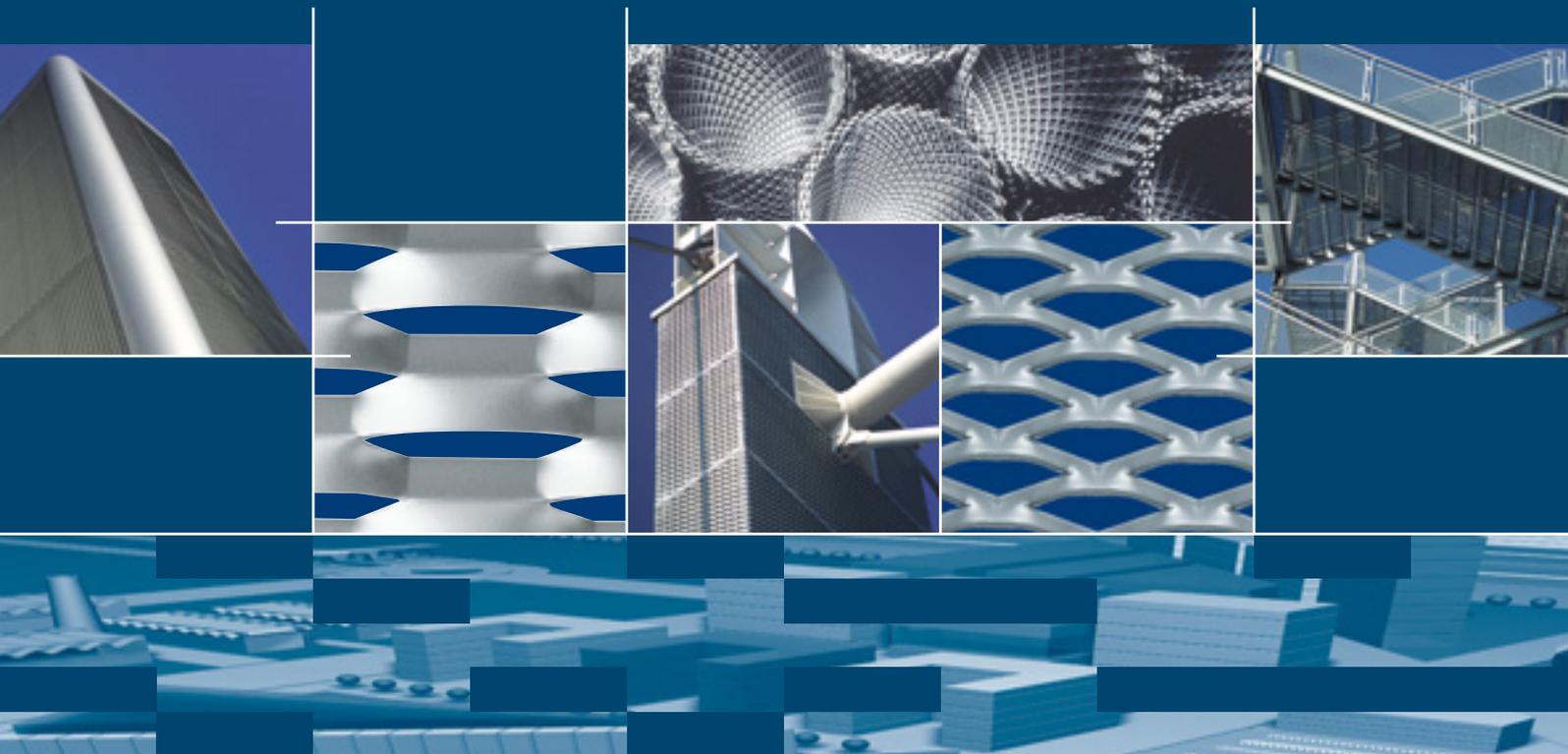


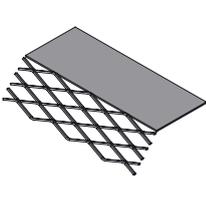
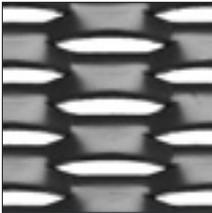
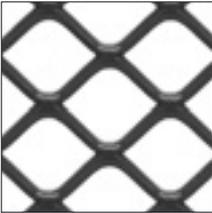
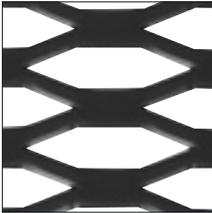
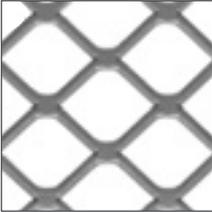
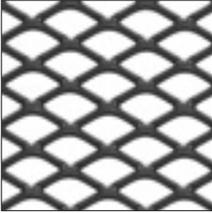
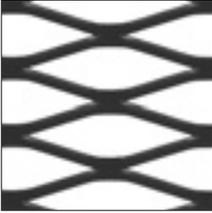
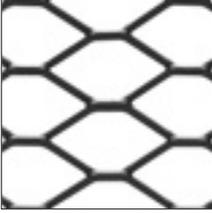
Expanded metal - meshes and gratings

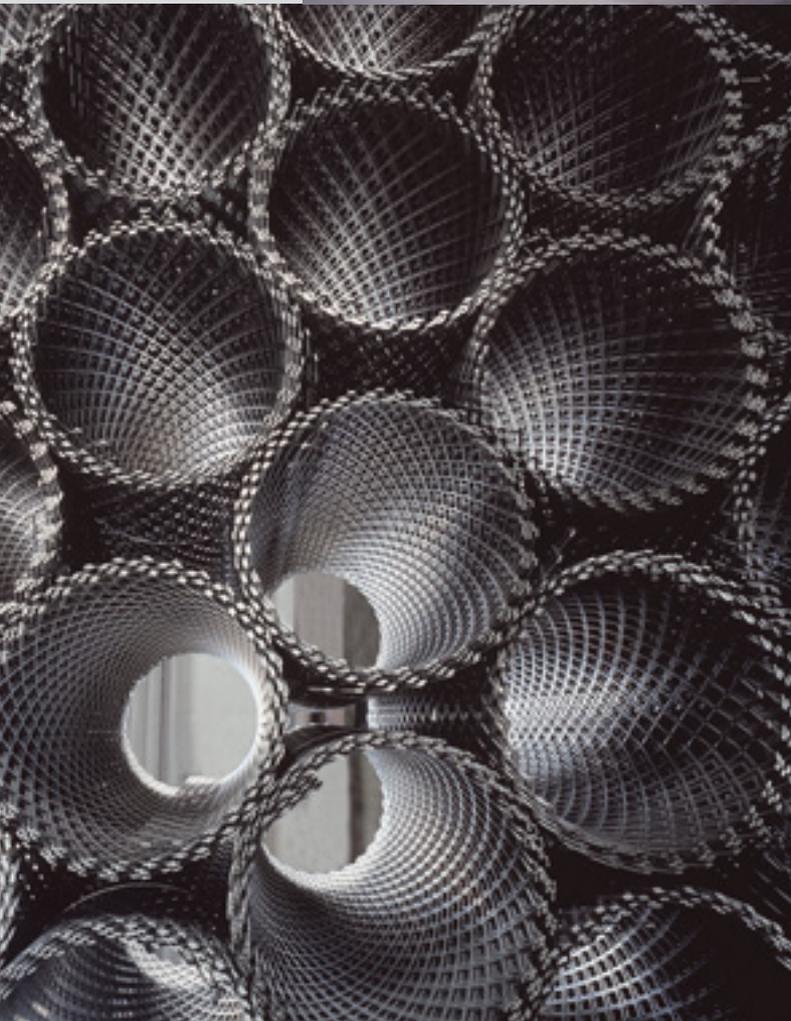


Catalogue of expanded metal patterns, expanded gratings and finished products

www.filis.it

Index

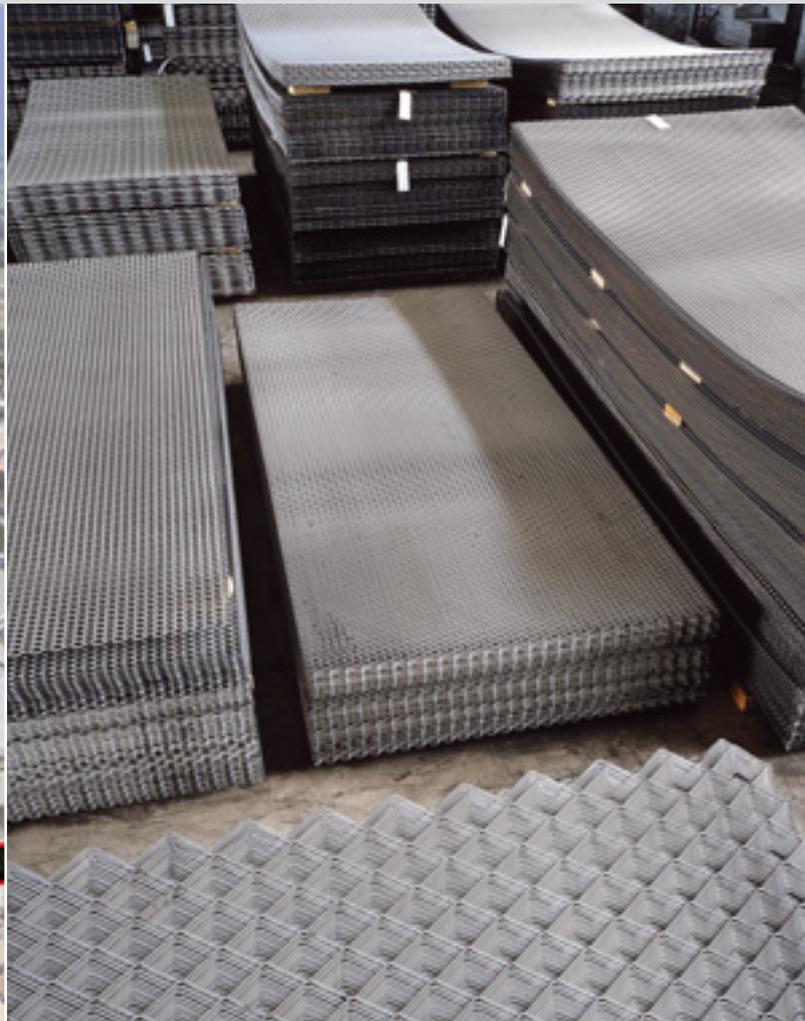
| | | | | | |
|---|---|---|---|---|--|
|  | <p>8</p> <p>Expanded mesh diagrams and characteristics</p> |  | <p>26</p> <p>Gratings <ul style="list-style-type: none"> • expanded • ribbed ☺ </p> |  | <p>48</p> <p>Doormats</p> |
|  | <p>10</p> <p>Square mesh</p> |  | <p>30</p> <p>Flattened SP gratings</p> |  | <p>49</p> <p>Soakaway drains</p> |
|  | <p>14</p> <p>Aluminium square mesh</p> |  | <p>34</p> <p>Stair treads</p> |  | <p>50</p> <p>Panel fencing</p> |
|  | <p>16</p> <p>Diamond mesh</p> |  | <p>42</p> <p>Landings</p> |  | <p>60</p> <p>Protech meshes <i>protech</i></p> |
|  | <p>24</p> <p>Flattened diamond mesh Toothed mesh</p> |  | <p>44</p> <p>Gratings</p> | | |
|  | <p>25</p> <p>Hexagonal mesh</p> |  | <p>46</p> <p>Manhole covers Gully covers Support frames</p> | | |





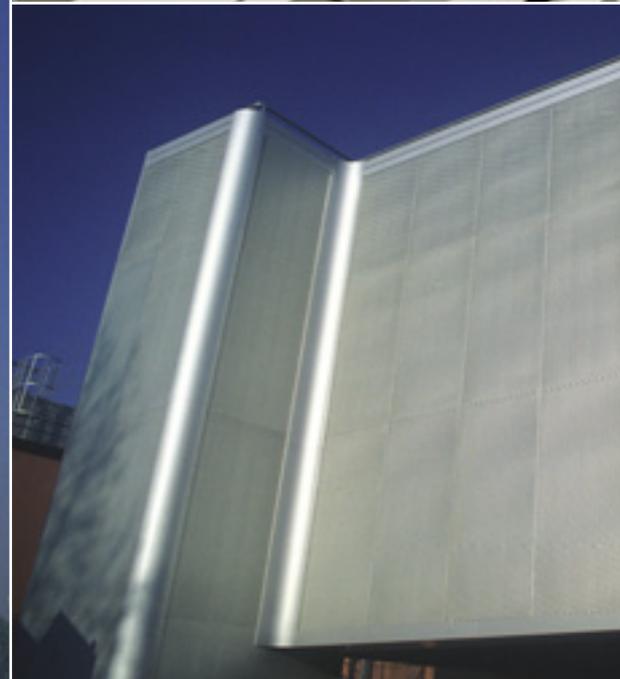
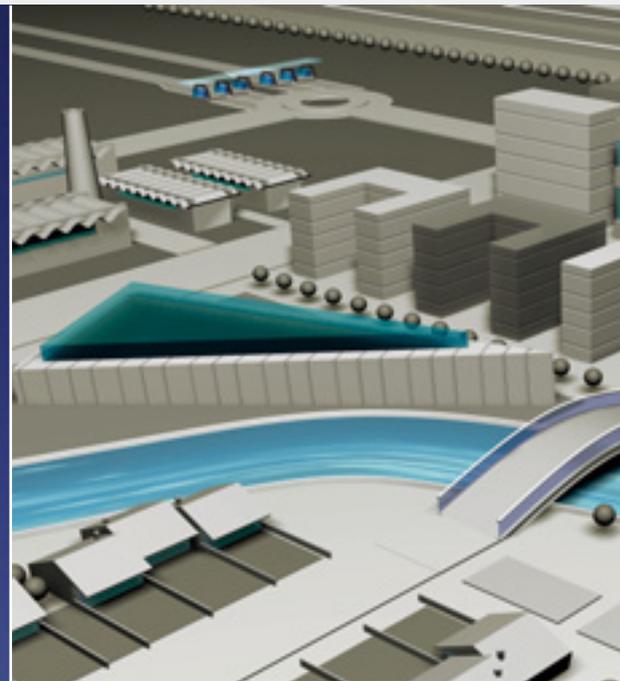
Making safety and quality the key goals of production: this is the driving concept behind **Fils S.p.A.**

The expanded mesh pattern and gratings are on the cutting edge of applications throughout the building industry.



