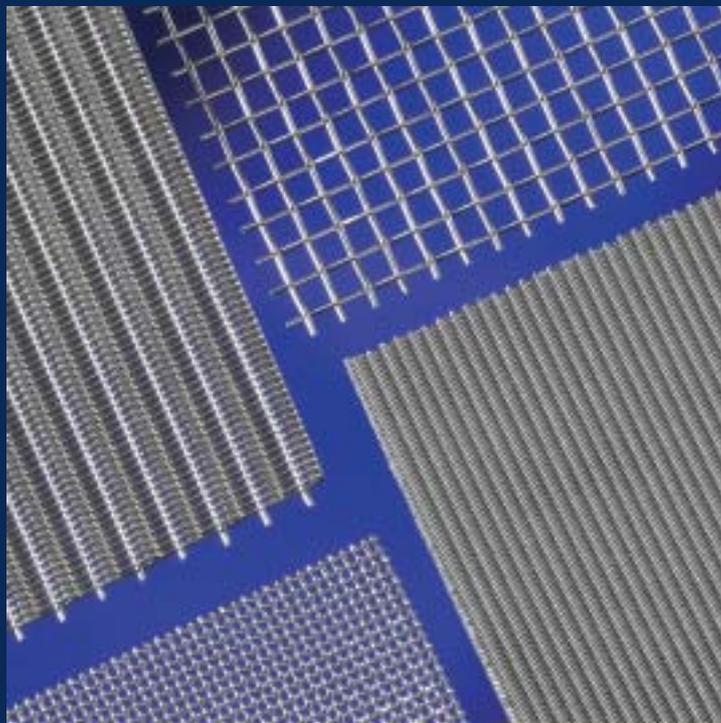

H A V E R & B O E C K E R



Information



Woven Wire Cloth

Terminology, Types of Weave
and Apertures

Wire Cloth Terminology according to ISO 9044

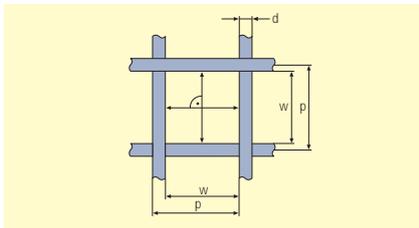
Aperture width w is the distance between two adjacent warp or weft wires, measured in the projected plane at the mid-positions.

Wire diameter d is the diameter of the wire in the woven cloth. (The wire diameter may be altered slightly during the weaving process.)

Pitch p is the distance between the middle point of two adjacent wires or the sum of the aperture width w and the wire diameter d .

Warp: All wires running lengthwise of the cloth as woven.

Weft: All wires running across the cloth as woven.



The number of apertures per unit length n is the number of apertures which are counted in a row one behind the other for a given unit length. The unit length may be 1 cm, 1 dm, Inch or any other unit of length. (The number of apertures with a length of 24.5 mm is designated as “Mesh”.)

Mesh = number of apertures per English inch = 25.4 : p

n/cm = number of apertures per cm = 10 : p

n/cm^2 = number of apertures per cm^2 = (10 : p)²

Open screening area, A_o : The percentage of the area of all the apertures in the total screening surface or the ratio of square of the nominal aperture width w and the square of the nominal pitch p ($= w + d$), rounded to a full percentage value:

$$A_o = 100 \cdot (w : p)^2$$

Type of weave is the way in which the warp and weft wires cross each other.

Weight G of the steel wire cloth screen section in kg per m^2

$$G = (12.7 \cdot d^2) : p$$

$$G = \frac{\text{Mesh} \cdot d^2}{2}$$

The actual value can be up to 3 % lower.

The wire diameter can be calculated using the following equation:

$$d = \sqrt{\frac{G \cdot p}{12.7}} \quad d = \sqrt{\frac{2 \cdot G}{\text{Mesh}}}$$

Material: It is up to the user to specify the choice of material with respect to:

- the final application of the wire cloth (e.g. resistance to environmental corrosion, suitability for food products etc.)
- the further processing (e.g. suitability for shaping, welding and surface treatment).

Materials should be designated in accordance with appropriate standards, or if none exists, according to commercial specifications.

DELIVERY

Roll lengths: A standard roll is 25 or 30.5 m long, and half rolls are 12.5 m or 15 m long. The length of rolls may be + or - 10 %. The delivered length is the one invoiced.

Partial lengths: A wire cloth roll may consist of a maximum of three roll pieces. The minimum length of a roll piece is 2.5 m.

Cloth width: For rolls and roll pieces, the width of the cloth shall not be less than the nominal width, but may be up to 2 % in excess.

Strips and cut-to-size-pieces: For strips, the width shall be specified. With orders of quantities of less than a standard roll, the length of individual strips may be reduced accordingly. For cut-to-size pieces, the sides, lengths, angles and radii shall be specified.

