

Time for Progress...

Fine wire mesh

and fine mesh products

SLOTTED WEDGE WIRE SCREENS
PRESSURE WELDED SCREEN - PROGRESS TYTAN
WOVEN WIRE MESH
FLAT TOP WIRE SCREEN
HARP WIRE SCREENS
PIANO WIRE SCREENS
FINGER SCREEN
PERFORATED SCREEN
RUBBER SCREENS TENSIONED
RUBBER SCREENS MODULAR - ECOGUM



Producer of industrial screens

www.progress-screens.com

Woven mesh and products



Consultancy Production Assembly Service

Progress offer

We are a leading manufacturer of screens and technical nets, filter segments and technologically advanced products based on them. Our leading position is the result of 20 years of experience in screens design, production and sales, combined with commitment and knowledge of all the employees creating Progress brand. We create and deliver complex solutions for various industrial processes such as screening, classification, dehydration, separation and filtration.

We concentrate our energy and work on constant development of both our organisation and particular employees as well as all our products and solutions. In that way we directly influence the development of technologies and at the same time the development of particular businesses. Through increased effectiveness of the classification, separation and filtration processes we contribute to more effective use of our limited resources.

We offer the highest and constant quality of our products confirmed by Quality Management System certified in 1996 in accordance with ISO 9001:2000 norm and approved by Lloyd's Quality Assurance. We have an established position and are proud of growing recognition and trust of our customers on domestic and international markets.



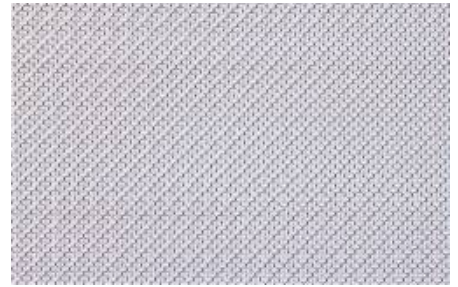
WOVEN MESH

Description

This mesh belongs to the group of screens of simple and diagonal weave. This weave is characterised by big clearance and durability and they are easy to clean. The particular mesh can be square or rectangular.

Simple weave – also called plain weave – is the most popular kind of weave. Its main advantage is simplicity and high precision. Every strand wire goes above and under the warp wire. It guarantees obtaining very precise mesh size and very effective material segregation in comparison to other kind of weave. Its applications vary from filtration to screen printing.

Diagonal weave – strand wire goes under one warp wire and then over two warp wires. This method of weaving creates a characteristic diagonal pattern. This kind of weave enables to produce mesh with larger diameter of wire with the same mesh size, in comparison to simple weave.



Application

Mesh can be used for sieving large particle materials as well as liquid, gas and air filtration.

Material

Carbon, stainless steel, acid resistant steel, heat-resisting steel, non-ferrous metals, kanthal; standard AISI 304 (0H18N9, 1.4301), AISI 321 (1H18N9T, 1.4541), AISI 316 (0H17N12M2T, 1.4401)

Mesh

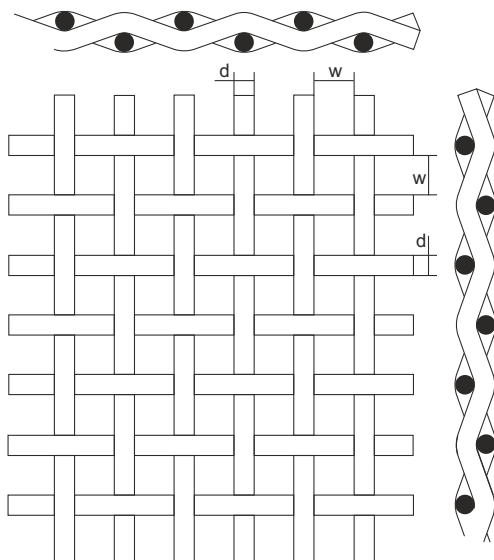
Mesh size from 0,020 mm – square and rectangular