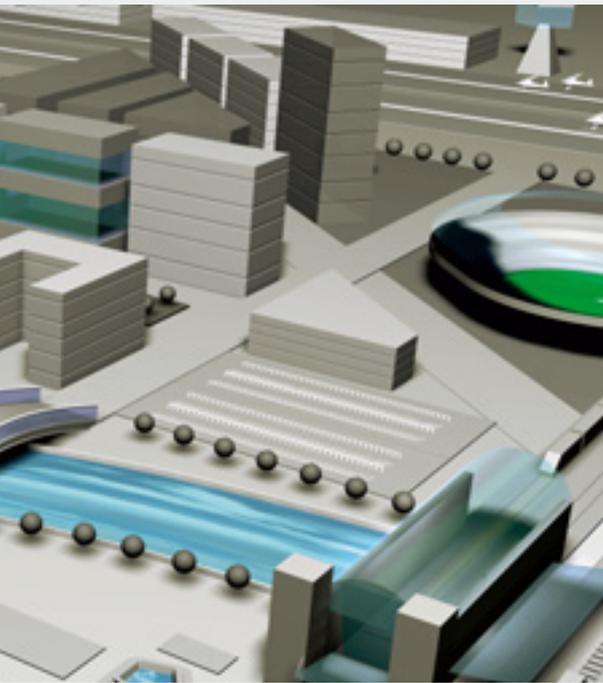


**Eclectic solutions for architecture:
with flattened mesh, the latest designs for top prestige.**



ACADEMY - DL 115 x DC 40 (48) - av 20 x sp 1.5 mm
Natural anodised aluminium

Fils expanded mesh offer the perfect solution for the technical/application needs of modern architecture, and especially where proven guarantees of safety and protection are required.



RESERVE - DL 90 x DC 30 (38) - av 18 x sp 1.5 mm
Natural anodised aluminium

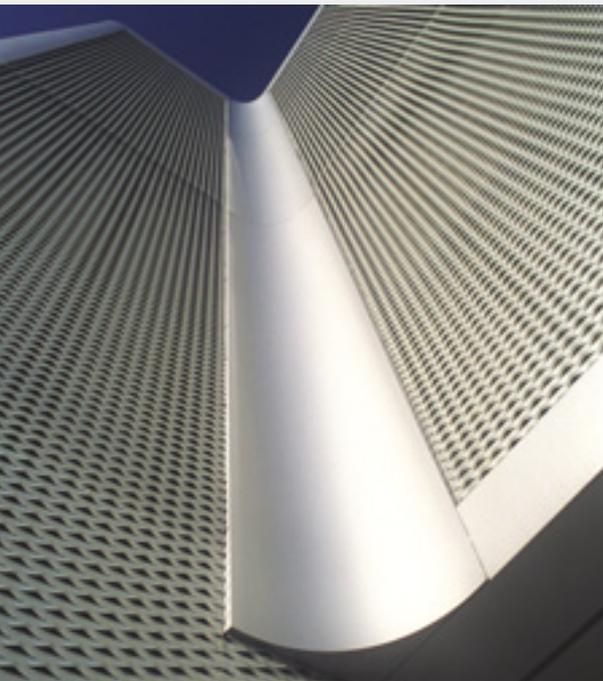


**Open - solid. Light - dark. Light and shadows.
Expanded mesh always offers a new look.**



ACADEMY - DL 115 x DC 40 (48) - av 20 x sp 1.5 mm
Natural anodised aluminium

Processing of different materials.
The technological process for expanded metal means we deal with a wide range of metal: steel, pre-galvanized steel, aluminium, copper, brass and stainless steel.

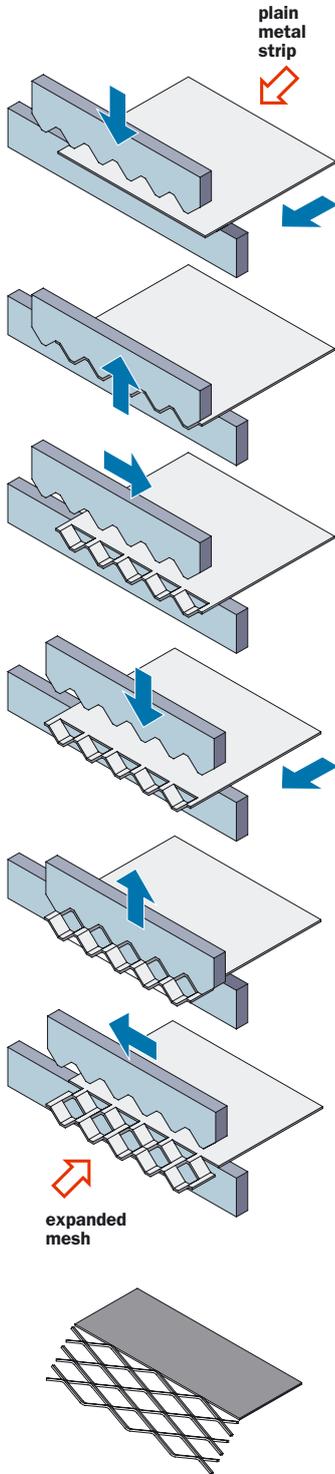


Eco-compatible, recyclable materials.
Our expanded metal processes have a low environmental impact; the resulting material can be easily recycled.

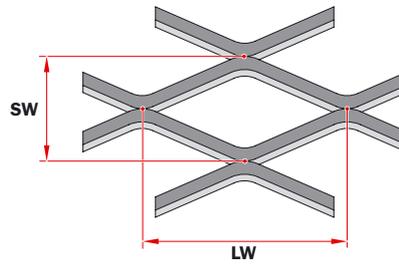
RESERVE - DL 90 x DC 30 (38) - av 18 x sp 1.5 mm
Natural anodised aluminium

Expanded mesh diagrams and characteristics

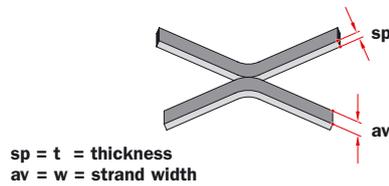
1 Expanding the metal



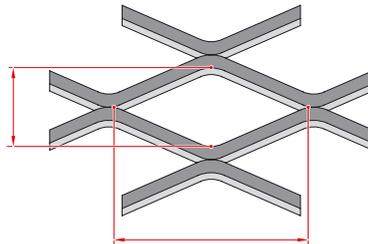
2 Mesh dimensions



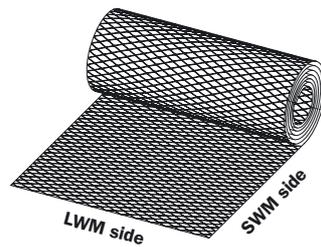
3 Mesh section



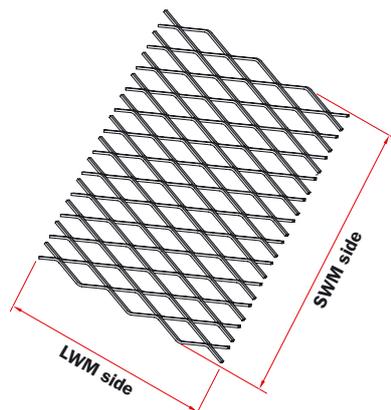
4 Dimensions of mesh opening



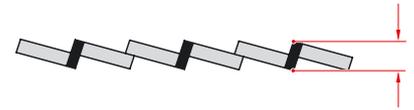
5 Roll of expanded mesh



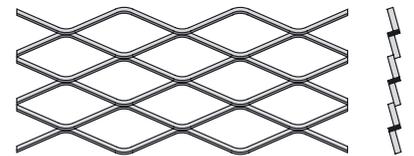
6 Sheet dimensions



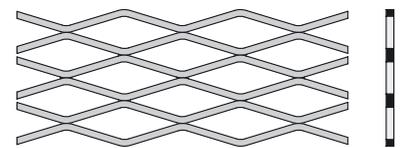
7 Final thickness of expanded meshes



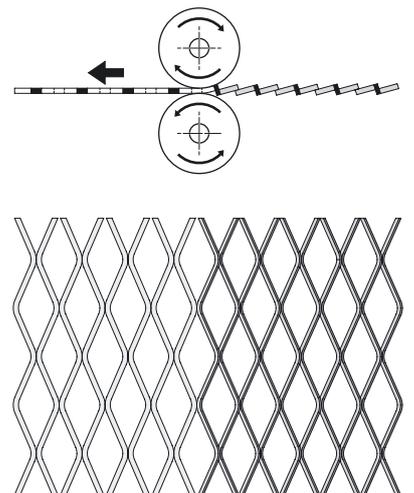
8 Expanded mesh, not flattened



9 Expanded mesh, flattened



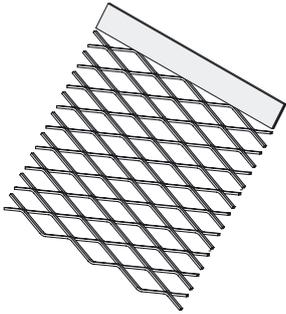
10 Flattening diagram



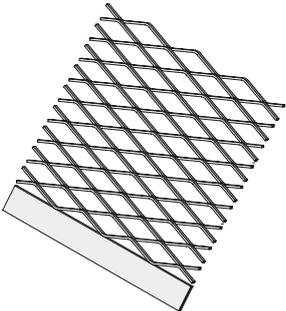
Our technicians are always ready to answer your queries.

SPECIAL DETAILS ON REQUEST

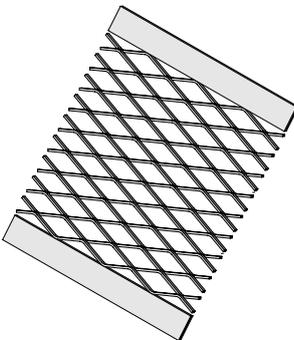
11 Plain edge at the beginning running parallel with LWM



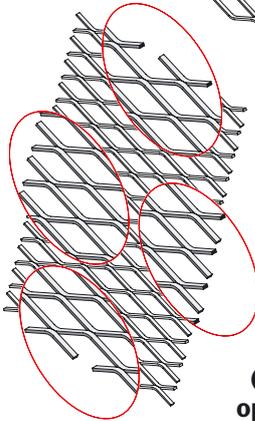
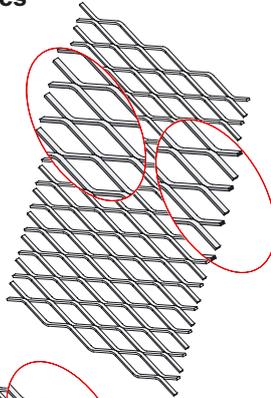
12 Plain edge at the end running parallel with LWM



13 Plain edges at the beginning and the end

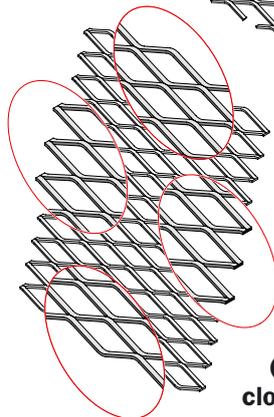
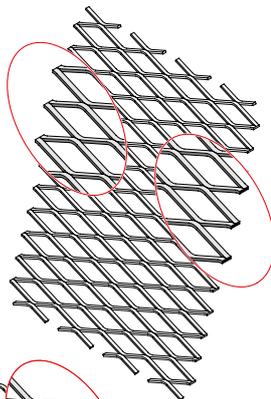


14 Length with open meshes both sides



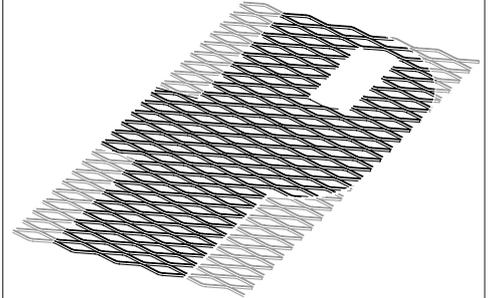
15 All sides open meshes

16 Length with closed meshes



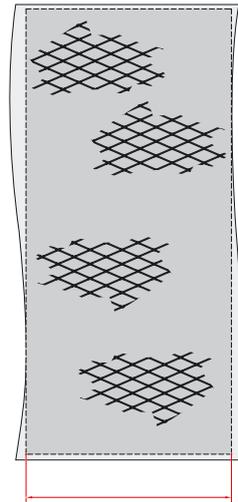
17 All sides closed meshes

18 Shaped plasma cutting

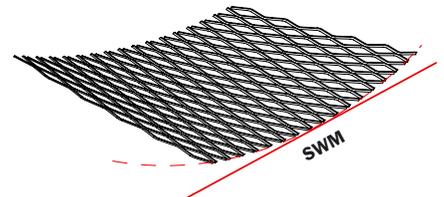


POSSIBLE EXPANDING EFFECTS PUT RIGHT WITH SPECIAL REPROCESSING

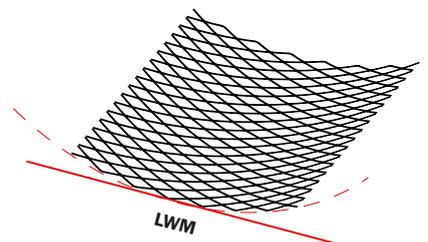
19 Buckling of mesh strip



20 Mesh bulging along SWM

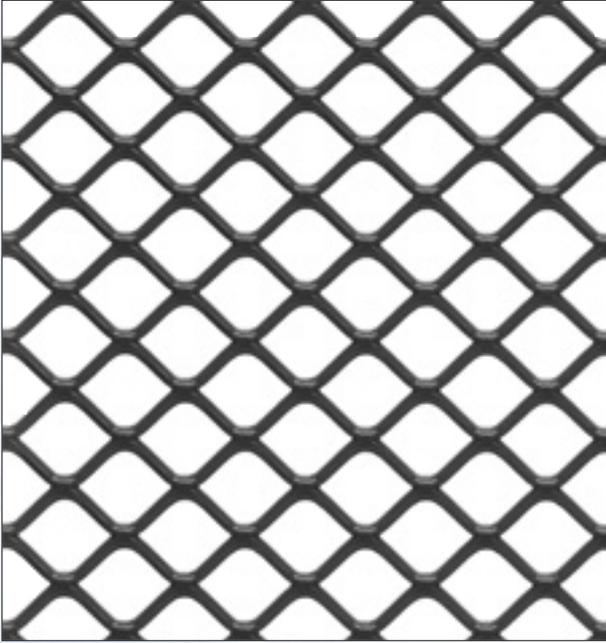


21 Mesh bulging along LWM

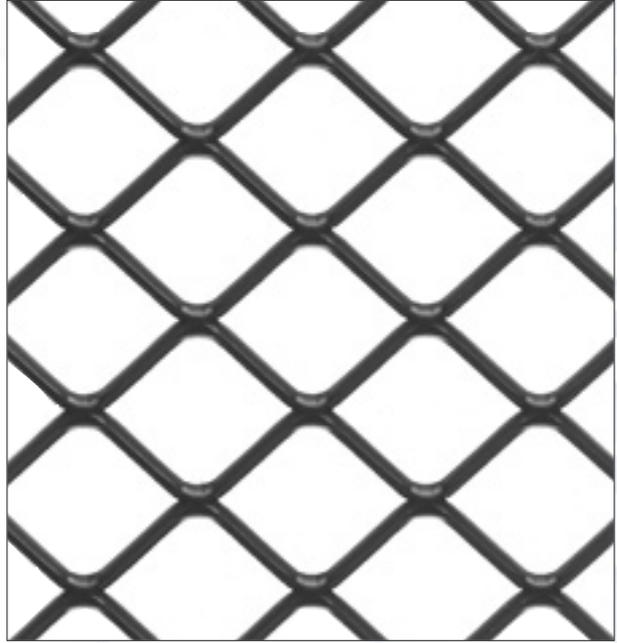


Expanded and flattened “Square” mesh

Mesh dimensions (1:1)