LABELLING

Woven wire cloth shall be labelled with the following informations:

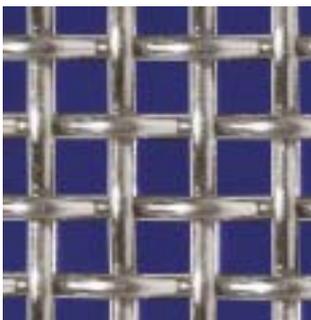
- The name and the trade-mark of the manufacturer
- the material of the wire
- the nominal aperture width w
- the nominal wire diameter d
- the type of weave, if not plain
- the length and width of the roll or strip, or the size and number of pieces
- the weight (mass), if required.

If the cloth roll consists of several roll pieces, the length of each piece shall be indicated.

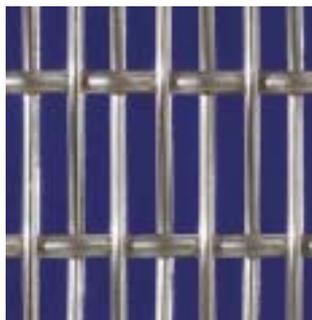
Woven wire cloth in strips or pieces shall be so labelled on the outer packing.

The length and weight of each rolled strip (coil) shall be specified subject to agreement.

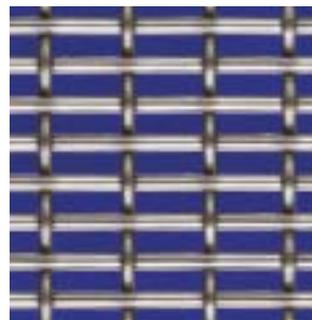
Types of Apertures



Square Aperture



Rectangular "Oblong"



Rectangular "Broad"



Zero Aperture "Filter Cloth"

Testing of Woven Wire Cloth according to ISO 9044

Determination of the wire diameter

The wire diameter after weaving may be determined by using one of the following procedures:

- 1.) by measuring wires which have been loosened from the woven wire cloth (e.g. by using a micrometer screw),
- 2.) by measuring the wires in the cloth, if there is sufficient space for the measuring instrument.

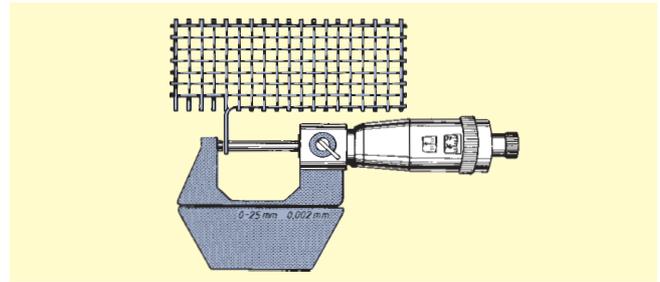
The tolerance of the wire before weaving can no longer be determined in the woven wire cloth, because of its heavy deformation during weaving. The nominal wire diameter, however, can be calculated using the empirical weight formula.

Aperture width (Measuring row method)

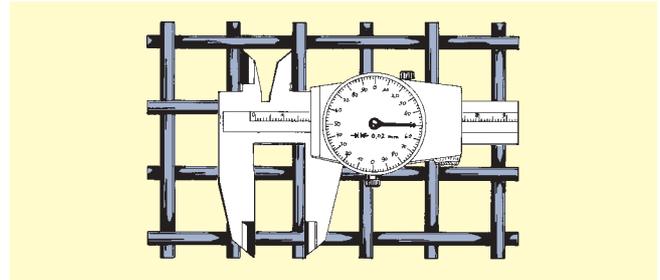
In this simplified method, the number of pitches (p) in a given length (L) is determined. The given length is then divided by the number of pitches to give the average pitch. Subtraction of the wire diameter (d) from the average pitch then gives the aperture width (w).

To determine the arithmetical mean value of the aperture widths, as many pitches have to be measured as are necessary to obtain a representative value.

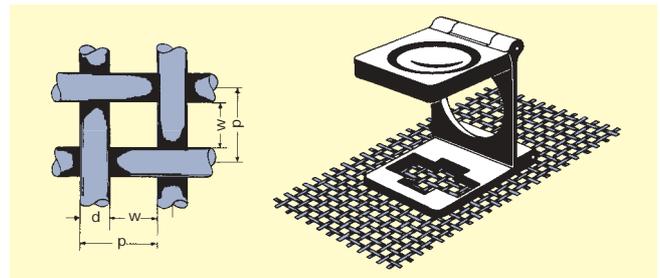
When measuring aperture widths between 16 and 1 mm 10 pitches have to be checked; smaller aperture widths – up to 0.1 mm – should be checked within 20 pitches.



