



*Time for Progress...*

# **Fine wire mesh** and fine mesh products

SLOTTED WEDGE WIRE SCREEN  
PRESSURE WELDED SCREENS  
FINE WIRE MESH  
WOVEN WIRE SCREENS  
HARP WIRE SCREENS  
PIANO WIRE SCREENS  
FINGER SCREENS  
PERFORATED METAL SHEETS  
RUBBER SCREENS - TENSIONED  
RUBBER SCREENS - MODULAR  
POLYURETHANE SCREENS - MODULAR  
POLYURETHANE SCREENS - TENSIONED



**Sieves and screen decks  
specialized producer**

**[www.progress-screens.com](http://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.



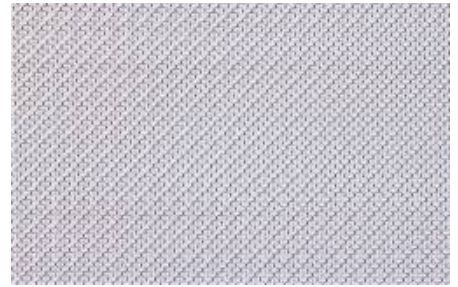
# WOVEN MESH

## 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

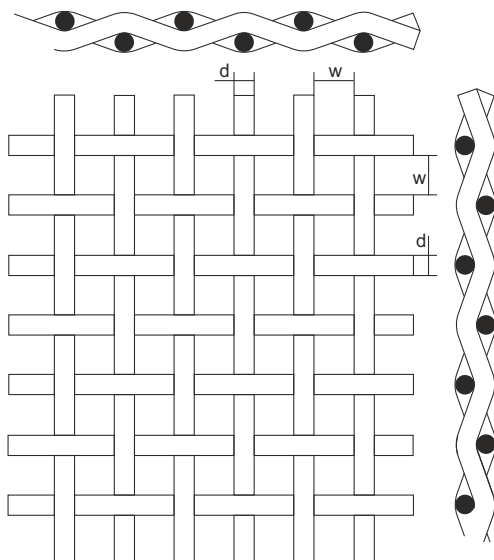
Mesh size from 0,020 mm – square and rectangular

## Dimensions

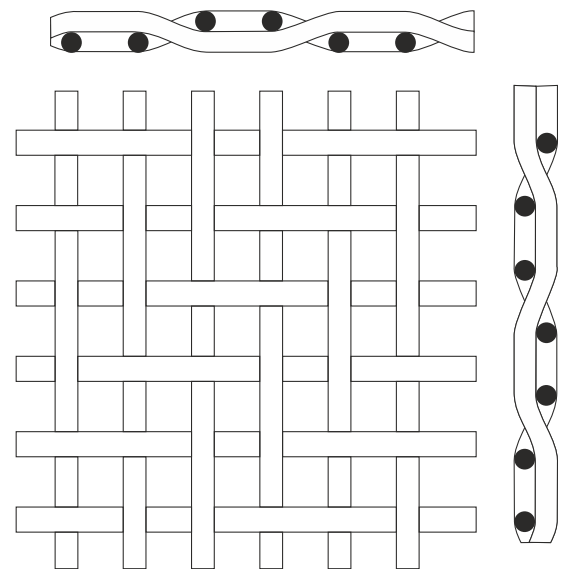
Width up to 4000mm  
Standard roll width: 1000, 1220, 1300, 1500, 2000 mm  
D length: optional, upon request  
Standard roll length: 25 m

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 cm<sup>2</sup>     $L_{\text{cm}^2} = \left(\frac{10}{D+W}\right)^2$