Dimensions

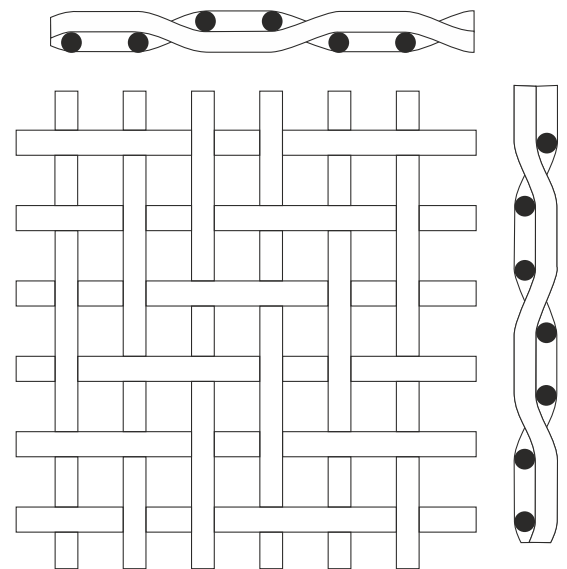
Width up to 4000 mm
Standard roll width: 1000, 1220, 1300, 1500, 2000 mm
D length: optional, upon request
Standard roll length: 25 m

The final product can be mesh panels or rolls and forged mesh to be fixed in sifters or other machines.

Picture 1. Simple weave



Picture 2. Diagonal weave



Basic mathematical formulas for calculating parameters

Scale $T = W + D$ Clearance $A = \frac{W^2}{(W+D)^2} \times 100$ Weight $M = \frac{12,7 \times D^2}{W+D}$

Mesh number – the number of apertures per inch [25,4 mm] $\text{mesh} = \frac{25,4}{D+W}$

The number of mesh for 1 cm $L_{\text{cm}} = \frac{10}{D+W}$ and for 1 cm² $L_{\text{cm}^2} = \left(\frac{10}{D+W}\right)^2$

Denotation and nomenclature:

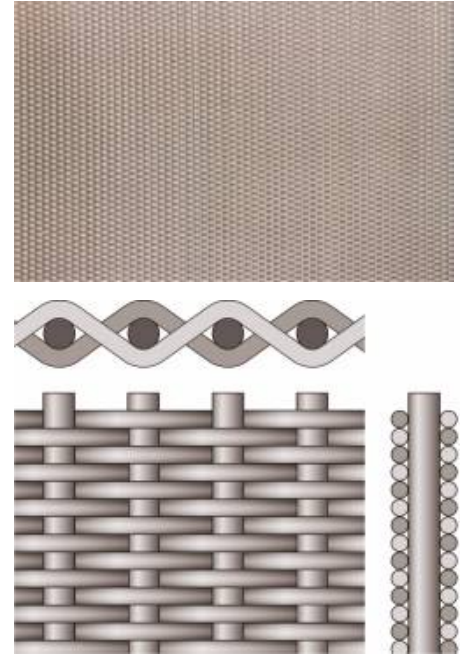
Warp – wires that run lengthwise in a mesh
Strand – wires that run widthwise in a mesh
W – mesh (distance between wires)
D – wire diameter
T – scale – $T = D + W$ [mm]
A – clearance (open surface) the total mesh surface in %

