



Filtration screens



Filtration aim in plastic processing industry

In our offer you can find square mesh and non-mesh filter screens made of different types of steel. Screens can be single or multi layer (multiple layers improve the homogenization of melted plastic). Molten plastics and their solutions contain additives of different size.

Melted plastics and their solutions contain various impurities of different sizes. These impurities include substances from: catalytic agents, wear of mechanical parts, separated and burnt residue from between the cylinder and the screw, corrosion etc. However, most of the impurities are found in regranulated material and additives, such as: dyes, colorants and fibers. The following are also considered impurities in plastics: partially polymerized plastics, unmelted granulated products and deformable gels.

The above impurities should be eliminated or separated from the melted plastic, since they:

- Decrease the quality of the final product,
- Decrease the imperiousness and quality of the film,
- Decrease the electric strength in cable tubes,
- Decrease the durability of fibers and films and other products,
- Increase the coarseness of surfaces,
- Accelerate material aging,
- Decrease visual properties (color),
- Cause the wear of machine parts as: nozzles, melt pumps etc.

Areas of application

Filtration, screening, classification, drainage, separation, protection

The proper choice of the net is crucial to the production process. Because of that do not forget to clearly specify:

- The selection of the best parameter screen has a decisive impact on production. Therefore, the result should be precisely defined, as well as size impact. You should remember to precisely define the following:
- Range of application,
- Filtration precision,
- chemical and mechanical requirements
- Production process conditions (temperature, pressure, etc.),
- Any further procedures applicable,
- Possible further procedures.

In our store in Gliwice, we have filter and regular screens and like pressure and temperature transducers with the equipment, so we can provide 24-h service!

Technical information

Wired filter screens made of different weaves. According to fibre type, strength as well as to some extent the capacity to accept additives may be changed. In case of many applications it is the cheapest and good enough filter media. When it comes to a simple fibre square mesh, longitudinal parts and deforming gels may move without obstacles.

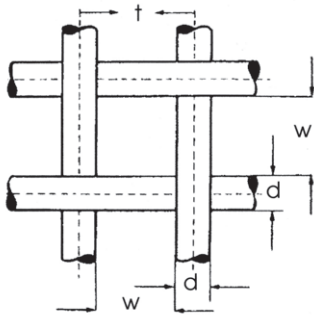
Metal non-woven consists of great amount of thin stainless steel fibres which in order not to be moved and increase stability are permanently attached at the joints through burning. There is a possibility to produce a big hole filter device which is characterized by a high level capacity to receive contaminants. Contaminants do not appear mainly on the surface, but inside, therefore the filtration is called EDM filtration. The non-woven can be easily put into a star shape, so that in case of candle filtration bigger filtration surface may be gained. The curved edge can be troublesome, because in this case, like in case of any other fibres, filtration quality cannot be guaranteed, and even more, fibres are often damaged. Particularly in case of expensive candles, they have been regenerated for economic reasons. Mechanical burden is reduced through burning. In this case, fibres are also often damaged.

Such systems are commonly applied in screen changers, special structures, and candle filters. When it comes to disc filters, flow speed is smaller and little tension may separate soft parts as well as gels.



Bagsik

Screen definition



$$t = w + d$$

w – Mesh size in mm
d – Wire thickness in mm
t – Division length in mm

$$A_0 = \frac{w^2}{(w+d)^2}$$

$$\text{Mesh} = \frac{25,4}{w+d} = \frac{25,4}{t}$$

Screen consists of two crossing systems :
Warp = lengthwise in a mesh
Strand = widthwise in a mesh

Commentary on screen technology:

w = Mesh size: distance from neighbouring wires, along the warp and strand
d = Wire thickness: diameter of the wire with which the screen is woven
t = Division: distance between middles of neighbouring wires: also as calculation

A₀ = Open surface: percentage of open mesh to the screen surface
A₀ = (in round percentage)

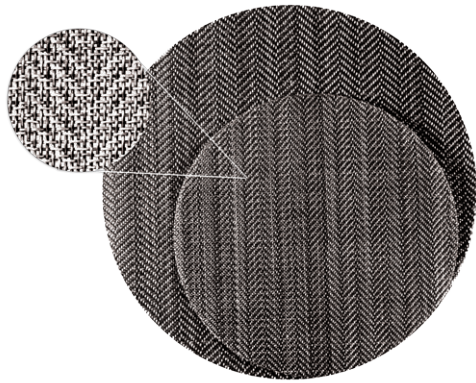
Mesh size linearly: mesh number in a length unit.