## Denotation and nomenclature:

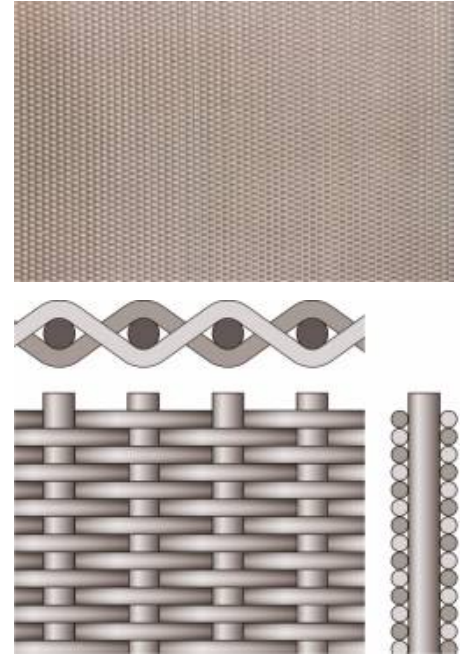
**Warp** - wires that run lengthwise in a mesh  
**Strand** - wires that run widthwise in a mesh  
**W** - mesh (distance between wires)  
**D** - wire diameter  
**T** - scale –  $T = D + W$  [mm]  
**A** - clearance (open surface) the total mesh surface in %

**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

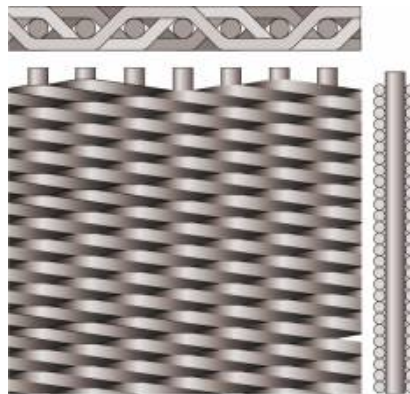
<b>Description</b>	These mesh belong to the group of meshless of Dutch weave. In this kind of weave, strand wires (or warp wires, depending on the mesh type) are close to each other. The filtering surface is created by free space which is the result of weaving warp wires by strand wires (or vice versa). The proper retention results from changing the distance and diameter of strand and warp wires.
<b>Application</b>	The mesh is used for filtration (e.g. plastic, water, air), dehydration, drying and liquid and gas purification.
<b>Material</b>	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).
<b>Mesh</b>	Retention range from 0,002 mm
<b>Dimensions</b>	Standard width: 1000, 1220 mm D length: optional, upon request, standard roll 25m. The final product can be mesh panels or rolls.



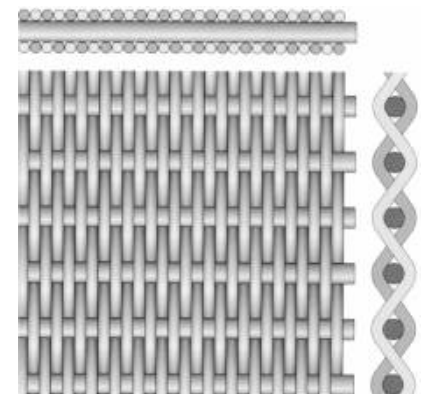
### WE ALSO OFFER OTHER MESHLESS PRODUCTS WITH OTHER KINDS OF WEAVE



**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 <sup>2</sup> h* 200 mbar]	Air [Nm <sup>3</sup> /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.