Table 1. Woven mesh – technical parameters

Mesh [mm]	Wire diameter [mm]	Wire number per cm	Mesh number per cm	Mesh mesh number per 25,4 mm of strand of warp			Weave	Clearance [%]	Weight [kg]
2	0,58	3,91	15,29	9,9	x	9,9	simple	61	1,66
1,6	0,5	4,76	22,66	12,1	x	12,1	simple	58	1,51
1,6	0,4	5	25	13	x	13	simple	59	1,02
1,5	0,5	5	25	13	x	13	simple	49	1,59
1,4	0,5	5,26	27,67	13,7	x	13,7	simple	57,3	1,67
1,25	0,32	6,37	40,58	16,2	x	16,2	simple	63,4	0,83
1,2	0,5	5,88	34,57	14,9	x	14,9	simple	49,83	1,87
1,2	0,4	6,25	39,06	15,9	x	15,9	simple	56,25	1,27
1,2	0,22	7,04	49,56	17,9	x	17,9	simple	71,41	0,43
1	0,5	6,67	44,49	16,9	x	16,9	simple	44,44	2,12
1	0,4	7,14	50,98	18,1	x	18,1	simple	51,02	1,45
1	0,3	7,69	59,14	19,5	x	19,5	simple	59,17	0,88
0,9	0,5	7,14	50,98	18,1	x	18,1	simple	41,33	2,27
0,9	0,3	8,33	69,39	21,2	x	21,2	simple	56,25	0,95
0,8	0,47	7,87	61,94	20	x	20	simple	39,69	2,21
0,8	0,4	8,33	69,39	21,2	x	21,2	simple	44,44	1,69
0,8	0,3	9,09	82,63	23,1	x	23,1	simple	52,89	1,04
0,75	0,5	8	64	20,3	x	20,3	simple	36	2,54
0,75	0,3	9,52	90,63	24,2	x	24,2	simple	51,02	1,09
0,71	0,45	8,62	74,30	21,9	x	21,9	simple	37,46	2,22
0,71	0,3	9,9	98,01	25,1	x	25,1	simple	49,42	1,13
0,63	0,4	9,71	94,28	24,7	x	24,7	simple	37,41	1,97
0,6	0,25	17,76	138,3	29,9	x	29,9	simple	49,83	0,93
0,56	0,28	11,9	141,61	30,2	x	30,2	simple	44,4	1,19
0,5	0,3	12,5	156,25	31,8	x	31,8	simple	39,06	1,43
0,5	0,2	14,29	204,20	36,3	x	36,3	simple	51,02	0,73
0,45	0,34	12,66	160,28	32,2	x	32,2	simple	32,45	1,86
0,45	0,2	15,38	236,54	39,1	x	39,1	simple	47,93	0,78
0,4	0,23	15,87	251,86	40,3	x	40,3	simple	40,31	1,07
0,35	0,2	18,18	330,51	46,2	x	46,2	simple	40,5	0,92
0,315	0,2	19,42	377,14	49,3	x	49,3	simple	37,4	0,99
0,3	0,2	20	400	50,8	x	50,8	simple	36	1,02
0,25	0,16	24,39	594,87	62	x	62	simple	37,17	0,79
0,2	0,16	27,78	771,73	70,6	x	70,6	simple	30,66	0,9
0,2	0,14	29,41	864,95	74,7	x	74,7	simple	34,6	0,73
0,2	0,125	30,77	946,79	78,2	x	78	simple	37,87	0,61
0,2	0,09	34,48	1188,87	87,6	x	87,6	simple	47,6	0,35
0,2	0,08	35,71	1275,2	90,7	x	90,7	simple	51,02	0,29
0,18	0,14	31,25	976,56	79,4	x	79,4	simple	31,64	0,78
0,17	0,12	34,48	1188,87	87,6	x	87,6	simple	34,36	0,63
0,16	0,1	38,46	1479,17	97,7	x	97,7	simple	37,87	0,49
0,15	0,1	40	1600	101,6	x	101,6	simple	36	0,51
0,142	0,112	39,37	1550	100	x	100	simple	31,25	0,63
0,13	0,1	43,48	190,51	110,4	x	110,4	simple	31,95	0,55
0,125	0,09	46,51	2163,18	118,1	x	118,1	simple	33,8	0,48
0,104	0,065	59,17	3501,09	150,3	x	150,3	simple	37,87	0,32
0,104	0,05	64,94	4217,20	164,9	x	164,9	simple	45,61	0,21
0,1	0,8	55,56	3086,91	141,1	x	141,1	simple	30,86	0,45
0,1	0,65	60,61	3673,57	153,9	x	153,9	simple	36,73	0,33
0,1	0,05	66,67	4444,89	169,3	x	169,3	simple	44,44	0,21
0,09	0,05	71,43	5102,24	181,4	x	181,4	simple	41,33	0,23
0,08	0,05	76,92	5916,69	195,4	x	195,4	simple	37,87	0,24
0,083	0,06	69,93	4890,2	177,6	x	177,6	simple	33,69	0,32
0,075	0,05	80	6400	203,2	x	203,2	simple	36	0,25
0,063	0,04	97,9	9426,47	246,6	x	246,6	simple	37,41	0,2
0,05	0,04	111,11	12345,43	282,2	x	282,2	simple	30,86	0,23
0,049	0,036	117,65	13841,52	298,8	x	298,8	simple	33,23	0,19
0,043	0,035	128,21	16437,8	325,6	x	325,6	simple	30,39	0,2
0,036	0,028	156,25	24414,06	396,9	x	396,9	simple	31,64	0,16
0,031	0,025	178,57	31887,24	453,6	x	453,6	simple	30,64	0,14