The most often used materials

Material symbol	Material no. acc. to DIN	Abbreviated symbol	Strength N/mm ²
Steel	1,0012	Fe	35-50
spring steel	1,0400	C-St	110-220
Copper	2,0065	E-Cu	18-26
Brass	2,0321	CuZn37	290-370
brass-pinchbeck	2,0250	CuZn20	320-400
Bronze	2,1020	CuSn6	340-640
Nickel	2,4066	Ni99,4	430-550
Monel	2,4361	NiCu30Fe	500-600
Aluminium	3,3555	AlMg5	180-250
Stainless, High temperature	1,4301	x5CrNi 18,9	600-1100
	1,4306	x3CrNi 18,9	600-1100
	1,4541	x10CrNiTi 18,9	600-1100
	1,4571	x10CrNiMo 18,10	600-1100
	1,4401	x5CrMo 18,10	650-1100

Square mesh screen - **Spigata type (SPG)**



Symbol	Mesh	Wire diameter mm	Filtration accuracy μm
Spg 30	30	0,42	500
Spg 45	45	0,35	350

Features

- Square mesh
- Mesh made of thicker wires
- Durable construction, due to the applied weave

Due to its properties and strength, it is recommended for all recycling facilities.

We can produce any type of filter according to a given design

Filter screen - **SOMBRERO** type



We offer filters, strainers and screens according to the customer's needs. In order to get a prepared offer, filter sample, drawing and technical documentation must be sent. The following information should be also defined:

- Material quality,
- Type of material, fabric or type of a sheet and its parameters,
- Annual item number or series item number.

In our store, we have meshless screens made of steel and acid-resistant steel which are available as regular and filter rollers. Standard roll width is 1000 mm.

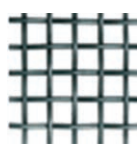


Square mesh screens

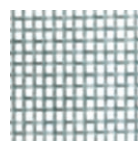
Mesh size mm	Wire diameter Ø mm	Open area %	Mesh per cm ²	Mesh per inch	Weight (steel) kg/m ²
0,025	0,025	25	40,000	500	0,16
0,036	0,028	32	24,430	400	0,16
0,040	0,035	28	17,777	325	0,21
0,050	0,040	31	12,343	280	0,23
0,063	0,040	37	9,428	250	0,20
0,075	0,050	30	6,400	200	0,25
0,090	0,050	41	5,102	180	0,23
0,100	0,063	38	3,758	150	0,31
0,125	0,080	37	2,381	120	0,40
0,140	0,110	31	1,600	100	0,61
0,160	0,100	38	1,482	100	0,40
0,200	0,125	38	949	80	0,61
0,250	0,160	37	595	60	0,79
0,280	0,220	31	400	50	1,23
0,315	0,160	44	445	50	0,69
0,400	0,230	40	252	40	1,04
0,500	0,320	37	149	32	1,59
0,550	0,300	42	139	30	1,55
0,630	0,250	51	130	28	0,91
0,630	0,400	37	94	25	1,97
0,800	0,500	38	59	20	2,44
0,870	0,400	47	62	20	1,55
1,000	0,500	44	45	18	2,12
1,000	0,630	38	37	16	3,10
1,250	0,800	37	24	12	3,96
1,600	0,500	58	23	12	1,51
1,600	1,000	38	14	10	4,90
2,000	1,000	44	14	8,5	4,23
3,000	1,250	50	14	6	4,67

On customer's request, we can provide filter screens of any parameters.

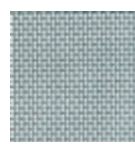
If you are interested in square mesh screens which are characterized by more durable structure and bigger wire diameters, see Spigata type screens.