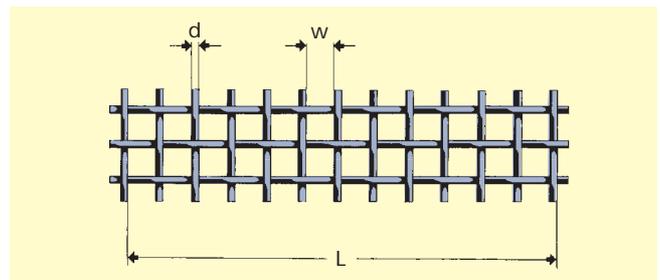
Micrometer screw to determine the wire diameter



Calliper (vernier) for measuring aperture widths of more than 4 mm; it may be used for aperture widths of more than 10 mm, too.



Counting glass for measuring aperture widths less than 1 mm in a measuring row with determined length

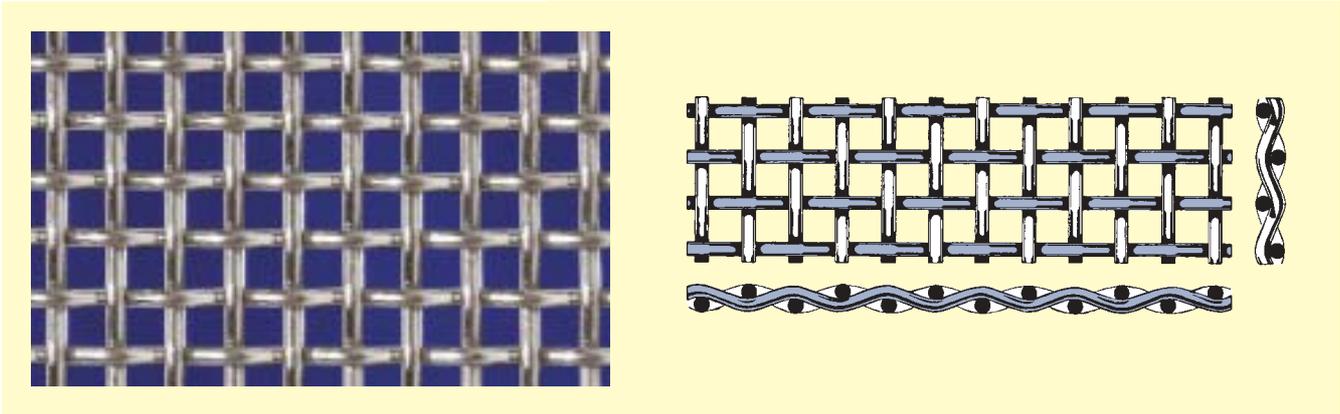


Measuring row with determined length for aperture widths of 1 up to 16 mm

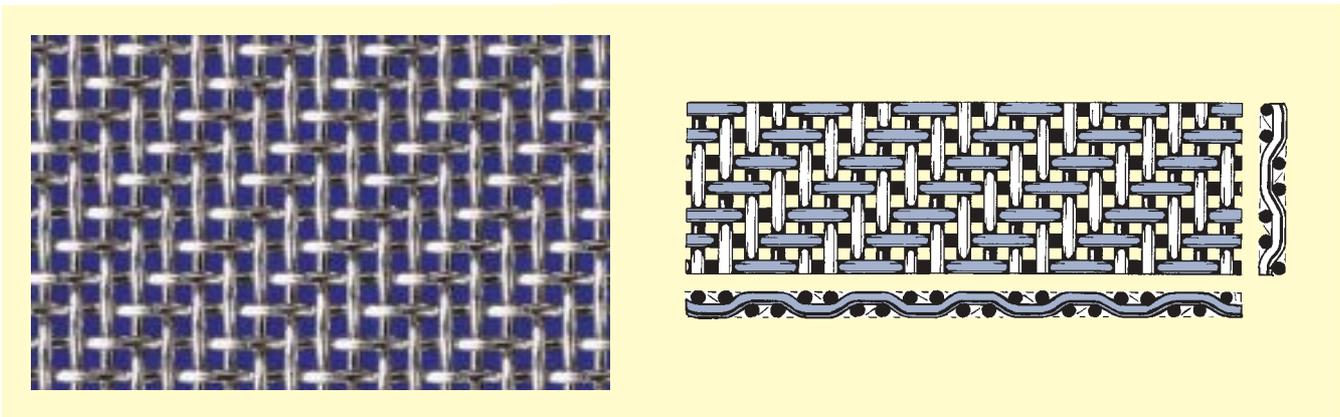
Required Details for Wire Cloth Orders

1. Quantity: number of pieces or rolls
2. Dimensions: length and width or rolls
3. Material
4. Aperture width: w
Mesh count (per linear inch) or number of meshes per cm^2 may likewise be stated instead of the aperture width.
5. Wire diameter: d
6. Type of weave – if necessary
7. Post weaving processing – if desired
8. Shaped parts or filters: provide samples, sketches or drawings, preferably with permissible tolerances.
9. Samples: should you have a sample of the wire cloth used previously, kindly send it to us. We shall then analyze the specification.
10. Repeat orders: so as to furnish you with the correct material either let us have a roll-label or provide the exact technical data of the previous order.