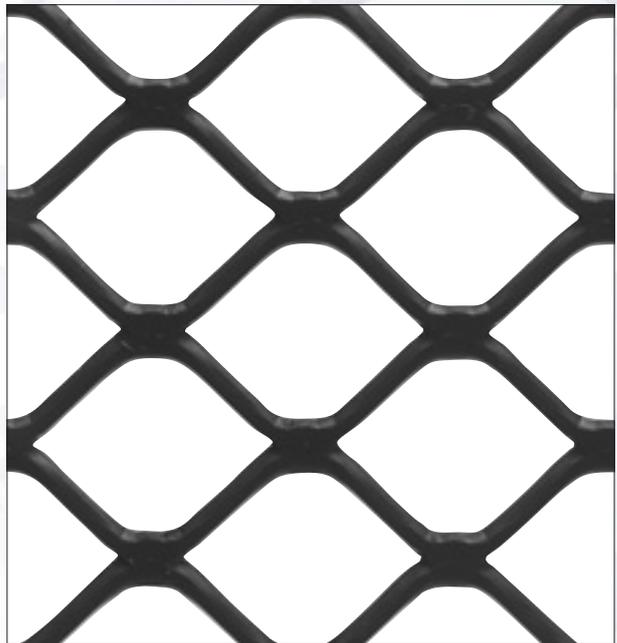
Type SQ 16



Type SQ 30



Type SQ 20



Type SQ 40

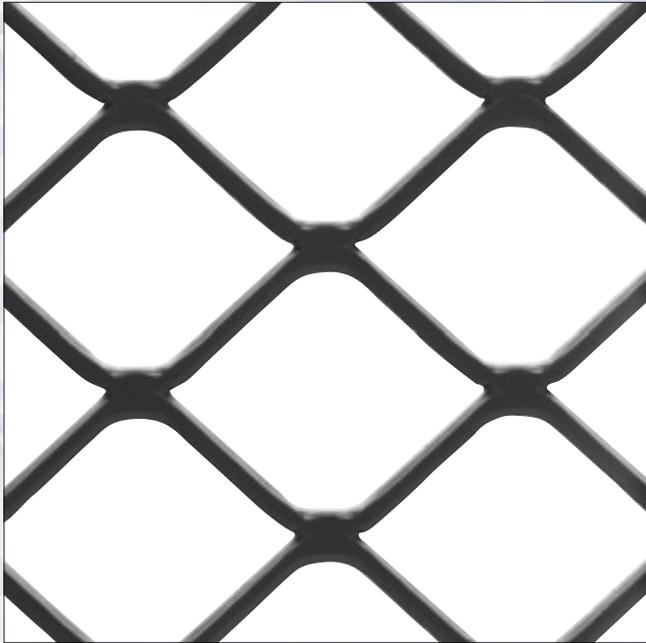
The mesh patterns highlighted in the table are the most popular and are competitively priced compared to welded wire mesh and perforated metal.

All meshes are expanded from carbon steel. On request some meshes can be processed from pre-galvanized steel, aluminium, copper and brass.

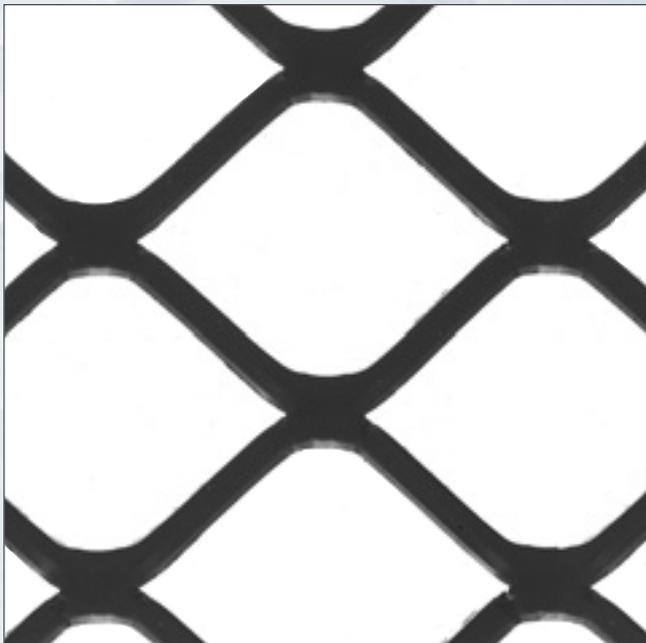
Expanded metal sheets can be supplied in standard size or made to order.

Square meshes are usually flattened but can be also supplied raised on request.

Certified mesh
for sliding gates



Type SQ 50



Type SQ 60

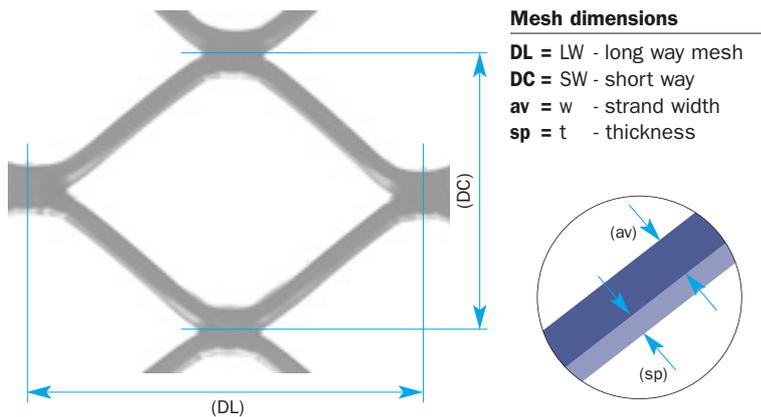


| Type | DL x DC mm | Actual DL x DC mm | Strand width av/mm | Thickness sp/mm | Weight kg/m ² | DL width mm | DC length mm |
|---------------------|------------|-------------------|--------------------|-----------------|--------------------------|---------------|---------------|
| SQ 16 sp 1 | 16 x 13 | 16 x 13 | 1.5 | 1 | 1.7 | made to order | made to order |
| SQ 16 sp 1.5 | 16 x 13 | 16 x 13 | 1.5 | 1.5 | 2.7 | 1000 | 2000 |
| SQ 20 sp 1 | 20 x 15.5 | 20 x 15.5 | 1.5 | 1 | 1.6 | made to order | made to order |
| SQ 20 sp 1.5 | 20 x 15.5 | 20 x 15.5 | 1.7 | 1.5 | 2.5 | 1000 | 2000 |
| SQ 30 sp 1.5 | 30 x 24.3 | 30 x 24.3 | 1.5 | 1.5 | 1.5 | made to order | made to order |
| SQ 30 sp 2 | 30 x 24.3 | 30 x 24.3 | 2 | 2 | 2.5 | 1000 | 2000 |
| SQ 40 sp 2 | 40 x 30 | 40 x 30 | 3 | 2 | 3.2 | made to order | made to order |
| SQ 40 sp 2.5 | 40 x 30 | 40 x 30 | 3 | 2.5 | 4 | 1000 | 2000 |
| SQ 50 sp 2.5 | 50 x 37 | 50 x 37 | 4 | 2.5 | 4.2 | made to order | made to order |
| SQ 50 sp 3 | 50 x 37 | 50 x 37 | 4 | 3 | 5.1 | 1000 | 2000 |
| SQ 60 sp 2.5 | 60 x 45 | 60 x 45 | 4.5 | 2.5 | 4 | made to order | made to order |
| SQ 60 sp 3 | 60 x 45 | 60 x 45 | 4.5 | 3 | 4.8 | 1000 | 2000 |

S = Flattened
Q = Square

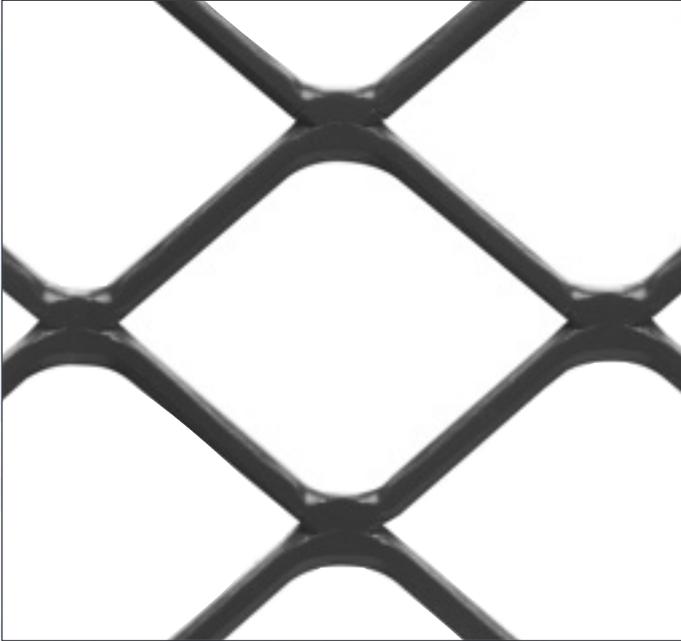
The weights given in the table are indicative and refer to steel mesh

The highlighted data are for the mesh in the photos.

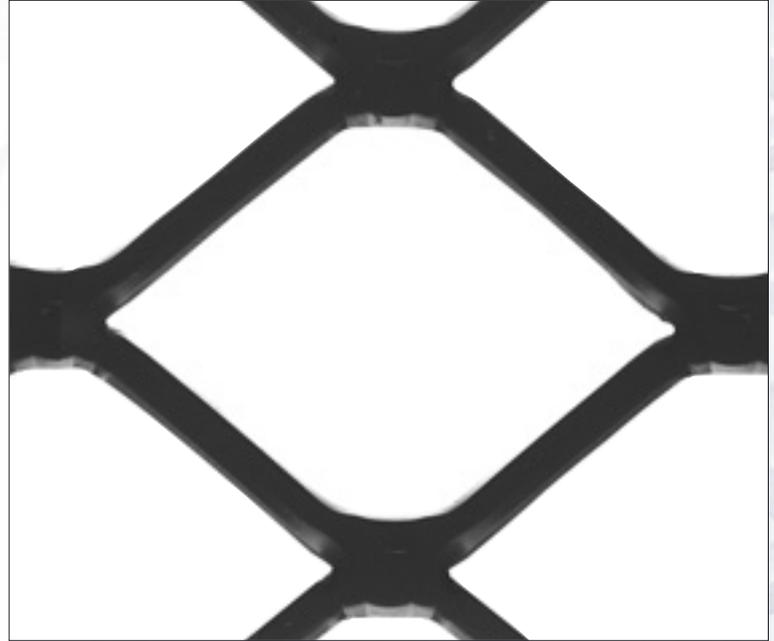


Expanded and flattened “Square” mesh

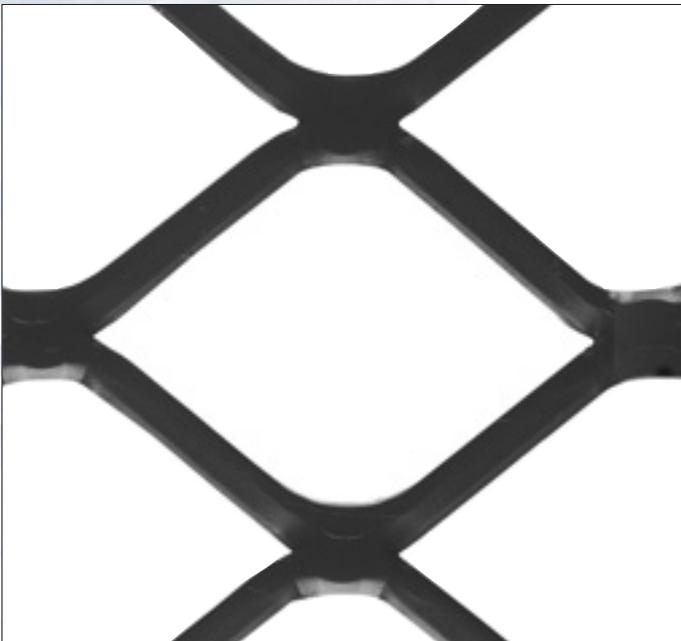
Mesh dimensions (1:1)



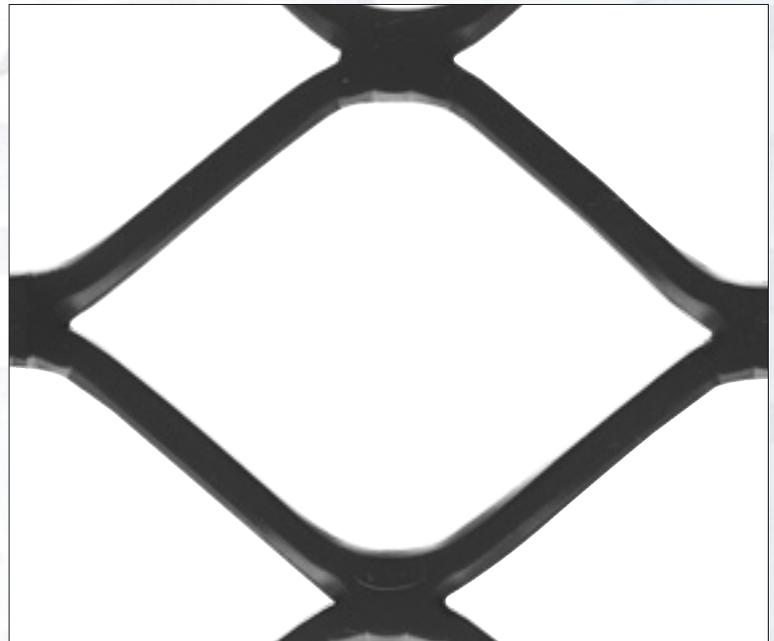
Type SQ 70



Type SQ 90



Type SQ 80



Type SQ 100

The mesh patterns highlighted in the table are the most popular and are competitively priced compared to welded wire mesh and perforated metal.