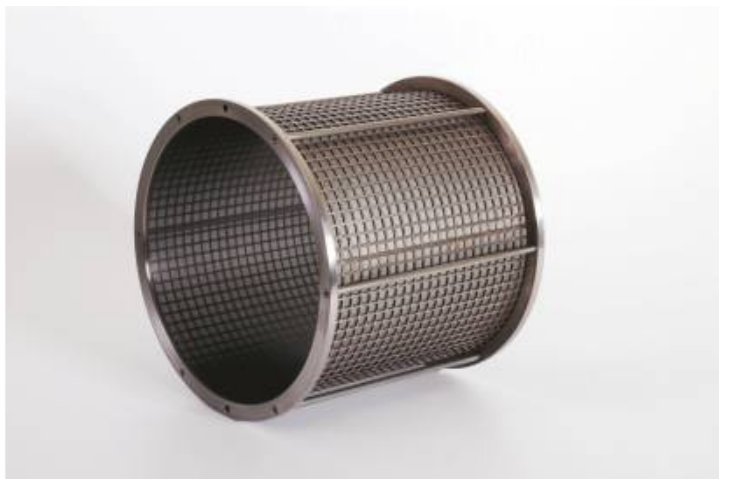
### Woven mesh in steel frame

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



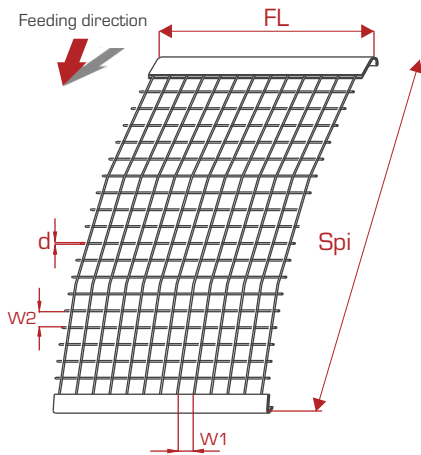
### Pressure filter cartridges

used as working elements in filters and pressure devices



# SIFTER - MESH FIXING METHODS

## Lengthwise tensioned mesh

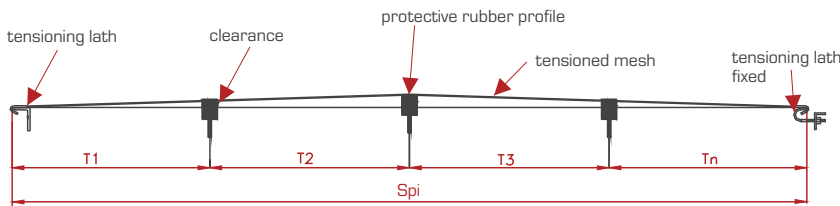


$S_{pi}$  - mesh length within fitting  
 FL - mesh width (fitting width)  
 $w$  - mesh size  
 $d$  - wire diameter

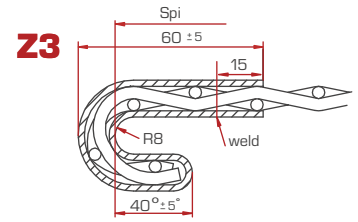
Lengthwise tensioned mesh with fitting



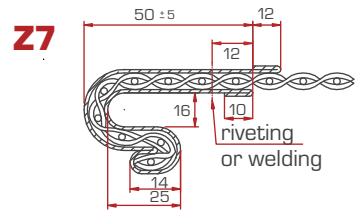
Lengthwise tensioned mesh with fitting



## Lengthwise tensioned mesh - catches

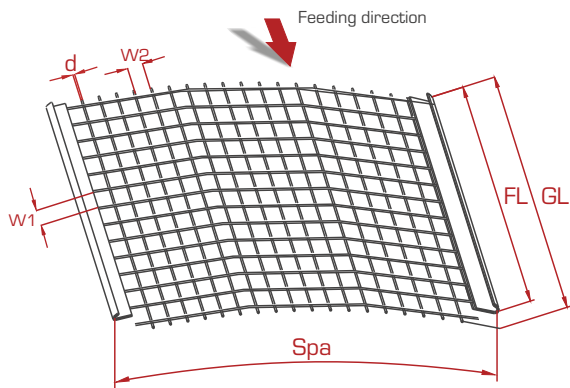


Fitting type Z3 used for mesh of wire diameter above 0,8mm

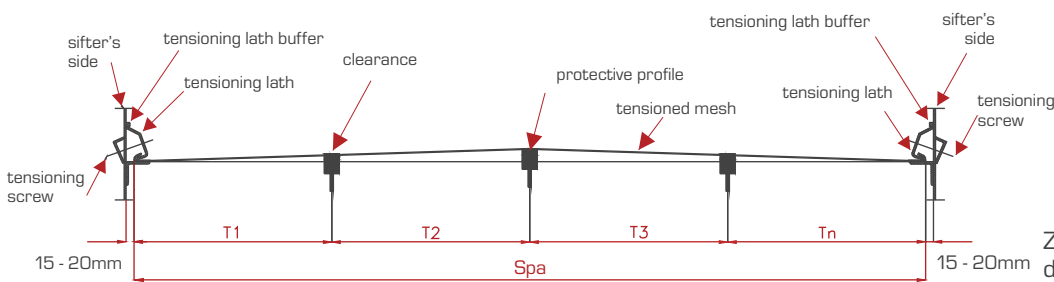


Z7 fittings used for mesh of wire diameter below 0,8mm

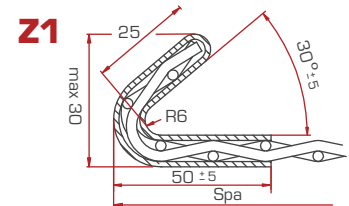
## Widthwise tensioned mesh



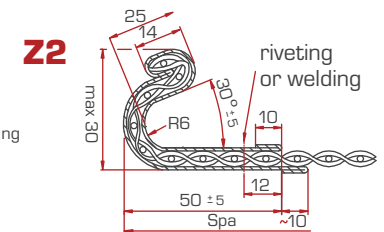
$S_{pa}$  - mesh length outside fitting  
 FL - mesh width (fitting width)  
 GL - mesh width with overlap  
 $w$  - mesh size  
 $d$  - wire diameter