SPW (TRESA) TYPE WOVEN MESHLESS

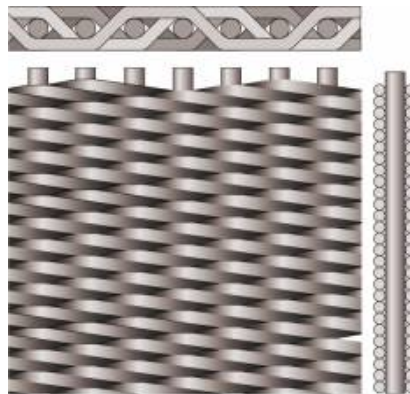
Description	These mesh belong to the group of meshless of Dutch weave. In this kind of weave, strand wires (or warp wires, depending on the mesh type) are close to each other. The filtering surface is created by free space which is the result of weaving warp wires by strand wires (or vice versa). The proper retention results from changing the distance and diameter of strand and warp wires.
Application	The mesh is used for filtration (e.g. plastic, water, air), dehydration, drying and liquid and gas purification.
Material	Carbon, stainless steel, acid resistant steel, non-ferrous metals; standard AISI 304 (0H18N9, 1.4301), AISI 321 (1H18N9T, 1.4541), AISI 316 (0H17N12M2T, 1.4401).
Mesh	Retention range from 0,002 mm
Dimensions	Standard width: 1000, 1220 mm D length: optional, upon request, standard roll 25m. The final product can be mesh panels or rolls.