All meshes are expanded from carbon steel. On request some meshes can

be processed from pre-galvanized steel, aluminium, copper and brass in standard size sheets or made to order.

All types of expanded mesh can also be flattened on request.

1 - DL Q 120 x DC 87 (80) - av 6 - sp 4 mm
Steel painted with polyester powder exterior paint

2/3 - DL Q 80 x DC 52 (52) - av 6 - sp 4 mm
Steel painted with polyester powder exterior paint



| Type | DL x DC mm | Actual DL x DC mm | Strand width av/mm | Thickness sp/mm | Weight kg/m ² | DL width mm | DC length mm |
|--------------------|------------|-------------------|--------------------|-----------------|--------------------------|---------------|---------------|
| SQ 70 sp 3 | 70 x 53 | 70 x 53 | 5 | 3 | 4.5 | 1000 | 2000 |
| SQ 70 sp 4 | 70 x 53 | 70 x 53 | 6 | 4 | 7.1 | 1000 | 2000 |
| SQ 80 sp 3 | 80 x 56 | 80 x 56 | 5 | 3 | 4.2 | 1000 | 2000 |
| SQ 80 sp 4 | 80 x 56 | 80 x 56 | 6.2 | 4 | 6.9 | 1000 | 2000 |
| SQ 90 sp 3 | 90 x 64 | 90 x 64 | 5 | 3 | 3.7 | made to order | made to order |
| SQ 90 sp 4 | 90 x 64 | 90 x 64 | 6 | 4 | 5.9 | 1000 | 2000 |
| SQ 100 sp 3 | 100 x 74 | 100 x 74 | 6 | 3 | 3.9 | made to order | made to order |
| SQ 100 sp 4 | 100 x 74 | 100 x 74 | 6 | 4 | 5.1 | 1000 | 2000 |

S = Flattened
Q = Square

The weights given in the table are indicative and refer to steel mesh

The highlighted data are for the mesh in the photos.



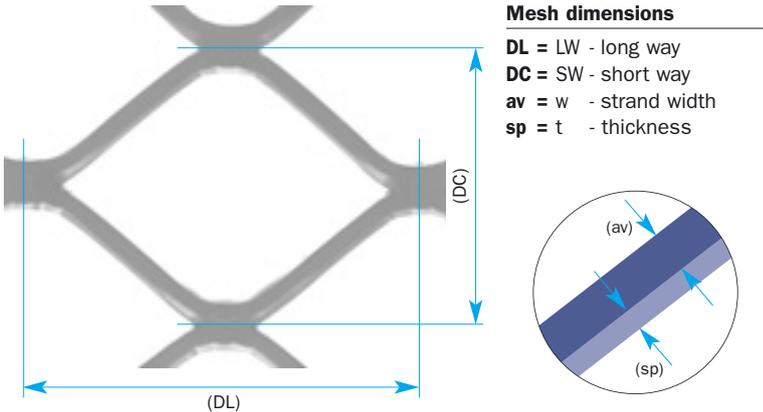
1



2

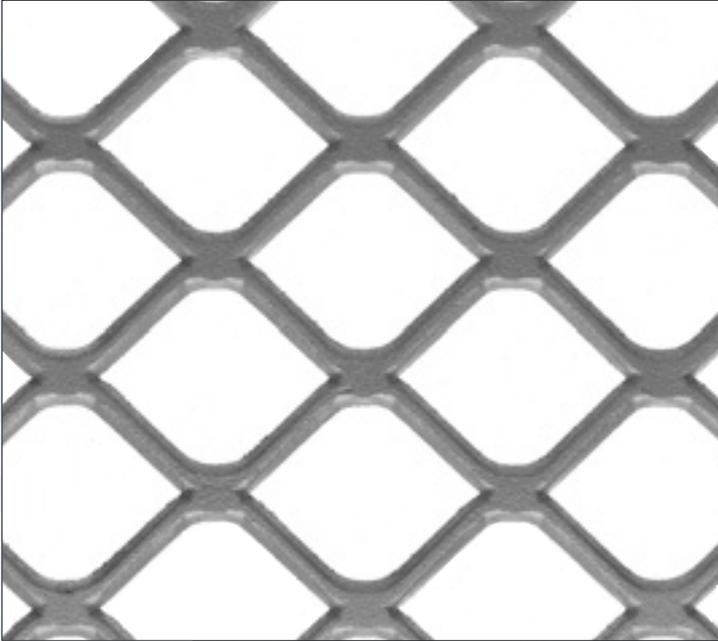


3



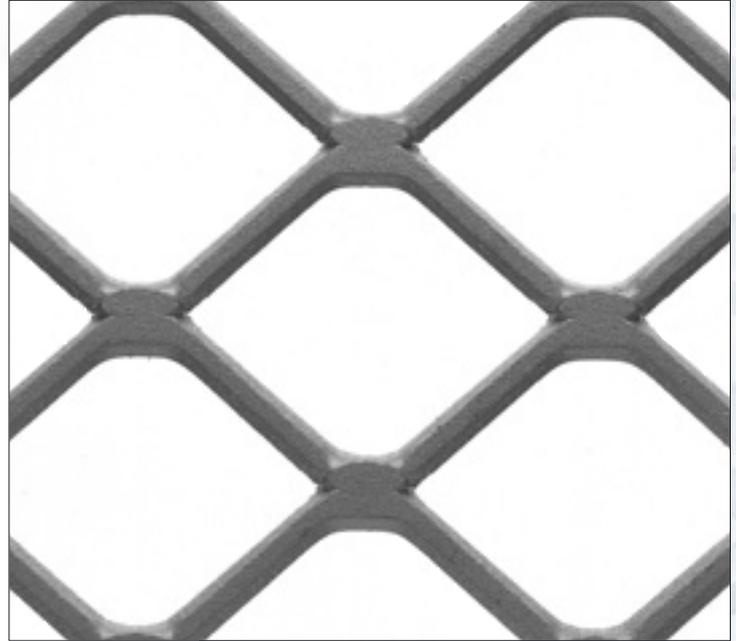
Expanded and flattened "Square" mesh Aluminium

Mesh dimensions (1:1)



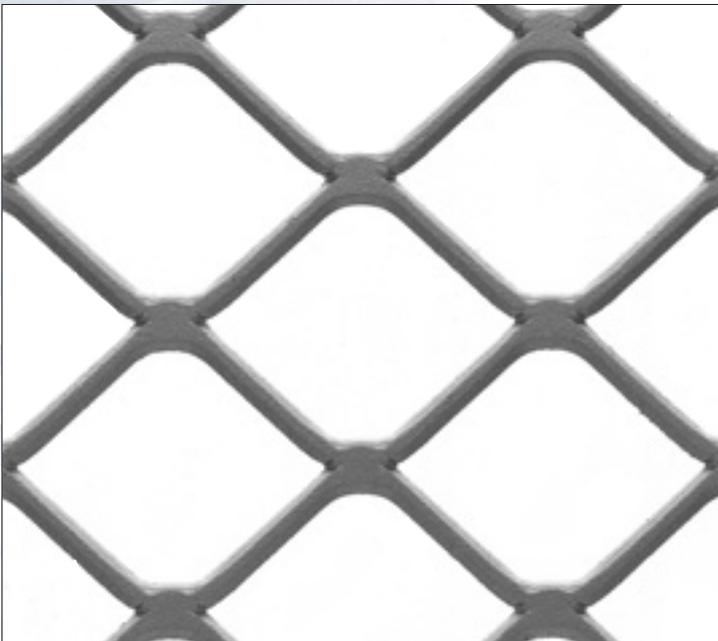
Aluminium

Type SQ 40



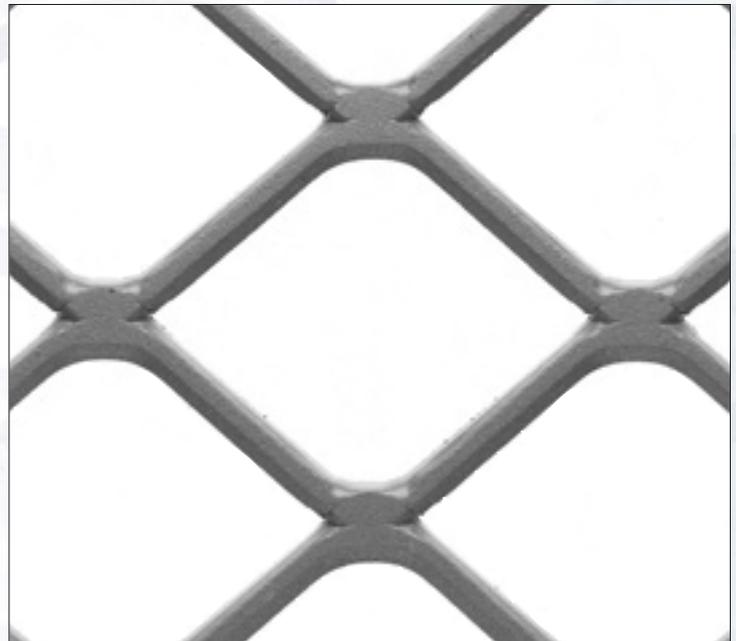
Aluminium

Type SQ 60



Aluminium

Type SQ 50



Aluminium

Type SQ 70

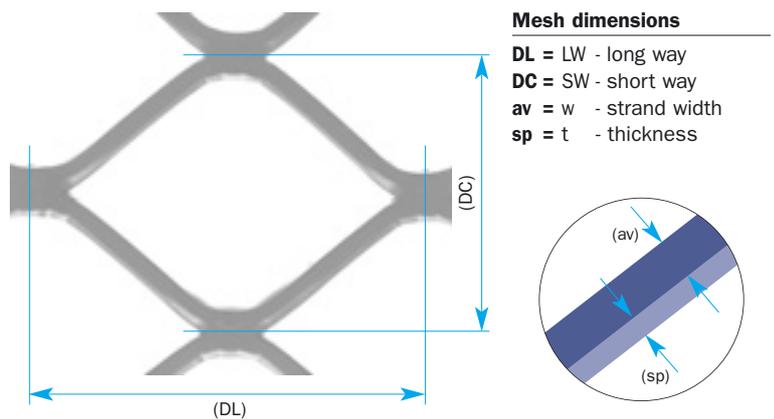
FILS 21 - DL 45 x DC 15 (13.4) - av 5 x sp 1.5 mm
GATE - DL 76 x DC 31 (35) - av 11 x sp 1.5 mm
Natural anodised aluminium

| Type | DL x DC mm | Actual DL x DC mm | Strand width av/mm | Thickness sp/mm | Weight kg/m ² | DL width mm | DC length mm |
|-------------------|------------|-------------------|--------------------|-----------------|--------------------------|---------------|---------------|
| SQ 40 sp 3 | 40 x 30 | 40 x 30 | 3.5 | 3 | 1.9 | made to order | made to order |
| Q 40 sp 3 | 40 x 30 | 40 x 27 | 3.5 | 3 | 2.1 | made to order | made to order |
| SQ 50 sp 3 | 50 x 37 | 50 x 37 | 3.5 | 3 | 1.6 | made to order | made to order |
| Q 50 sp 3 | 50 x 37 | 50 x 35 | 3.5 | 3 | 1.8 | made to order | made to order |
| SQ 60 sp 4 | 60 x 45 | 60 x 45 | 4.5 | 4 | 2.2 | made to order | made to order |
| Q 60 sp 4 | 60 x 45 | 60 x 41 | 4.5 | 4 | 2.65 | made to order | made to order |
| SQ 70 sp 4 | 70 x 53 | 70 x 53 | 4.8 | 4 | 2 | made to order | made to order |
| Q 70 sp 4 | 70 x 53 | 70 x 48 | 4.8 | 4 | 2.2 | made to order | made to order |

S = Flattened

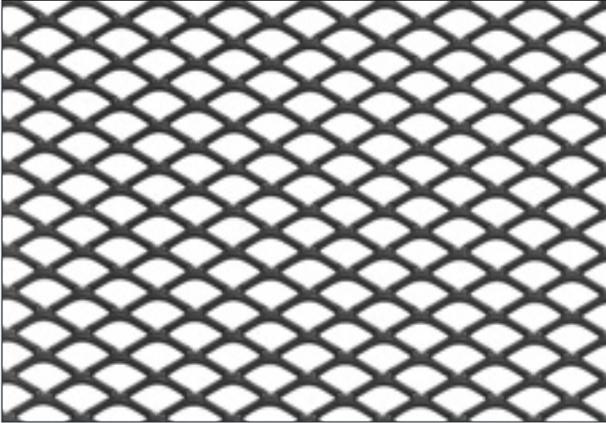
Q = Square

The highlighted data are for the mesh in the photos.