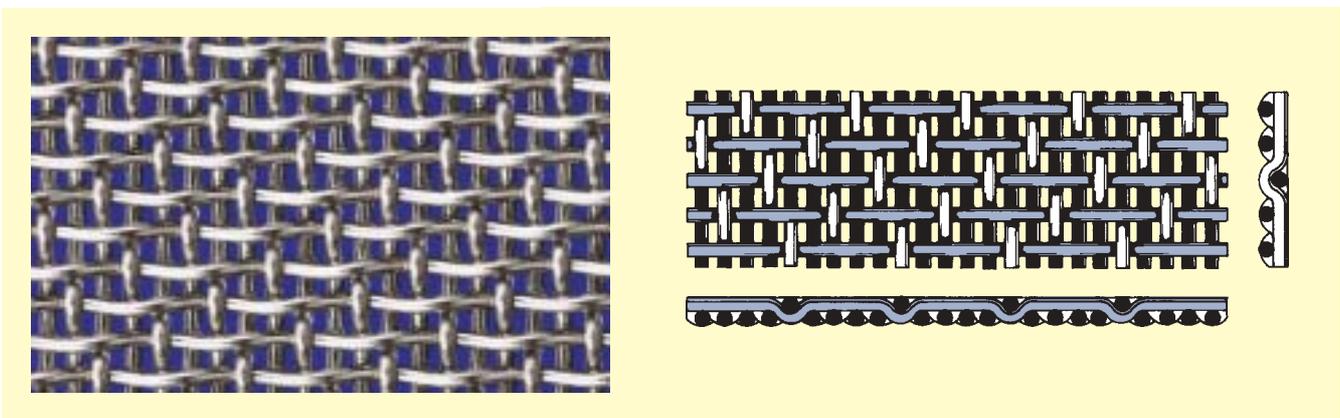
Types of Weave – Square, Oblong, Broad



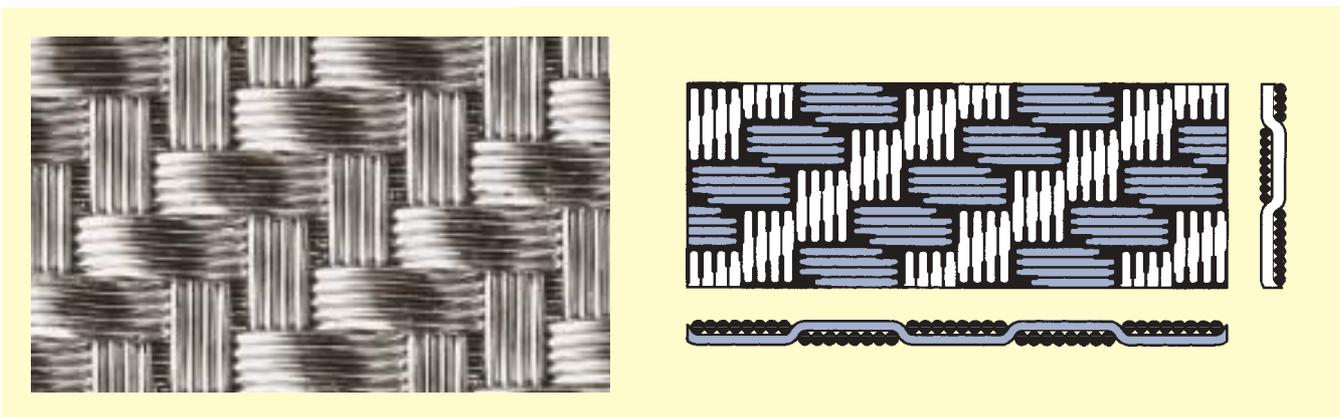
Plain Weave



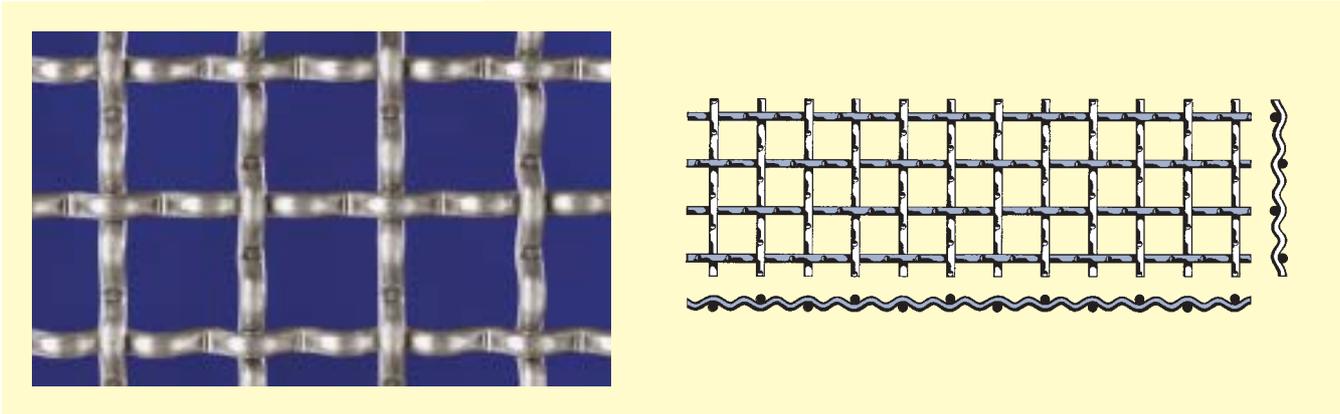
Twilled Weave, 4-banded



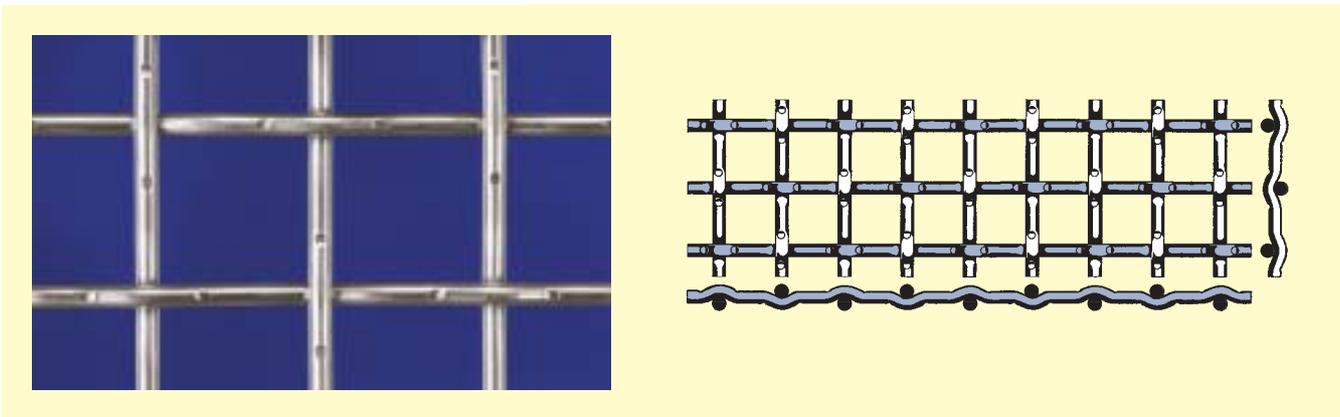
Twilled Weave, 5-banded, ECLA 5, Satin Twilled Weave