Mesh: 2
w = 6,300



Mesh: 20
w = 0,800

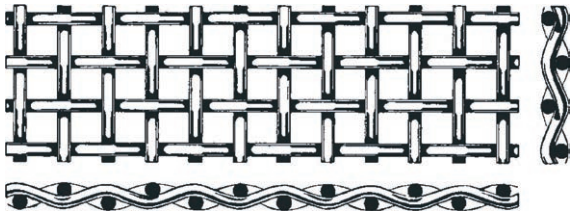


Mesh: 150
w = 0,100



Mesh: 250
w = 0,063

Square mesh screens



Features

- Square meshes
- Warp and weft equally strong
- Easy to clean
- Equal holes
- Good flow strength
- Relatively big open surface (do 81%), resulting small pressure loss during filtration process

Main areas of application

- Suitable to almost all filtration of up to 63 μm

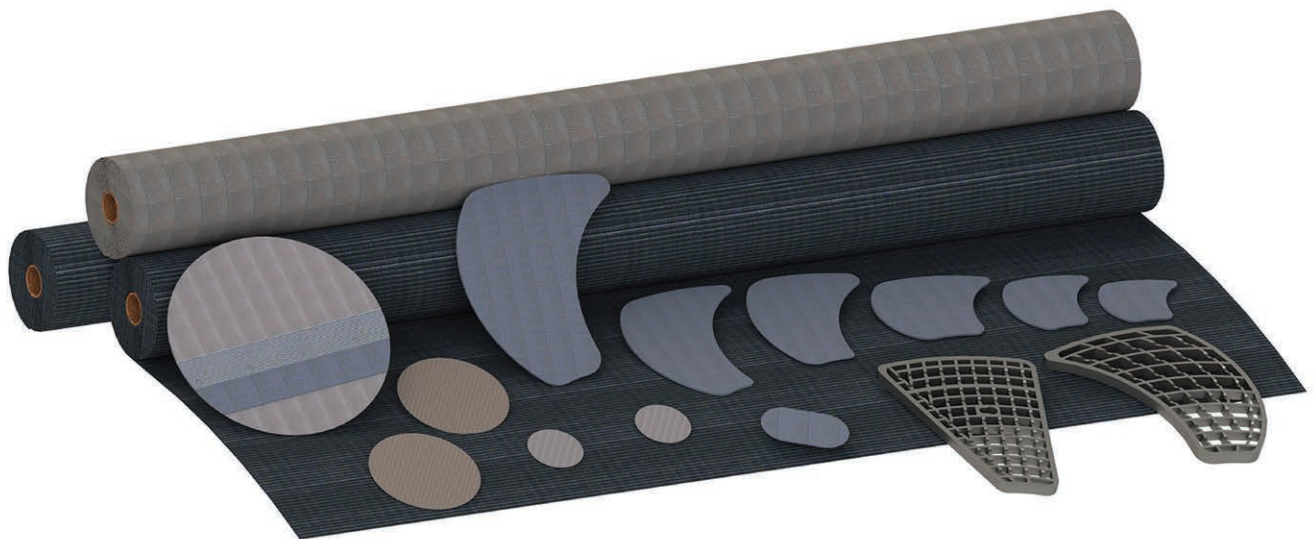
Square mesh filter screens are most commonly used, because of relatively low price and easiness of selection the appropriate mesh.

Total filtration:

It is the diameter of the largest spherical hard particle which may penetrate the filter in an invariable flow.

Nominal filtration:

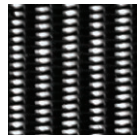
A term adopted to describe the removal of 98% of random particles larger than this size.



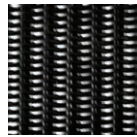
Available as regular or filter rollers.

Meshless screens

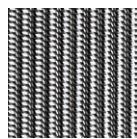
Plain SPW (Tresa)



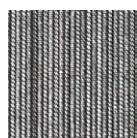
12x64



14x88



24x110



30x150

Symbol	Mesh per inch	Filtration accuracy		Weight kg/m ²	Mesh width in mm
		Nominal μm	Total μm		
SPW 34	80x700	25	32-36	0,98	0,25
SPW 40	80x400	36	36-45	0,82	0,23
SPW 45	2/50x250	30	42-48	1,15	0,31
SPW 63	50x250	40	56-63	1,00	0,32
SPW 71	50x280	45	71-75	1,00	0,32
SPW 75	40x200	56	75-80	1,30	0,40
SPW 100	30x150	63	100-112	1,60	0,50
SPW 125	24x110	80	112-125	2,70	0,67
SPW 160	20x160		160-180	1,55	0,50
SPW 180	20x150		170-190	1,60	0,55
SPW 260	14x88		250-280	3,15	0,76
SPW 300	12x64		280-300	4,10	1,21

To describe meshless screens, we give the number of warp and weft wires per inch or retention, that is the capacity what the filter fabric has to retain solid parts of a set size.

