0	50	20-60	20-60	40,12	29,66
	■	80,0	45,0	50	20-60	20-60	40,17	33,47
	■	90,0	50,0	50	20-60	20-60	40,53	37,07
	■	100,0	48,0	50	20-60	20-60	44,77	44,40
	■	112,0	60,0	50	20-60	20-60	41,58	24,60
	■	125,0	65,0	50	20-60	20-60	42,45	30,65

The Open Screening Area

For system screen modules we quote the effective open screen area A_0 in % for the most frequently used panel sizes 300 x 1000 mm. For other panel sizes the A_0 figures will vary marginally.

A_0 - is the effective open screening area in % compared to the total size of the sieve deck after deduction of all blind non-screening areas.

a_0 - is the relative free screening area, referring to a sieve opening with half of the adjacent web widths, not taking into consideration the other blind areas of the sieve deck.

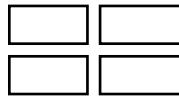


Execution		Slot width	Slot length	Web width	Rim thickness		Web thickness	eff. open screening area	
SP	LO	w	l	C ₁	modules	other sieves	in the hole area	other sieves	modules
		mm	mm	mm	Rd	Rd	s	αO	AO (300 x 1000)
					mm	mm	mm	%	%
■		0,1	5,65	1,1	30	20	2,5	6,70	2,76
■		0,16	5,65	1,2	30	20	2,5	9,44	3,93
■		0,2	11,5	2,15	30	20	6	6,84	3,91
■		0,25	11,5	2,45	30	20	8	7,42	4,27
■		0,315	11,5	2,85	30	20	8	7,98	4,35
■		0,4	11,5	2,95	30	20	8	9,56	5,19
■		0,5	11,5	3,0	30	20	9	11,42	6,08
■		0,63	11,5	3,1	30	20	9	13,47	7,64
■		0,8	11,5	3,0	30	20	9	16,74	9,67
■	■	1,0	11,5/16	3,0	40	20	9	20,03	14,21
■	■	1,25	11,50	3,1	30	20	10	22,65	12,98
■	■	1,3	16,0	3,1	40	20	9	23,58	16,55
■	■	1,4	11,5	3,0	30	20	10	25,92	14,49
■	■	1,6	11,5/16	3,9	40	20	3,9	24,23	16,53
■	■	1,8	17,25/16	3,0	40	20	9	29,72	21,08
■	■	2,0	11,5/16	2,91	40	20	8	32,20	22,42
■	■	2,24	17,5	3,4	30	20	10	34,66	24,55
■	■	2,5	25,5	4,5	30	20	10	33,99	26,21
■		3,15	25,5	3,9	30	20	12	38,25	22,24
■		3,55	25,5	3,55	30	20	13	42,65	24,98
■		4,0	25,5	4,1	30	20	13	41,96	24,53
■	■	4,5	36,0	4,1	30	20	12	45,83	33,11
■	■	5,0	25,5	4,5	30	20	14	44,33	26,06
■	■	5,6	25,5	3,7	30	20	12	47,97	35,38
■	■	6,3	37,0	4,61	30	20	14	51,46	37,06
■	■	7,1	37,0	5,1	30	20	14	50,78	37,78
■	■	8,0	50,0	6,4	30	20	16	44,71	27,47
■	■	10,0	50,0	8,6	30	20	18	42,88	25,52
■		11,2	50,0	7,8	30	20	18	46,76	28,43
■	■	12,5	50,0	8,3	30	20	18	50,06	35,49

The information and illustrations in this product information are non-binding and only represent an approximate description. The properties are not guaranteed. Designs other than those shown here are available on request. Subject to change serving technical progress without notice.