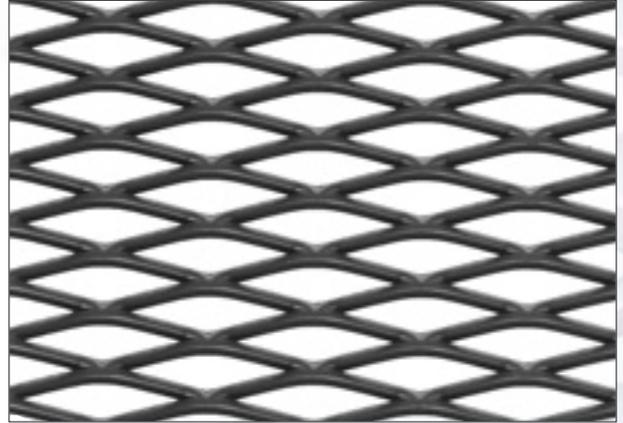


Expanded “Diamond” mesh

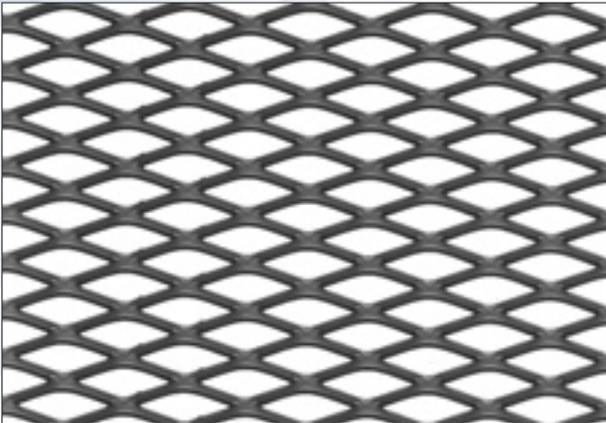
Mesh dimensions (1:1)



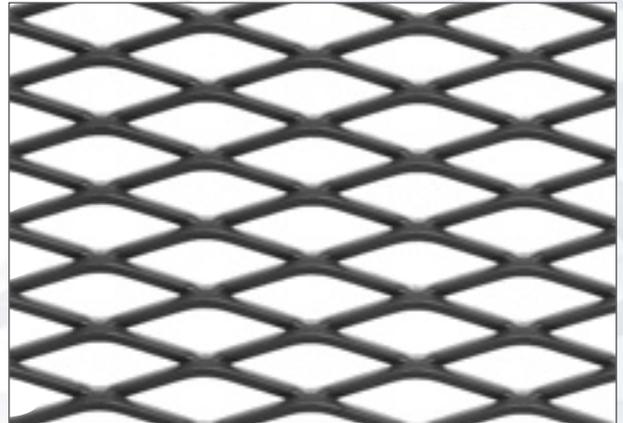
Types 6610 - 6615



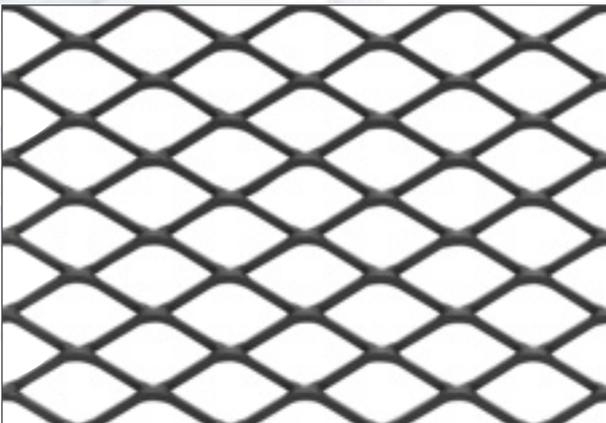
Types 1 BB - 54



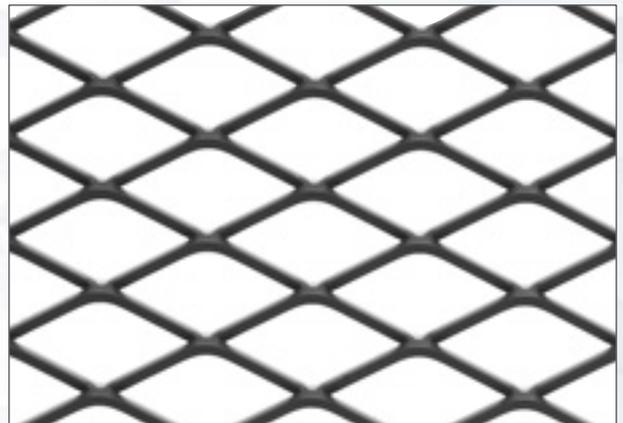
Types 56 - 57 - 58



Type 25



Types 37 - 38 - 39



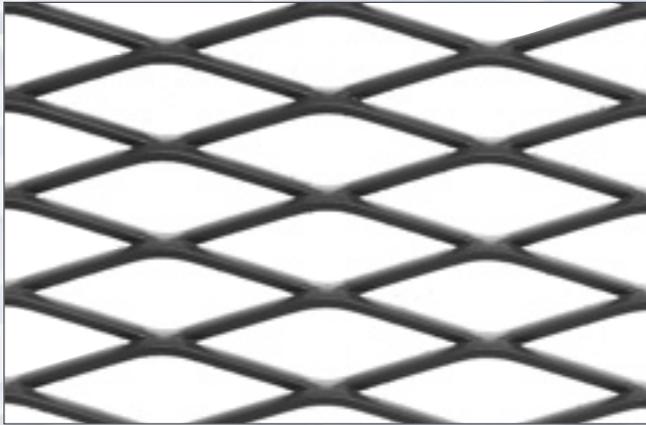
Types 29 - 31

The mesh patterns highlighted in the table are the most popular and are competitively priced compared to welded wire mesh and perforated metal.

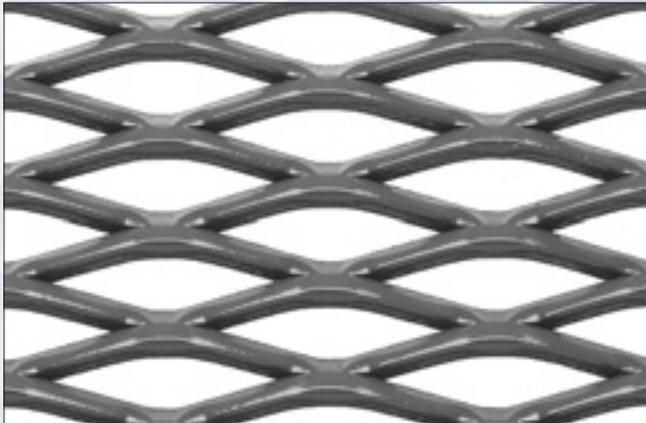
be processed from pre-galvanized steel, aluminium, copper, brass and stainless in standard size sheets or made to order.

All meshes are expanded from carbon steel. On request some meshes can

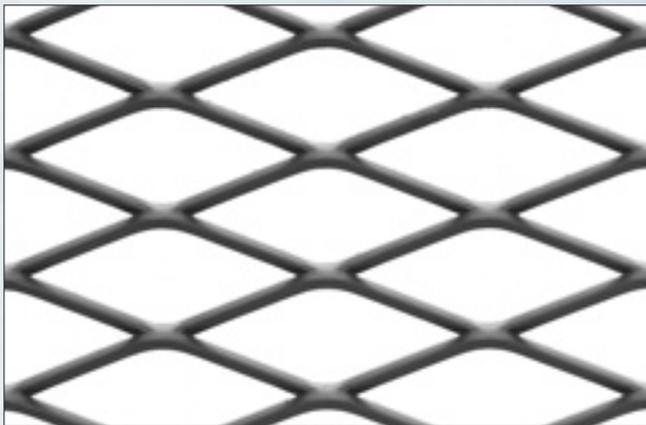
All types of expanded mesh can also be flattened on request.



Types 2 - 17 - 28



Type 43

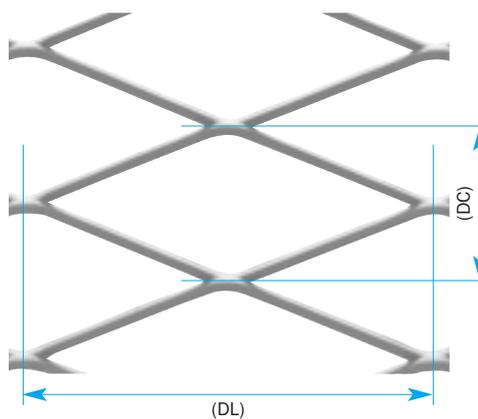


Types 27 - 41

| Type | DL x DC mm | Actual DL x DC mm | Strand width av/mm | Thickness sp/mm | Weight kg/m ² | DL width mm | DC length mm |
|-------------|------------|-------------------|--------------------|-----------------|--------------------------|---|----------------------|
| 6610 | 10 x 6 | 10 x 6 | 1.2 | 1 | 3.2 | 1000 | 6000 |
| 6615 | 10 x 6 | 10 x 6 | 1.5 | 1 | 4 | 1000 | 6000 |
| 56 | 16 x 6 | 16 x 6 | 1.2 | 1 | 3.1 | 1000 - 1250 | 6000 |
| 57 | 16 x 6 | 16 x 6 | 1.5 | 1 | 4 | 1000 - 1250 | 6000 |
| 58 | 16 x 6 | 16 x 6 | 1.5 | 1.5 | 5.7 | 1000 - 1250 | 6000 |
| 37 | 20 x 10 | 20 x 10 | 2.2 | 1 | 3.4 | 1000 | 6000 |
| 38 | 20 x 10 | 20 x 10 | 1.6 | 1.5 | 3.7 | 1000 | 6000 |
| 39 | 20 x 10 | 20 x 10.2 | 2.2 | 1.5 | 5 | 1000 | 6000 |
| 1 BB | 28 x 6 | 28 x 7.8 | 2 | 1 | 4 | 1000 - 1250 | 6000 |
| 54 | 28 x 6 | 28 x 7.8 | 2 | 1.5 | 6 | 1000 - 1250 | 6000 |
| 25 | 28 x 10 | 28 x 10 | 2 | 1.5 | 4.8 | 1000 - 1250 - 1500 | 6000 |
| 29 | 28 x 14 | 28 x 13 | 2 | 1 | 2.5 | 1000 | 6000 |
| 31 | 28 x 14 | 28 x 13.5 | 2 | 1.5 | 3.5 | 1000 - 1250 | 6000 |
| 2 | 43 x 10 | 43 x 13 | 2.5 | 1 | 2.75 | 1000 1000 - 1250 - 1500 2000 - 2500 | 2000 6000 3400 |
| 17 | 43 x 10 | 43 x 13 | 2.5 | 1.5 | 4.2 | 1000 1000 - 1250 - 1500 2000 - 2500 | 2000 6000 3400 |
| 28 | 43 x 10 | 43 x 13 | 2.5 | 2 | 5.5 | 1000 1000 - 1250 - 1500 2000 - 2500 | 2000 6000 3400 |
| 43 | 43 x 10 | 43 x 13.3 | 3 | 3 | 10.5 | 1000 1250 | 2000 2500 |
| 27 | 43 x 17 | 43 x 16.2 | 2.5 | 1.5 | 3.8 | 1000 1000 | 2000 6000 |
| 41 | 43 x 17 | 43 x 18.5 | 5 | 3 | 12.5 | 1000 | 2000 |

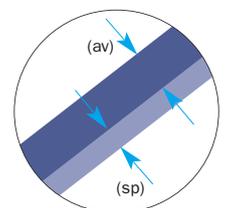
The highlighted data are for the mesh in the photos.

The weights given in the table are indicative and refer to steel mesh



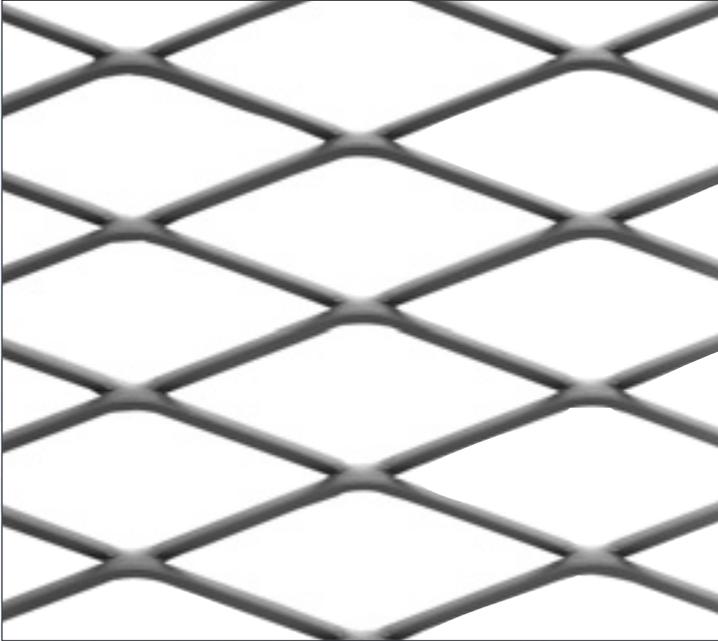
Mesh dimensions

- DL = LW - long way
- DC = SW - short way
- av = w - strand width
- sp = t - thickness