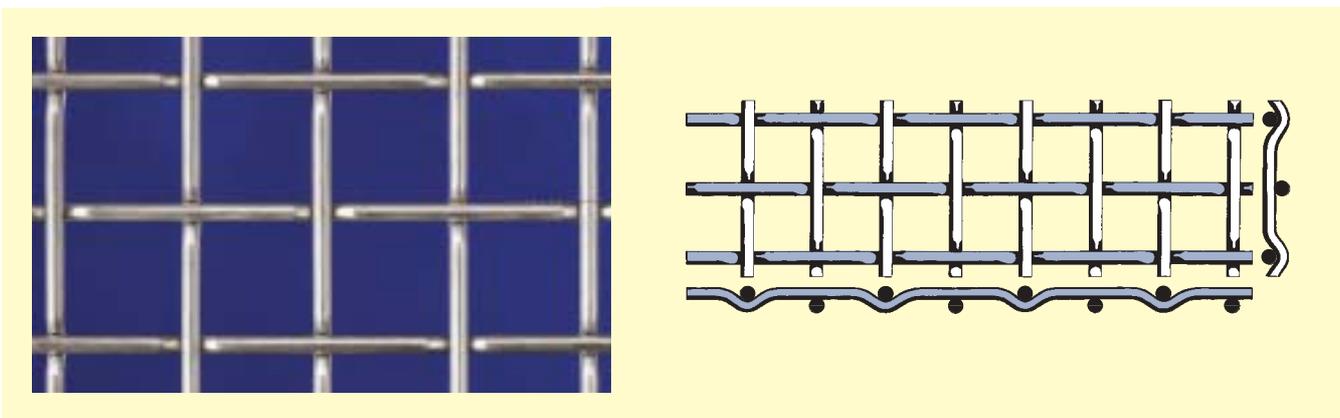
MULTIPLEX, Twilled Weave, 4-banded



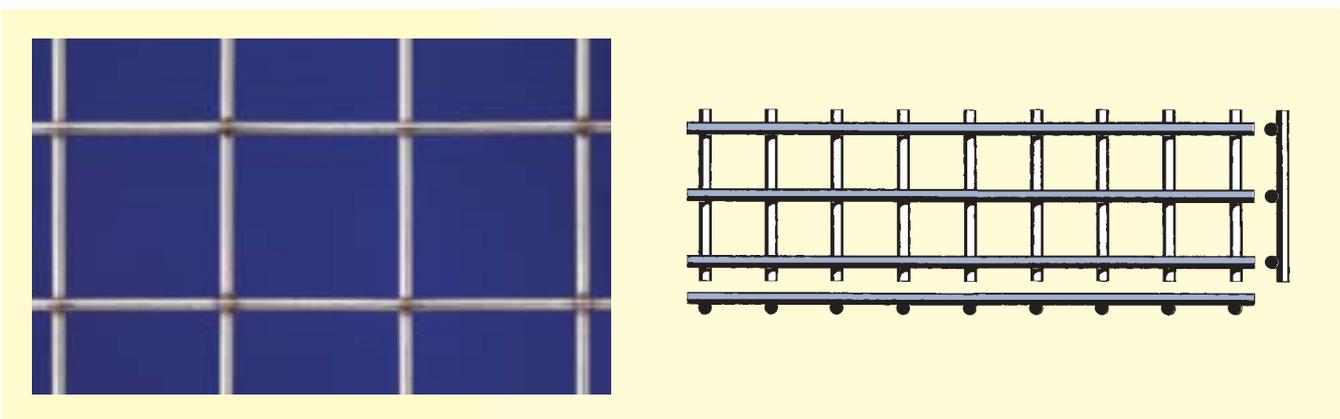
Double Intermediate Crimp Screen, Type C