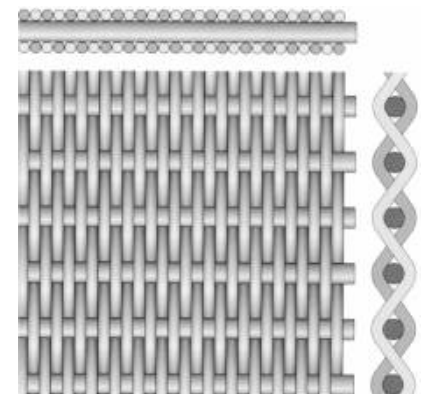
WE ALSO OFFER OTHER MESHLESS PRODUCTS WITH OTHER KINDS OF WEAVE



HF Type



DTW Type



RDW Type

Table 2. Meshless - technical parameters

Nominal wire number per 25,4 mm of stand of wrap		Wire diameter of stand [mm]	Wire diameter of warp [mm]	Retention		Weight [kg]	Flow intensity	
				Absolute [µm]	Nominal [µm]		Water [l/cm ² h* 200 mbar]	Air [Nm ³ /h*20cm /2 mbar]
80	400	0,13	0,07	40-45	40	0,82	570	12,8
80	300	0,13	0,09	45-50	45	0,92	670	13,9
50	280	0,14	0,10	50-55	50	0,95	585	16,1
50	250	0,14	0,11	52-57	55	1,03	600	17
40	200	0,18	0,14	70-80	70	1,30	510	16,5
30	150	0,22	0,18	90-105	90	1,51	570	20,5
24	110	0,32	0,24	110-125	105	2,22	555	20,1
24	110	0,36	0,25	115-128	110	2,50	500	18
20	150	0,25	0,18	155-165	120	1,53	665	23,5
16	120	0,36	0,24	180-198	150	2,25	700	26,3
14	110	0,38	0,25	220-238	200	2,22	670	24
12	95	0,50	0,30	220-240	220	2,89	740	26,8
12	64	0,60	0,42	260-280	250	3,90	690	26,1
10	88	0,50	0,33	270-295	265	3,02	740	28,5
10	70	0,60	0,40	300-320	300	3,70	690	28,5
10	56	0,71	0,50	300-320	305	4,76	680	28,1
8	85	0,36	0,33	300-320	310	2,57	750	29

WOVEN MESH PRODUCTS

Filter cartridges

used for filtration of solid substances and liquids



Woven mesh disks

used for filtration of plastics, varnishes and paints



Filter cartridges

used in food industry for e.g. filtration of juice



Mesh for wheeled sifters

used for sieving fine fractions e.g. sands, clay, silts or e.g. herbs etc.



Woven mesh in steel frame

used for sieving or drying fine fractions e.g. sands and as a securing element in e.g. ventilators.



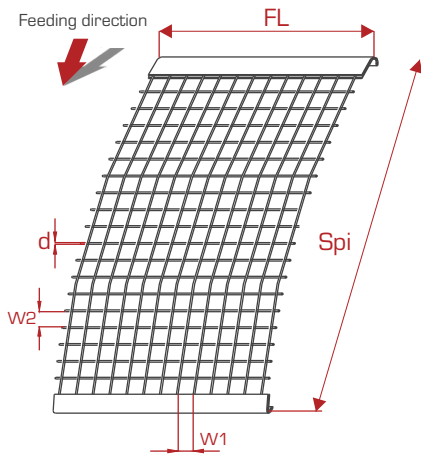
Pressure filter cartridges

used as working elements in filters and pressure devices



SIFTER - MESH FIXING METHODS

Lengthwise tensioned mesh

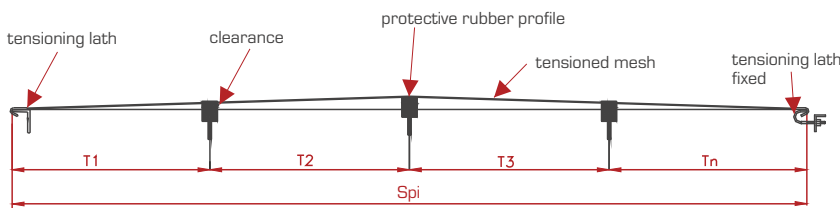


S_{pi} - mesh length within fitting
 FL - mesh width (fitting width)
 w - mesh size
 d - wire diameter