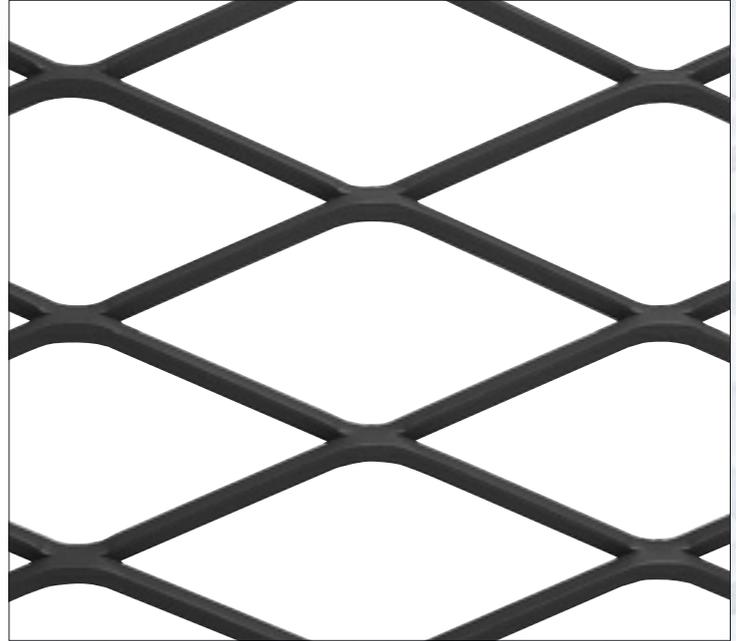


Expanded "Diamond" mesh

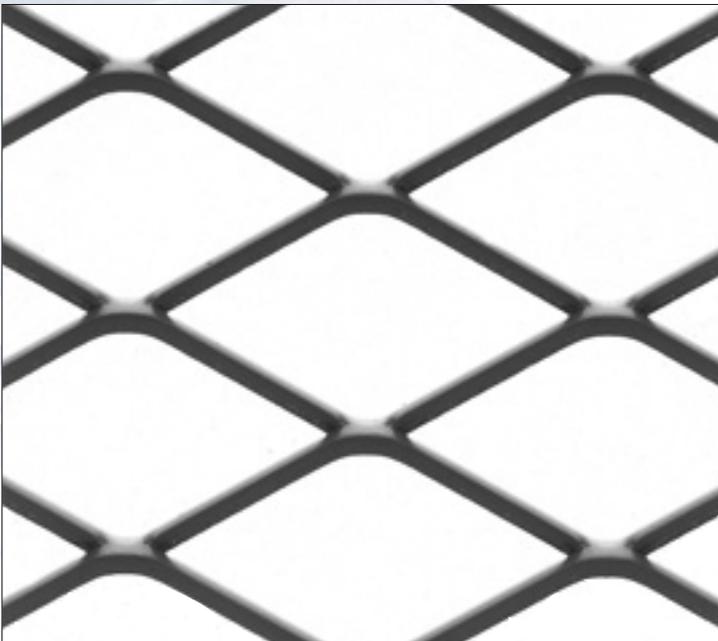
Mesh dimensions (1:1)



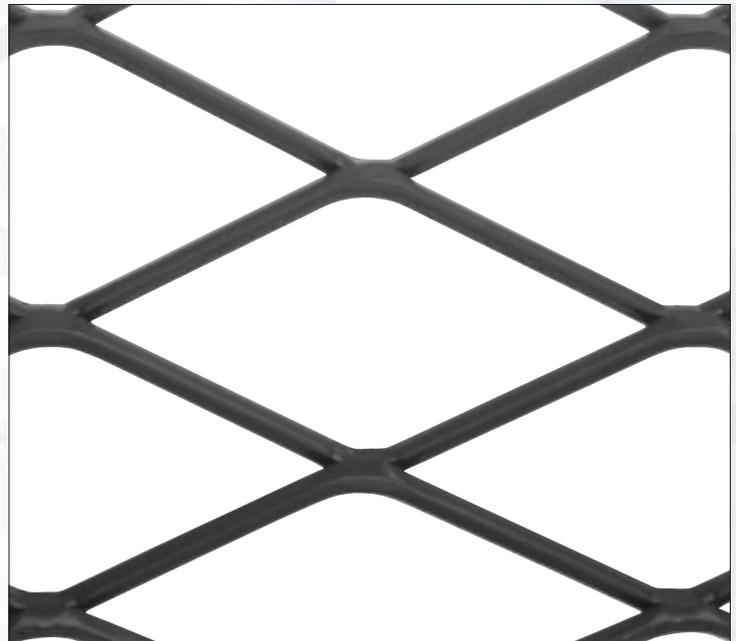
Types 3 - 4 - 220 - 19 - 22 - 40



Type 76



Type 60



Type 85



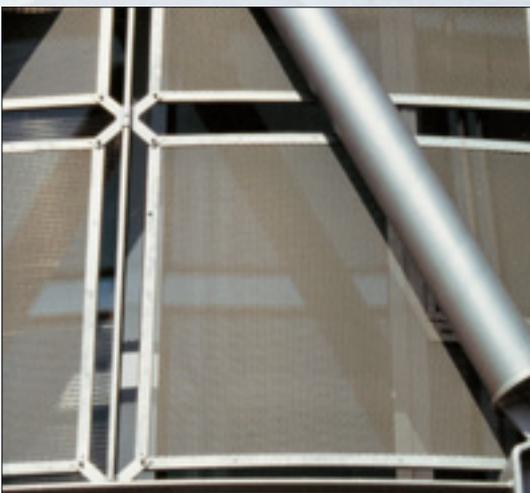
| Type | DL x DC mm | Actual DL x DC mm | Strand width av/mm | Thickness sp/mm | Weight kg/m ² | DL width mm | DC length mm |
|------------|------------|-------------------|--------------------|-----------------|--------------------------|---|----------------------|
| 3 | 62.5 x 20 | 62.5 x 23 | 3 | 1 | 1.95 | 1000 - 1250 - 1500 2000 - 2500 | 6000 5000 |
| 4 | 62.5 x 20 | 62.5 x 23 | 3 | 1.5 | 3 | 1000 1000 - 1250 - 1500 2000 - 2500 | 2000 6000 5000 |
| 220 | 62.5 x 20 | 62.5 x 23 | 3 | 2 | 4.2 | 1000 1000 - 1250 - 1500 2000 - 2500 | 2000 6000 5000 |
| 19 | 62.5 x 20 | 62.5 x 23.4 | 3 | 3 | 6.3 | 1000 - 1250 - 1500 | 6000 |
| 22 | 62.5 x 20 | 62.5 x 23.4 | 4.5 | 3 | 8.8 | 1000 - 1250 - 1500 | 4500 |
| 40 | 62.5 x 20 | 62.5 x 23.4 | 6 | 3 | 12 | 1000 - 1250 - 1500 | 3000 |
| 60 | 62.5 x 30 | 62.5 x 33 | 3 | 3 | 4.2 | 1000 - 1250 - 1500 | 6000 |
| 76 | 76 x 31 | 76 x 31 | 3 | 3 | 4.5 | 1000 | 6000 |
| 85 | 85 x 40 | 85 x 40 | 3 | 3 | 3.5 | 1000 - 1250 - 1500 | 6000 |

Roll or sheet sizes available

The highlighted data are for the mesh in the photos.

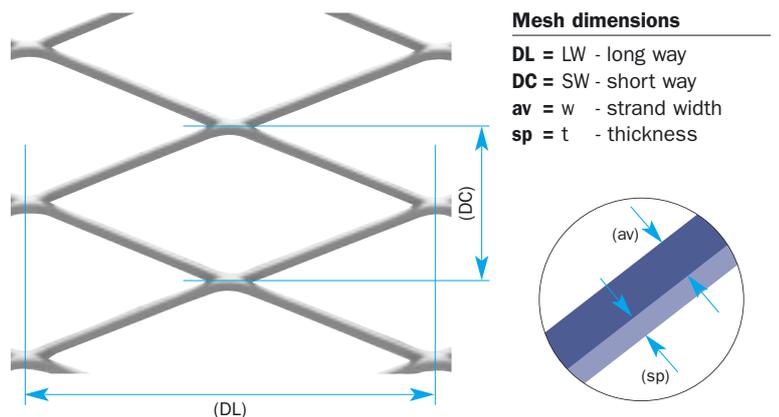
The weights given in the table are indicative and refer to steel mesh

All meshes are expanded from carbon steel. On request some of the meshes can be processed from pre-galvanized steel, aluminium, copper, brass and stainless.



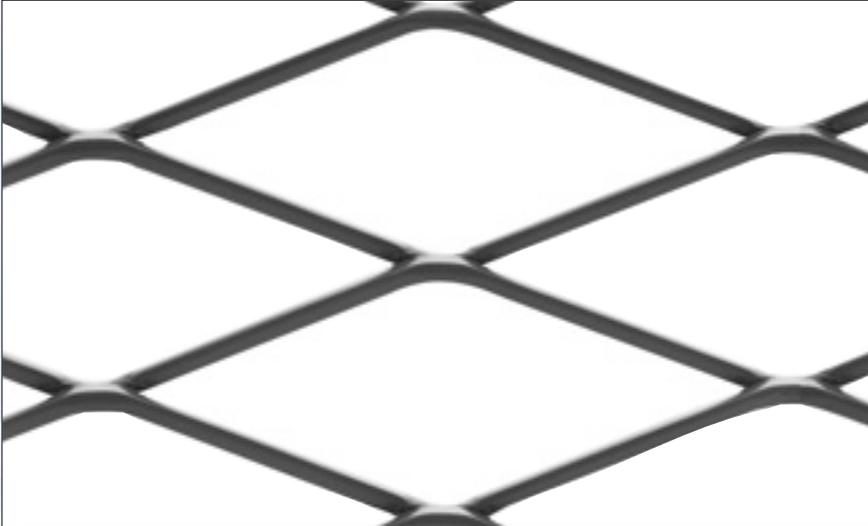
TYPE 25 - DL 28 x DC 10 (10) - av 1.5 - sp 1.5 mm
Steel painted with polyester powdered exterior paint

DL 62.5 x DC 20 (19) - av 4 x sp 4 mm
Aluminium

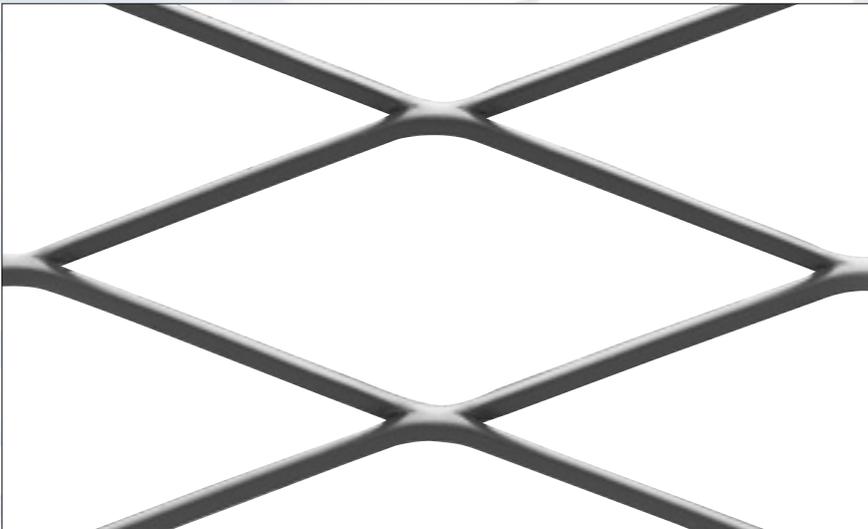


Expanded "Diamond" mesh

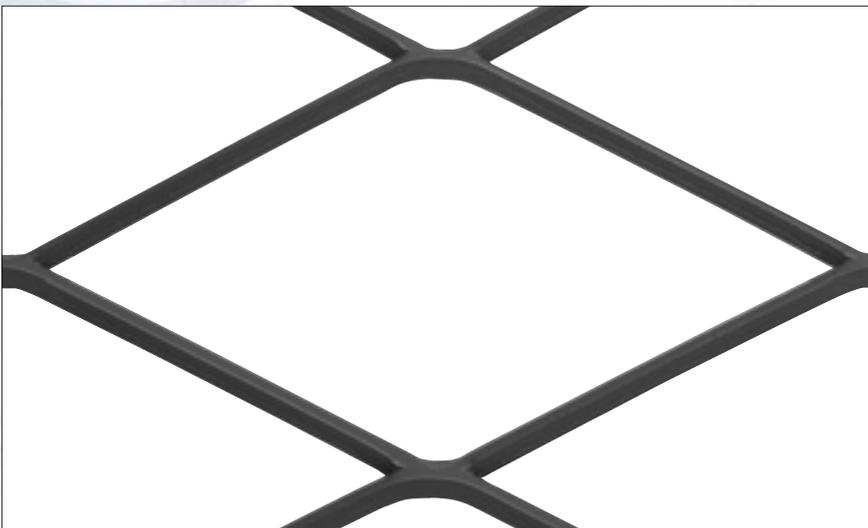
Mesh dimensions (1:1)



Type 33



Types 24 - 21 - 24 A



Types 73 - 74 - 75

All meshes are expanded from carbon steel.
On request some of the meshes can be processed from pre-galvanized steel, aluminium, copper, brass and stainless.

1 - AMBASCIATA - DL 110 x DC 40 (52) - av 24 x sp 1,5 mm
TIPO 24 A - DL 110 x DC 40 (43) - av 6 - sp 3 mm
Steel painted with polyester powder exterior paint

2 - TYPE 24 A - DL 110 x DC 40 (43) - av 6 - sp 3 mm
Natural anodised aluminium
FILS 21 - DL 45 x DC 15 (13.4) - av 5 x sp 3 mm
Hot dip galvanised steel



| Type | DL x DC mm | Actual DL x DC mm | Strand width av/mm | Thickness sp/mm | Weight kg/m ² | DL width mm | DC length mm |
|------------|------------|-------------------|--------------------|-----------------|--------------------------|-----------------------------------|---------------|
| 33 | 90 x 30 | 90 x 30 | 3 | 3 | 4.3 | 1000 - 1250 - 1500 | 6000 |
| 24 | 110 x 40 | 110 x 40 | 3 | 3 | 3.6 | 1000 - 1250 - 1500 2000 - 2500 | 10000 |
| 21 | 110 x 40 | 110 x 40 | 4.5 | 3 | 5.2 | 1000 - 1250 - 1500 2000 - 2500 | 6500 |
| 24A | 110 x 40 | 110 x 43 | 6 | 3 | 6.5 | 1000 - 1250 - 1500 2000 - 2500 | 5000 |
| 73 | 115 x 55 | 115 x 63 | 3 | 3 | 2.5 | made to order | made to order |
| 74 | 115 x 55 | 115 x 55 | 4 | 3 | 3.4 | made to order | made to order |
| 75 | 115 x 55 | 115 x 63 | 5 | 3 | 4.5 | made to order | made to order |

The highlighted data are for the mesh in the photos.