Lock Scrimp Screen, Type D

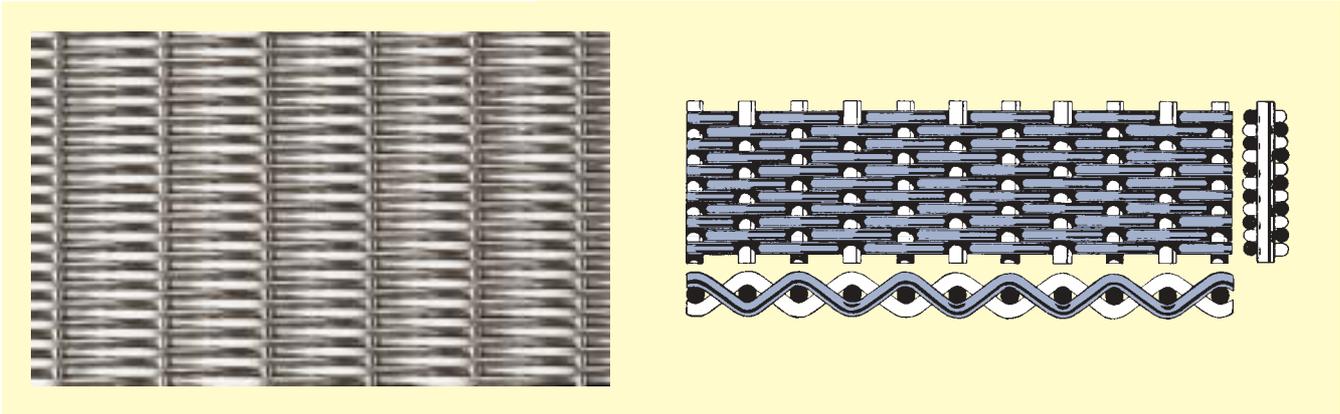


Flat Top Screen, Type E

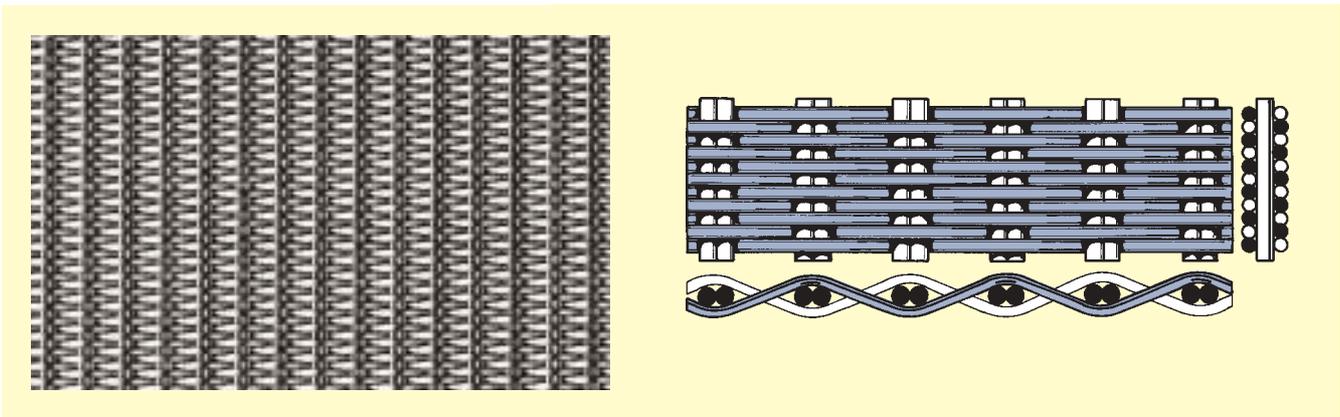


Pressure Welded Screen, Type F

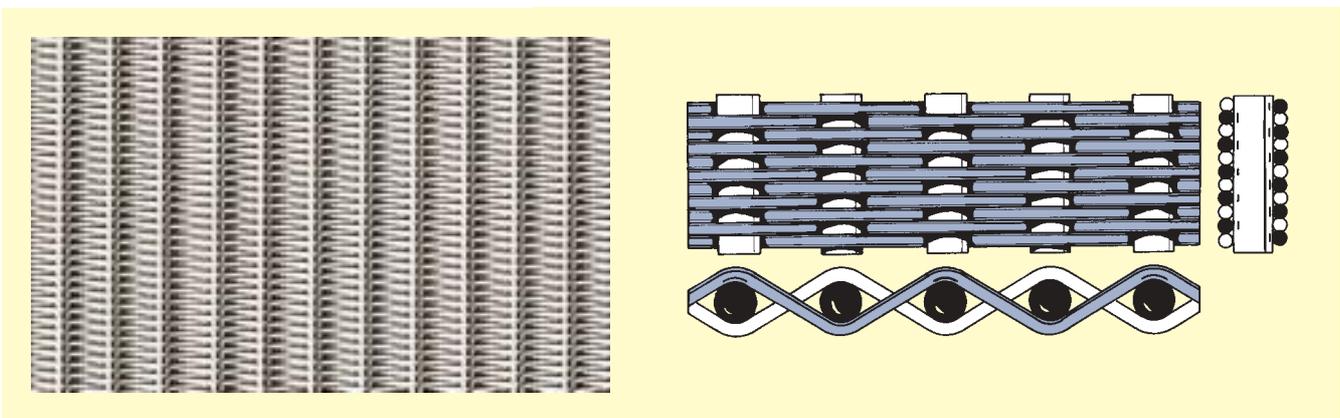
Types of Filter Cloth



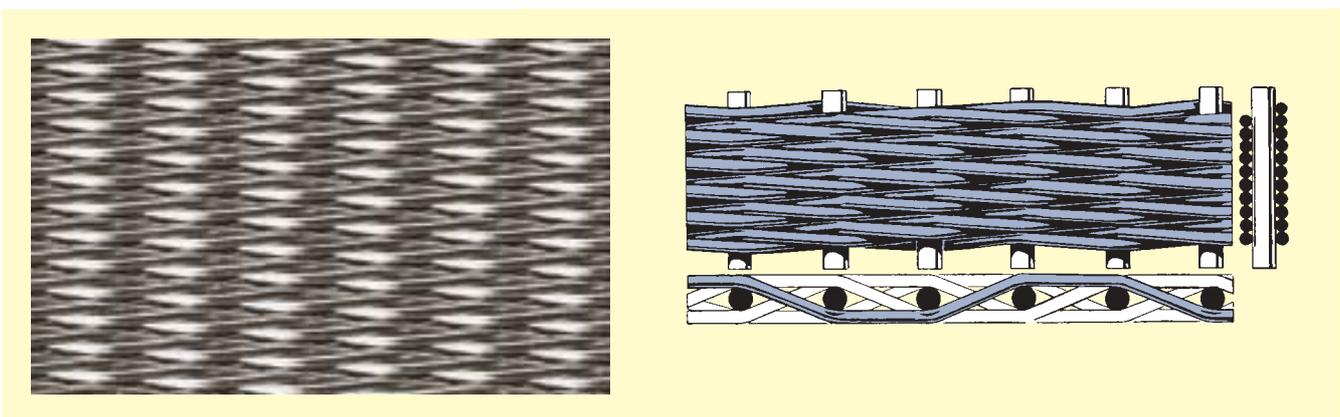
SPW Single Plain Dutch Weave



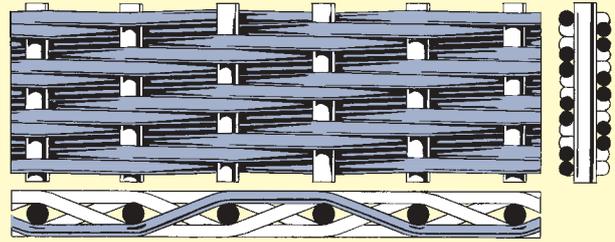
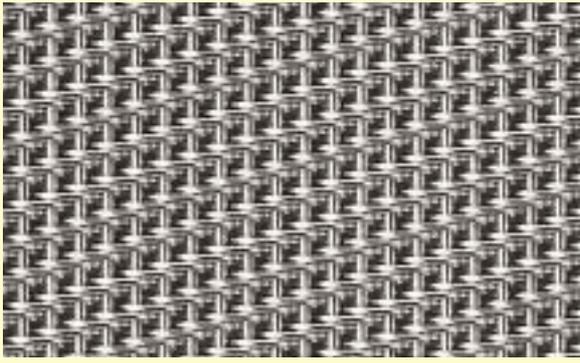