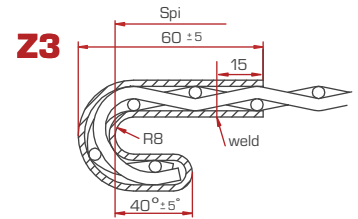
Lengthwise tensioned mesh with fitting



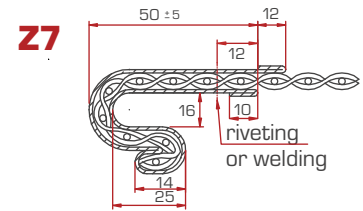
Lengthwise tensioned mesh with fitting



Lengthwise tensioned mesh - catches

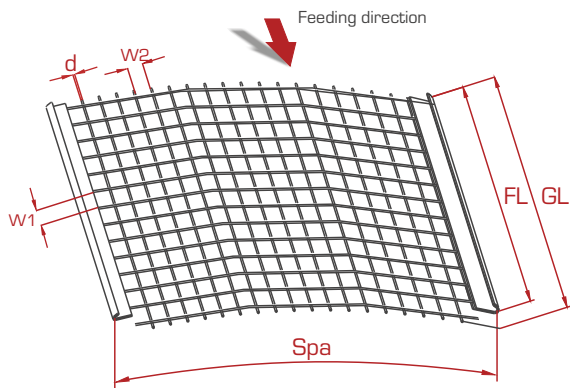


Fitting type Z3 used for mesh of wire diameter above 0,8mm

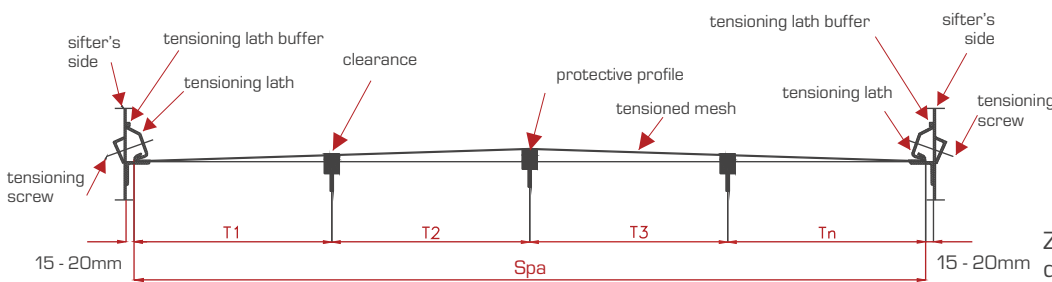


Z7 fittings used for mesh of wire diameter below 0,8mm

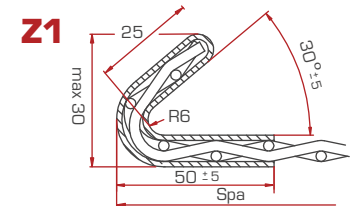
Widthwise tensioned mesh



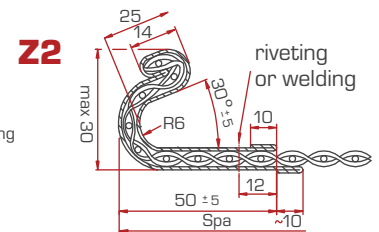
S_{pa} - mesh length outside fitting
 FL - mesh width (fitting width)
 GL - mesh width with overlap
 w - mesh size
 d - wire diameter



Widthwise tensioned mesh - catches

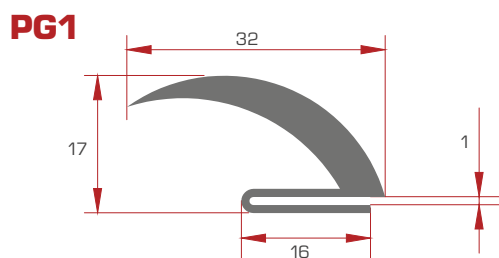


Fitting type Z1 used for mesh of wire diameter above 0,8mm

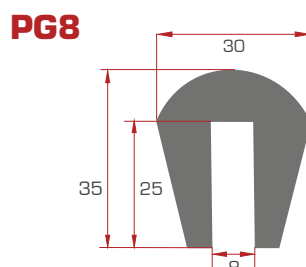


Z2 fittings used for mesh of wire diameter below 0,8mm

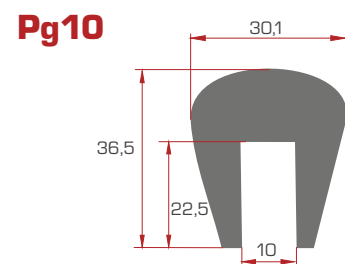
Protective and sealing rubber profiles



Sealing profile type PG1



Protective profile PG8 for 8mm flat bar



Protective profile PG10 for 10mm flat bar

COMPLETE PRODUCTION PROGRAMME OF TECHNICAL SCREENS



Wedge wire screens

- ↘ Slot: from 0,05 mm (50 micrometer)
- ↘ Max. size: 3500 x 4000 mm
- ↘ Material: stainless steel, carbon steel
- ↘ Wire: standard wire Sb type, special wire Sbb type