Hole Size	Web width	Rim thickness		Web thickness	eff. open screening area	
w	C ₁	modules	other sieves	in the hole area	other sieves	modules
mm	mm	Rd	Rd	s	αO	AO (300 x 1000)
		mm	mm	mm	%	%
0,4 x 2,3	0,70 / 1,10	20	20	2,2	24,54	11,28
0,6 x 2,3	0,72 / 1,10	20	20	2,2	30,56	14,04
0,7 x 3,3	0,75 / 1,20	20	20	2,5	35,27	15,91
1,0 x 3,3	0,90 / 1,25	20	20	2,5	37,77	17,55
8,0 x 11,0	2,50 / 3,30	20	20	8,0	57,78	35,63



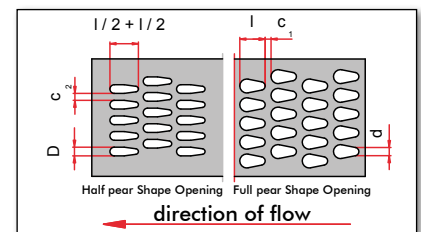
Hole Size w mm	Web width C ₁ mm	Rim thickness		Web thickness in the hole area s mm	eff. open screening area	
		modules Rd mm	other sieves Rd mm		other sieves aO %	modules AO (300 x 1000) %
10,0 x 20,0	5,8 / 8,0	30	30	16	45,28	27,49
12,5 x 50,0	7,5 / 10,0	30	30	19	49,29	35,49
14,0 x 63,0	6,4 / 7,0	30	20	14	63,99	45,82
18,0 x 40,0	14,0 / 15,0	40	40	20 / 12	39,69	30,74
20,0 x 40,0	12,0 / 12,0	40	30	20	47,87	38,24
22,0 x 40,0	9,7 / 10,0	40	40	24 / 12	54,17	41,21
27,0 x 60,0	15,0 / 15,0	40	33	25	55,78	38,80

Hole width D mm	Hole width d mm	Hole length l mm	Rim thickness		Web thickness in the hole area s mm	eff. open screening area	
			modules Rd mm	other sieves Rd mm		other sieves aO %	modules AO (300 x 1000) %
4,0	2,5	16,0	30	20	10	36,45	25,27
4,5	2,5	25,0	30	20	10	37,61	25,86
5,0	3,5	25,0	30	20	10	39,97	27,62
6,0	3,5	40,0	30	20	12	38,42	24,61
6,0	4,0	25,0	30	20	12	37,66	25,02
8,0	5,0	40,0	30	30	18	38,72	26,24
18,0	12,0	68,0	40	40	20	41,82	31,22

Preferred Hole Shape

Pear shaped openings in particular have proved themselves for screening applications in the steel industry besides the usual hole openings and arrangements. In comparison with the full pear shape the half pear shape opening shows essential advantages:

- > bigger open screen area with the same hole length
- > lower pegging risk because of greater conicity of the hole
- > more precise separation of near-mesh grain particles



Hole width D mm	Hole width d mm	Hole length L mm	Web width C ₁ mm	Web width C ₂ mm	Plate thickness s mm
4,0	2,5	24,0	4,0	4,5	4,0
4,5	2,5	40,0	6,0	7,0	5,0
5,0	3,0	24,0	5,0	5,5	5,0
5,0	3,5	25,0	5,0	6,5	6,0
5,5	3,5	24,0	5,0	6,0	6,0
6,0	3,0	26,0	6,0	7,0	6,0
6,0	3,5	40,0	4,0	5,0	6,0
8,5	5,0	40,0	10,0	10,0	8,0
9,0	5,0	46,0	10,0	9,0	8,0
11,0	7,0	68,0	12,0	11,0	10,0
13,0	8,0	68,0	12,0	13,0	8,0
15,0	8,0	68,0	12,0	12,0	12,0
18,0	12,0	68,0	12,0	12,0	12,0
30,0	25,0	82,0	14,0	22,0	12,0
50,0	30,0	91,0	25,0	15,0	10,0



Screen Panels

Screen panels made of steel and polyurethane, system screen segments, wire cloth, perforated plates



Slotted Screen Panels

Slotted screen panels made of wear resistant, alloyed, corrosion resistant steel grades, with and without reinforcement, in welded and looped execution.



Wire Conveyor Belts

Wire conveyor belts, woven and braided, belt tracking device



Filter Media

Filter cloth, hoses, bags made of textile fibres, form filters and filter fabrics made of metals and synthetics, high precision filter tubes