SPW with Double Warp Wires



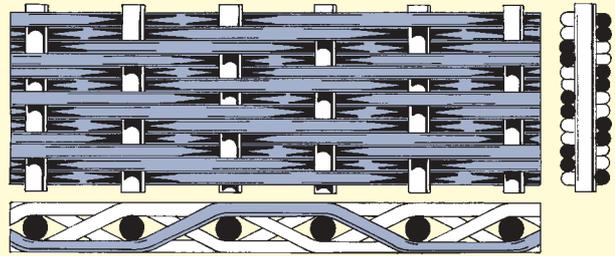
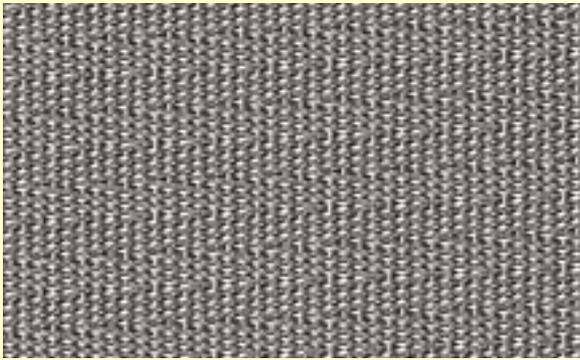
HIFLO High Capacity Filter Weave



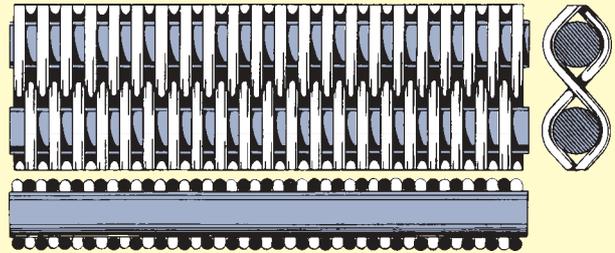
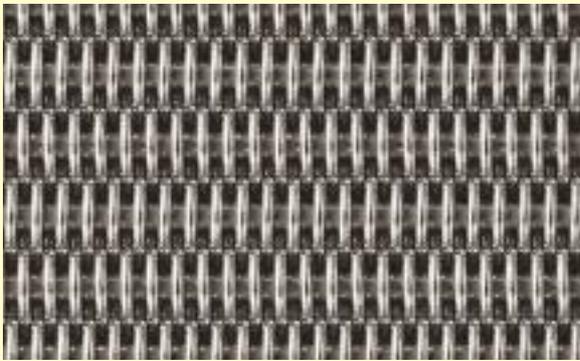
DTW Dutch Twilled Weave



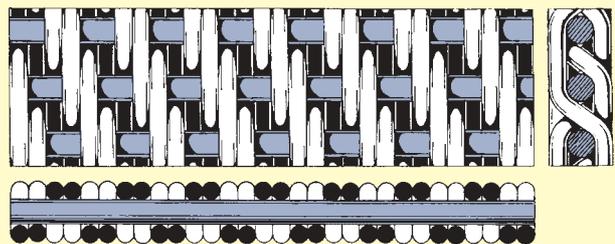
BMT Broad Mesh Twilled Dutch Weave



BMT-ZZ, Zig-Zag, Patented Weave (DBP, USA, UK)



RPD Reverse Plain Dutch Weave



TRD Twilled Reverse Dutch Weave

Woven Wire Cloth, Industrial Screens, Filter Cloth and Filterelements



**Whether in large quantities or by the piece - we supply you with what you require:
Standard rolls, roll sections, cut-to-size pieces, strips, discs, fabricated parts,
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