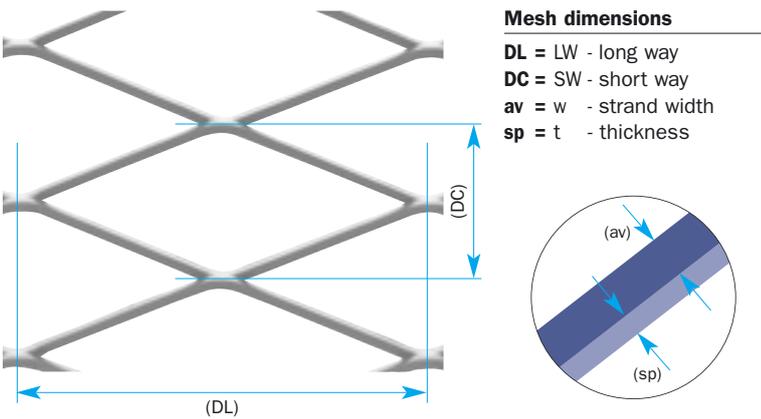
The weights given in the table are indicative and refer to steel grating



1

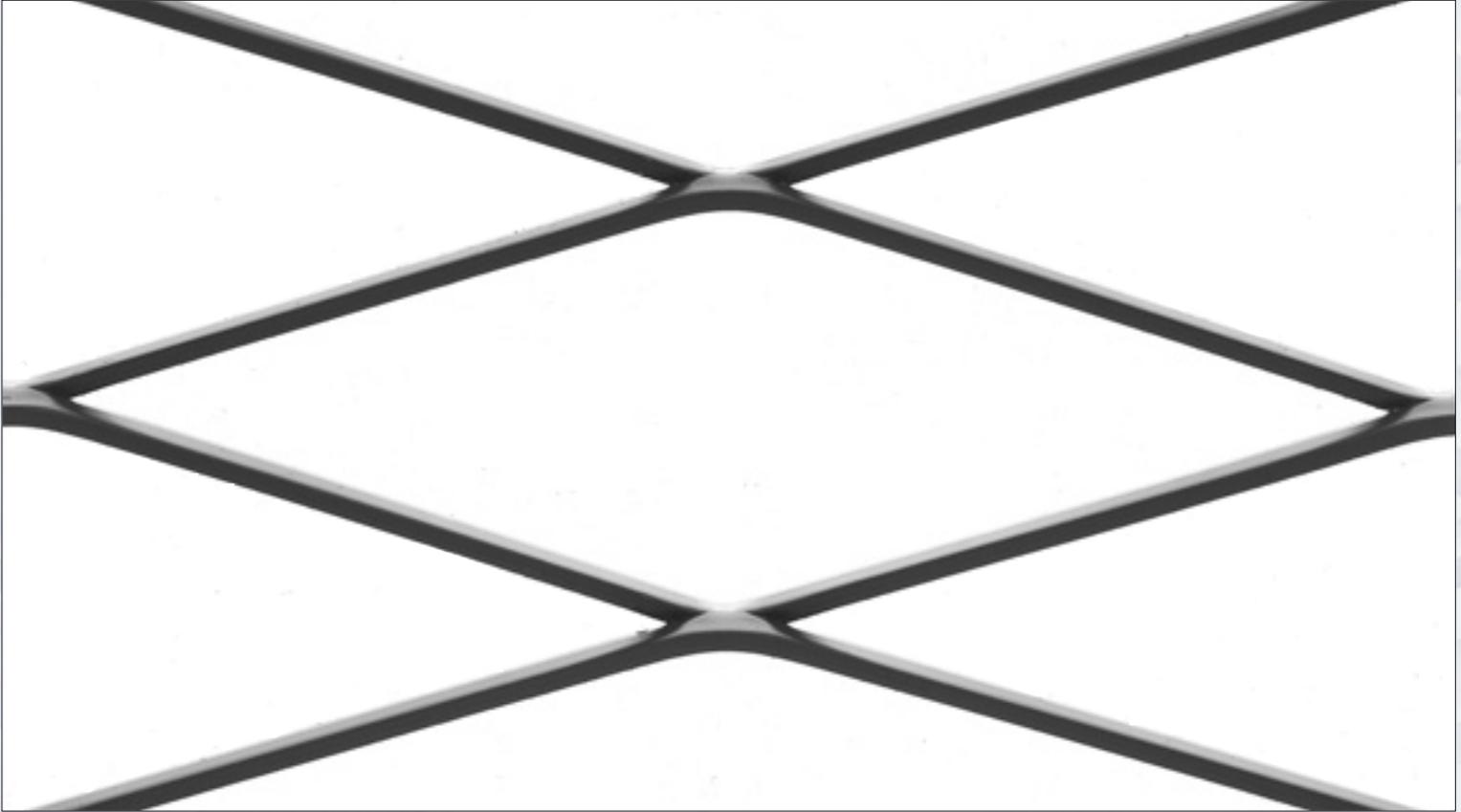


2



Expanded “Diamond” mesh

Mesh dimensions (1:1)



Types 44 - 45 - 48



Types 8 - 9 - 13



| Type | DL x DC mm | Actual DL x DC mm | Strand width av/mm | Thickness sp/mm | Weight kg/m ² | DL width mm | DC length mm |
|------|------------|-------------------|--------------------|-----------------|--------------------------|-----------------------------------|--------------|
| 44 | 200 x 55 | 200 x 62 | 4.7 | 3 | 3.6 | 1000 - 1250 - 1500 2000 - 2500 | 9000 |
| 45 | 200 x 55 | 200 x 62 | 6.2 | 3 | 4.7 | 1000 - 1250 - 1500 2000 - 2500 | 7000 |
| 48 | 200 x 55 | 200 x 62 | 5.4 | 5 | 6.7 | 1000 - 1250 - 1500 2000 - 2500 | 8000 |
| 8 | 200 x 75 | 200 x 80 | 6.6 | 3 | 3.9 | 1000 - 1250 - 1500 2000 - 2500 | 10000 |
| 9 | 200 x 75 | 200 x 80 | 4.5 | 3 | 2.9 | 1000 - 1250 - 1500 2000 - 2500 | 12000 |
| 13 | 200 x 75 | 200 x 80 | 5.3 | 5 | 5.1 | 1000 - 1250 - 1500 2000 - 2500 | 11000 |

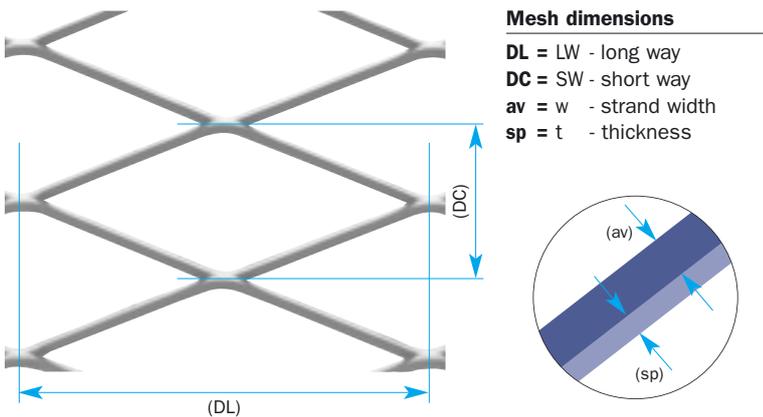
The highlighted data are for the mesh in the photos.

The weights given in the table are indicative and refer to steel grating

All meshes are expanded from carbon steel. On request some of the meshes can be processed from pre-galvanized steel, aluminium, copper, brass and stainless.



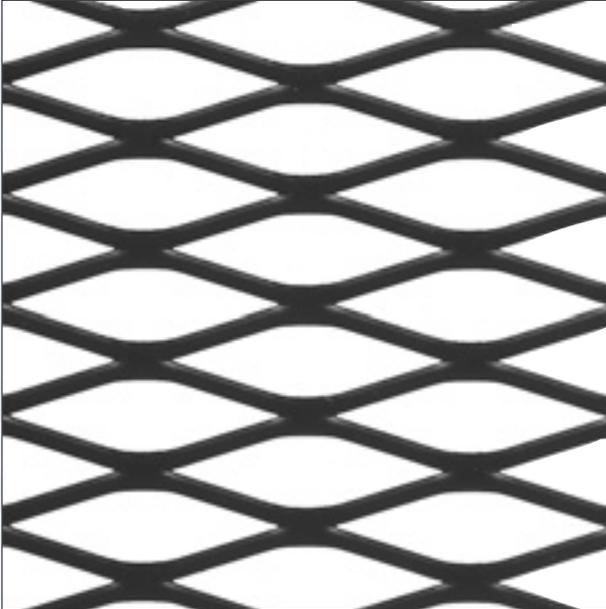
DL S 200 x DC 100 (125) - av 5 - sp 3 mm
Hot dip galvanised steel



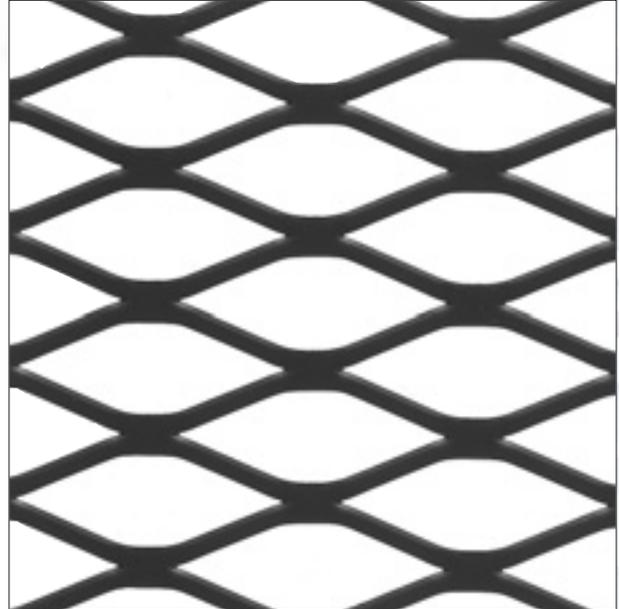
Expanded - flattened “Diamond” mesh
Expanded “Hexagonal” mesh
Expanded “Toothed Diamond” mesh

Flattened diamond mesh

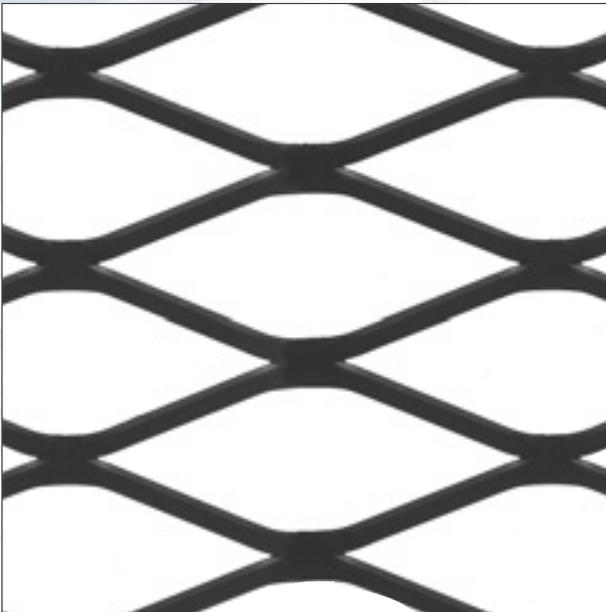
Mesh dimensions (1:1)



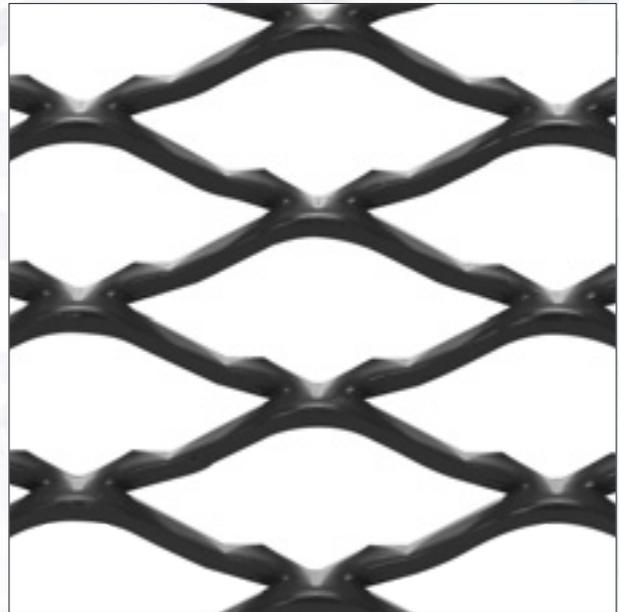
Types S 2 - S 17 - S 28



Type S 27



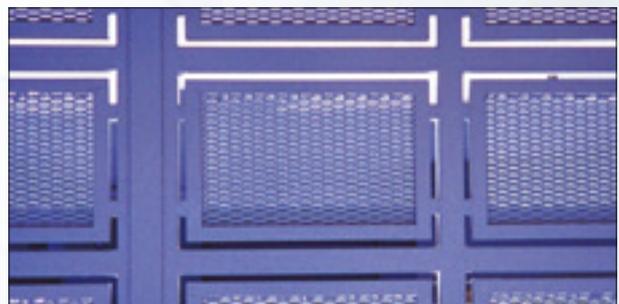
Types S 3 - S 4 - S 220



Types 96 - 97



1

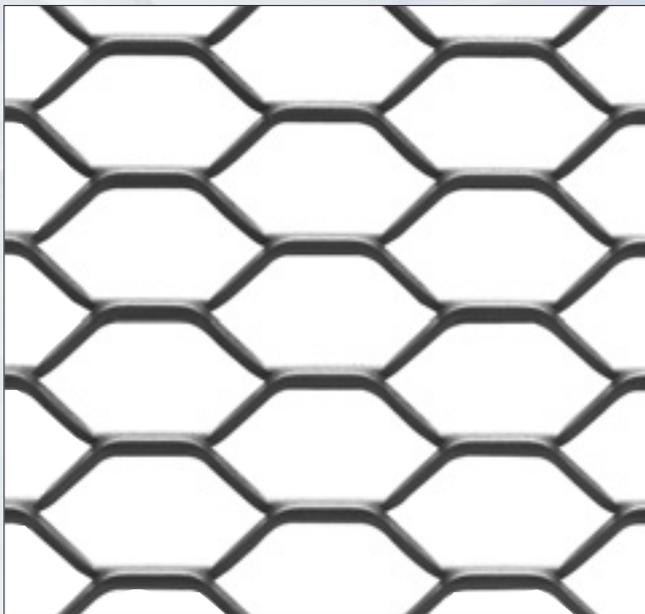


2

Expanded hexagonal mesh



Type E 35



Types E 1.5 - E 2

1 - AMBASIATA - DL 110 x DC 40 (52) - av 24 x sp 1.5 mm
Steel painted with polyester powder exterior paint