Wedge wire tubes

- ↘ Slot: from 0,02 mm (20 micrometer)
- ↘ Max. length: 6000 mm
- ↘ Material: stainless steel, carbon steel
- ↘ Internal and external flow



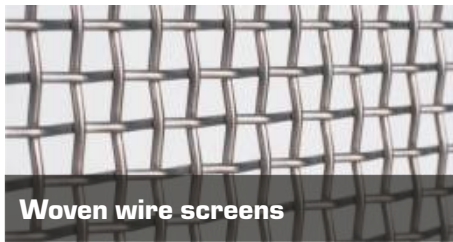
Tytan pressure welded screens

- ↘ Aperture: from 7,0
- ↘ Ø wire: 4,0 - 22,0 mm (simple, pressed, profiled HT i GZ)
- ↘ Width max. 1500 mm;
- ↘ Length - according to requirements
- ↘ Material: manganese steel (patent), stainless steel



Fine wire mesh

- ↘ Mesh: from 0,02 mm
- ↘ Type: simple weave (plain) and oblique wave screens
- ↘ Maximum width: 4000 mm
- ↘ Maximum length: any



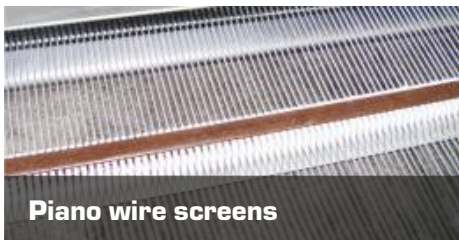
Woven wire screens

- ↘ Mesh: from 1,0 mm
- ↘ Ø wire: 0,8 - 6,3 mm
- ↘ Material: carbon/spring/stainless steel, aluminium
- ↘ Available finishes: galvanized steel, Pro-ZINAL (ZnAl), varnished steel
- ↘ Maximum width: 4000 mm



Flat top wire screen

- ↘ Mesh: from 10,0 mm
- ↘ Ø wire: 2,5 - 12,0 mm
- ↘ Material: spring steel, stainless steel, carbon steel, aluminium
- ↘ Available finishes: galvanized steel, Pro-ZINAL (ZnAl) varnished steel



Piano wire screens

- ↘ Slot: 1,2 - 55,0 mm
- ↘ Ø wire: 0,8 - 8,0 mm
- ↘ Polyurethane and rubber lacings
- ↘ Max. width: 2000 mm
- ↘ Sheets with catches for longitudinal tension



Polyurethane screen-modular

- ↘ System: Pro-LINE, Pro-CLEAT, Pro-CLIN, Pro-STEP, Pro-DECK
- ↘ Aperture: 0,25 - 160 mm
- ↘ Thickness: 30 - 60 mm
- ↘ Standard: 300 x 1000 mm
- ↘ Polyurethane: 45-95°ShA



Polyurethane screen-tensioned

- ↘ System: Pro-FALC, Pro-MAT
- ↘ Aperture: 1,6 - 160 mm
- ↘ Thickness: 30 - 60 mm
- ↘ Max dimensions: 1900 x 2400 mm
- ↘ Polyurethane: 45-95°ShA

Certificates

Our team consists of experienced engineers and craftsmen with qualifications confirmed by European certification.

We apply a controlling system which is in accordance with procedures and instructions of the holding certificate of **Quality Management System ISO 9001**

The Quality Management System is applicable to: design and manufacturing of welded profile wire screens, perforated screens, wire cloths, harped screens, polyurethane screens and products and devices with their application designed for process industry. Design and manufacture of machines, equipments, tanks and pressure vessels and process pipework. Manufacture of products using water-jet method.



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