## Widthwise tensioned mesh - catches

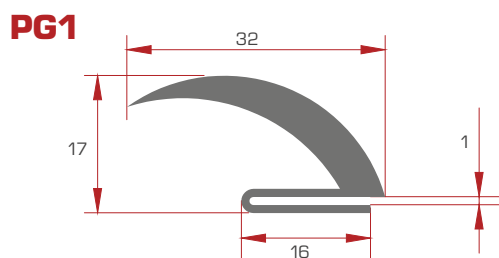


Fitting type Z1 used for mesh of wire diameter above 0,8mm

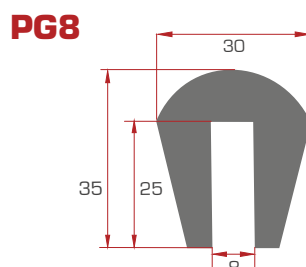


Z2 fittings used for mesh of wire diameter below 0,8mm

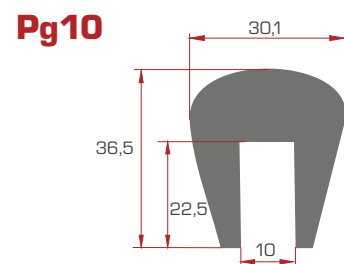
## Protective and sealing rubber profiles



Sealing profile type PG1



Protective profile PG8 for 8mm flat bar



Protective profile PG10 for 10mm flat bar

# COMPLETE PRODUCTION PROGRAMME OF INDUSTRIAL SCREENS



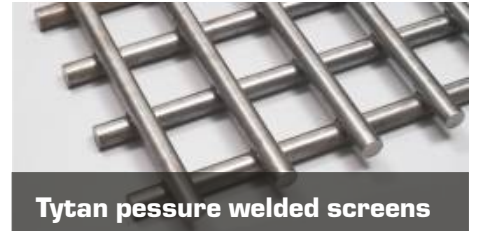
## Wedge wire screens

- 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;
- Length - according to requirements
- Material: manganese steel (patent), stainless steel



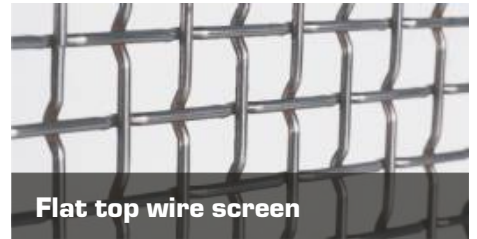
## Fine wire mesh

- Mesh: from 0,2 mm
- Type: simple weave (plain) and oblique wave screens
- Maximum width: 4000 mm
- Maximum length: any



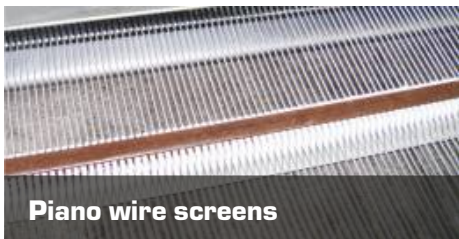
## Woven wire screens

- 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: 2,0 - 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.



### Progress Eco

Dobrow 7  
28-142 Tuczępy, PL  
tel/fax: +48 15 864 62 70  
tel/fax: +48 15 864 62 78  
biuro@progressesco.pl

### Kielce Office

ul. Trzuskawicka 16  
25-801 Kielce, PL  
tel/fax: +48 41 346 50 06  
tel/fax: +48 41 346 50 08  
kielce@progressesco.pl

### Katowice Office

ul. Zbożowa 38  
40-657 Katowice, PL  
tel: +48 32 202 25 44  
fax: +48 32 202 25 44  
katowice@progressesco.pl

...to be in progress.