Panzer Weave PW

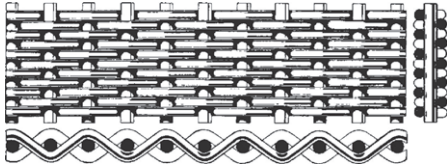
Symbol	Mesh per inch	Filtration accuracy		Water flow l/min	Mesh width in mm
		Nominal μm	Total μm		
PW 10	912x154	10	12-14	6,50	0,15
PW 17	630x130	17	22-25	6,00	0,21
PW 40	290x75	40	50-55	6,20	0,35
PW 55	171x51	55	64-72	7,10	0,57
PW 60	175x50	60	82-94	8,10	0,57
PW 80	130x35	80	98-106	7,10	0,77
PW 100	130x30	100	122-130	9,30	0,83
PW 150	110x20	150	200-215	9,10	1,03
PW 200	63x18	200	210-215	12,00	1,34

Diagonal DTW (Tresa)

Symbol	Mesh per inch	Filtration accuracy		Water flow l/min	Mesh width in mm
		Nominal μm	Total μm		
DTW 4	400x2800	1	5-6	2,00	0,07
DTW 6	375x2300	1	6-7	1,80	0,08
DTW 8	325x2300	2	8-9	2,50	0,09
DTW 12	200x1400	5	11-13	3,20	0,14
DTW 16	200x1420	9	15-17	9,60	0,16
DTW 18	165x1400	10	15-18	4,80	0,15
DTW 20	165x1100	12	20-21	8,80	0,16

On the customer's request, we can deliver filter screens of any parameters.

Plain SPW (Tresa)



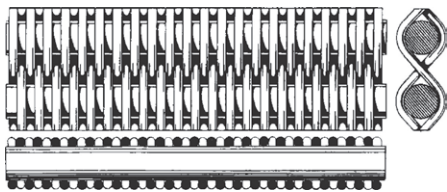
Features

- Non-mesh weave
- Weft wires thicker than warp wires,
- Warp wires situated as close to each other as possible,
- High precision,
- Insignificant pressure losses during filtration,
- More stable than square and rectangular mesh net,
- Relatively large filtrating surface.

Main areas of application

- Designed for almost all filtration purposes

Panzer Weave PW



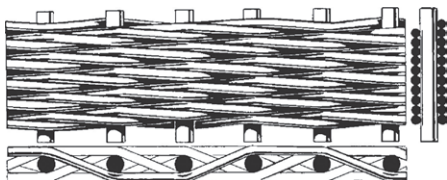
Features

- Non-mesh weave,
- Weft wires thicker than warp wires,
- Desired net stability,
- High tensile strength and high mechanical resistance to,
- Stress in the direction of weft and warp,
- Uniform filtration accuracy,
- Particularly high flow power,
- Easy to clean,
- High efficiency of pollutants trapping.

Main areas of application

- Settling traps and well filters,
- Pressure filters and filter candles.

Diagonal DTW (Tresa)



Features

- Non-mesh weave,
- Very dense weave,
- Greater ability of reverse flush through Dense position of wires,
- Very low absolute filtration fineness (5-6 μm)
- Equally plain on both sides
- Better filtration results with little viscous media

Main areas of application

- Fine filtration: in hydraulic kits in critical areas, e.g. in cosmonautics and fuel filters, as well as filters of combustion chambers,
- Coarse mesh: settling tanks and well filters.



Poland
Toruńska 8
PL 44-100 Gliwice
email:office@bagsik.net
Phone: +48 32 3340000
Mob: +48 602 691 421



Germany
Obere Heide 5
D-97532 Üchtelhausen
email:office@bagsik.net
Phone: +49 9720 9527747
kom: +49 1777 358795



Russia
RU-420095 Kazan
Vosstanija str. 104
email:gulnaz.iamilova@mail.ru
Phone: +7 987 064 66 36
kom: +7 906 32 77 115



Ukraine
UA-07300 Wyshgorod,
Kievskaja oblast
email:office@bagsik.net
Phone: +380 67 2336083
kom: +380 67 2336083

www.bagsik.net