2 - FILS 21 - DL 45 x DC 15 (13.4) - av 5 x sp 3 mm
Steel painted with polyester powder exterior paint

| Type | DL x DC mm | Actual DL x DC mm | Strand width av/mm | Thickness sp/mm | Weight kg/m ² | DL width mm | DC length mm |
|--------------|------------|-------------------|--------------------|-----------------|--------------------------|---|----------------------|
| S 2 | 43 x 10 | 43 x 15 | 2.5 | 1 | 2.5 | 1000 1000 - 1250 - 1500 2000 - 2500 | 2000 6000 3700 |
| S 17 | 43 x 10 | 43 x 14.6 | 2.5 | 1.5 | 3.9 | 1000 1000 - 1250 - 1500 2000 - 2500 | 2000 6000 3700 |
| S 28 | 43 x 10 | 43 x 14.5 | 2.5 | 2 | 5.3 | 1000 1000 - 1250 - 1500 2000 - 2500 | 2000 6000 3700 |
| S 27 | 43 x 17 | 43 x 17.7 | 2.8 | 1.5 | 3.6 | 1000 1000 | 2000 6000 |
| S 3 | 62.5 x 20 | 62.5 x 25.5 | 3 | 1 | 1.8 | 1000 - 1250 - 1500 2000 - 2500 | 6000 5500 |
| S 4 | 62.5 x 20 | 62.5 x 25.5 | 3 | 1.5 | 2.8 | 1000 1000 - 1250 - 1500 2000 - 2500 | 2000 6000 5500 |
| S 220 | 62.5 x 20 | 62.5 x 24.5 | 3 | 2 | 3.9 | 1000 1000 - 1250 - 1500 2000 - 2500 | 2000 6000 5500 |

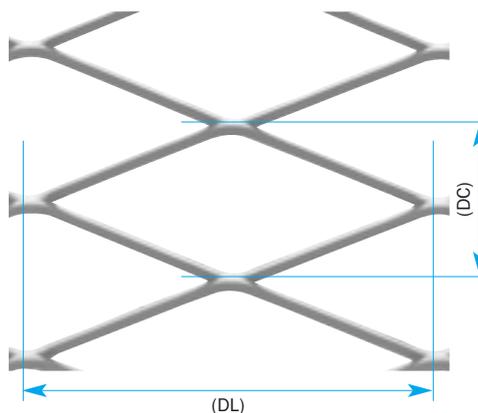
S = Flattened

| | | | | | | | |
|--------------|-----------|-----------|-----|-----|------|---------------|---------------|
| E 35 | 35 x 15 | 35 x 15 | 2 | 2 | 4 | 1000 | 6000 |
| E 1,5 | 45 x 18 | 45 x 17.5 | 2.2 | 1.5 | 3 | 1000 | 6000 |
| E 2 | 45 x 18 | 45 x 17.5 | 2.2 | 2 | 3.9 | 1000 | 6000 |
| 96 | 62.5 x 25 | 62.5 x 25 | 4.3 | 3 | 8.14 | made to order | made to order |
| 97 | 62.5 x 25 | 62.5 x 25 | 6.2 | 3 | 11.7 | made to order | made to order |

The highlighted data are for the mesh in the photos.

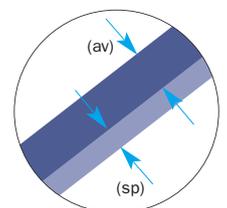
The weights given in the table are indicative and refer to steel grating

All meshes are expanded from carbon steel. On request some of the meshes can be processed from pre-galvanized steel, aluminium, copper, brass and stainless.



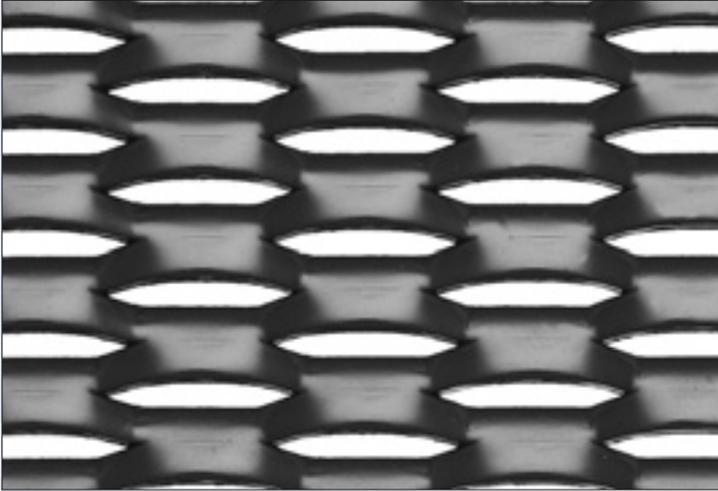
Mesh dimensions

DL = LW - long way
DC = SW - short way
av = w - strand width
sp = t - thickness



• Expanded - ribbed grating

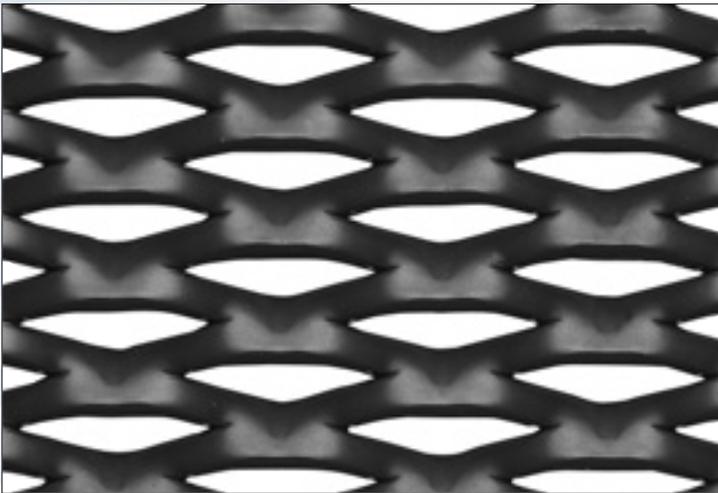
Mesh dimensions (1:1)



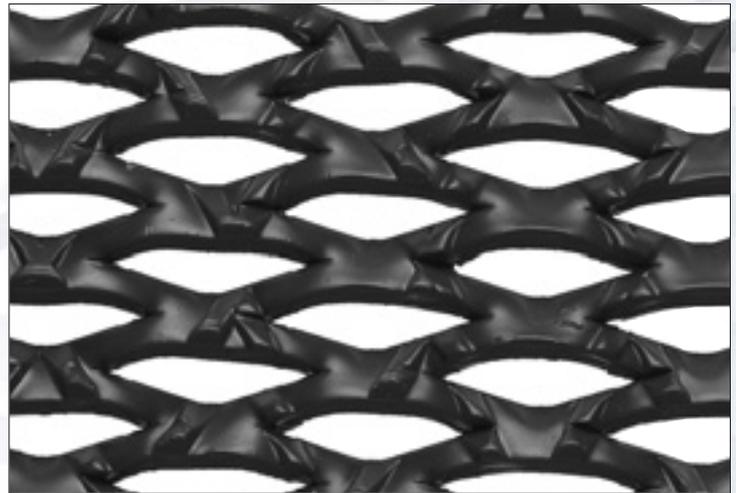
Types Fils 20 - Fils 21 - Fils 22



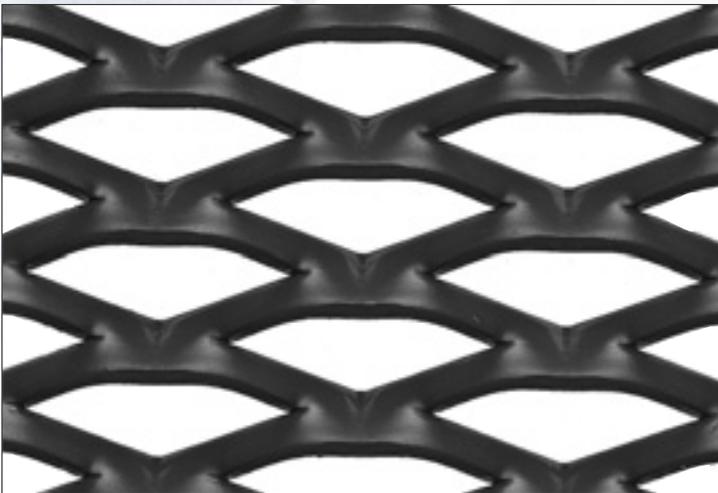
Type Fils 21 Ⓢ



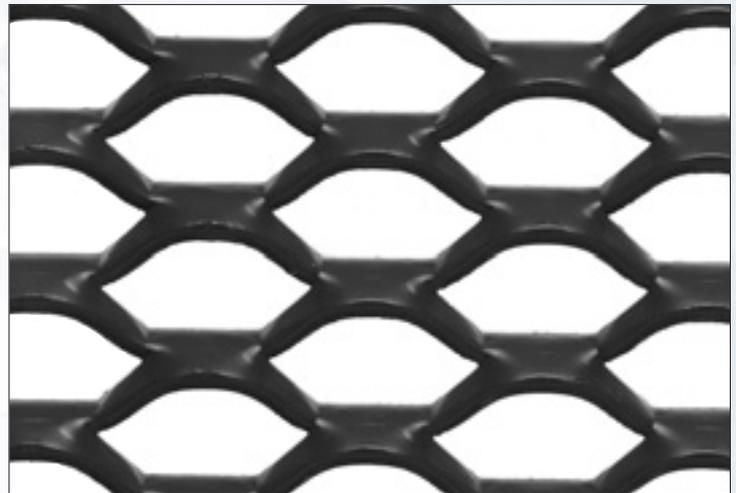
Types Fils 15 - Fils 16



Type Fils 15 Ⓢ



Type P 02



Types E 3 - E 4

Expanded and ribbed gratings

Thanks to their shape, some grating

types are antipanic non slip, high-heel safe and act as a flame/smoke break.

| Type | DL x DC mm | Actual DL x DC mm | Strand width av/mm | Thickness sp/mm | Weight kg/m ² | DL width mm | DC length mm |
|--------------------|------------|-------------------|--------------------|-----------------|--------------------------|----------------------|----------------------|
| Fils 20 | 45 x 15 | 45 x 11.4 | 3.3 | 3 | 13.8 | 1000 | 2000 |
| Fils 21 | 45 x 15 | 45 x 13.4 | 5 | 3 | 17.5 | 1000 1250 1500 | 2000 2500 3000 |
| Fils 22 | 45 x 15 | 45 x 13.4 | 5 | 4 | 24 | 1000 | 2000 |
| Fils 15 | 43 x 17 | 43 x 14 | 5 | 3 | 17 | 1000 | 2000 |
| Fils 16 | 43 x 17 | 43 x 14 | 5 | 4 | 23 | made to order | made to order |
| P 02 | 53.5 x 20 | 53,8 x 18 | 5 | 3 | 13 | 1000 1500 | 2000 3000 |
| Fils 21 (S) | 45 x 15 | 45 x 13.4 | 5 | 3 | 21.5 | 1000 | 2000 |
| Fils 15 (S) | 43 x 17 | 43 x 14 | 5 | 3 | 21 | made to order | made to order |
| E 3 | 45 x 18 | 45 x 19.5 | 4.5 | 3 | 11 | 1000 1250 1500 | 2000 2500 3000 |
| E 4 | 45 x 18 | 45 x 19.5 | 4.5 | 4 | 14 | 1000 1250 | 2000 2500 |

Sheet sizes available

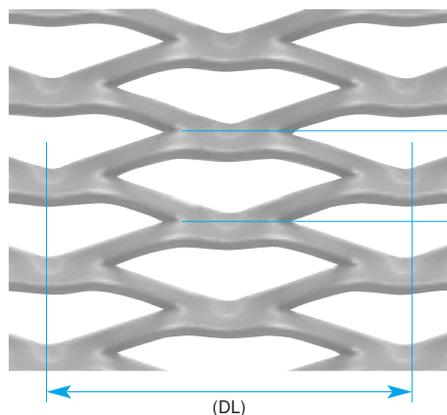
(S) = Ribbed

The weights given in the table are indicative and refer to steel grating

The highlighted data are for the mesh in the photos.

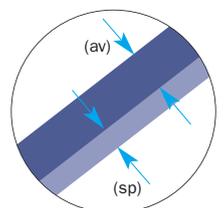
All gratings are expanded from carbon steel. On request some of the meshes can be processed from pre-galvanized steel, aluminium, copper, brass and stainless.

Some of the grating types can be processed also from thickness 1.5 - 2 and 2.5 mm.



Mesh dimensions

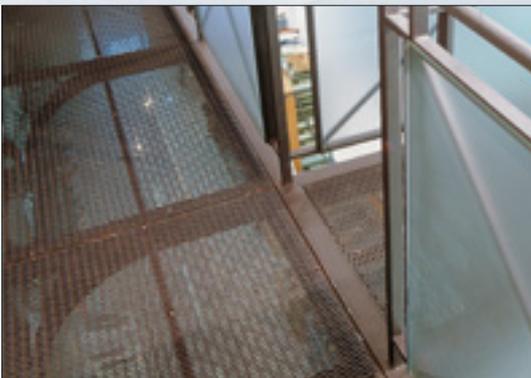
- DL = LW - long way
- DC = SW - short way
- av = w - strand width
- sp = t - thickness



1



2



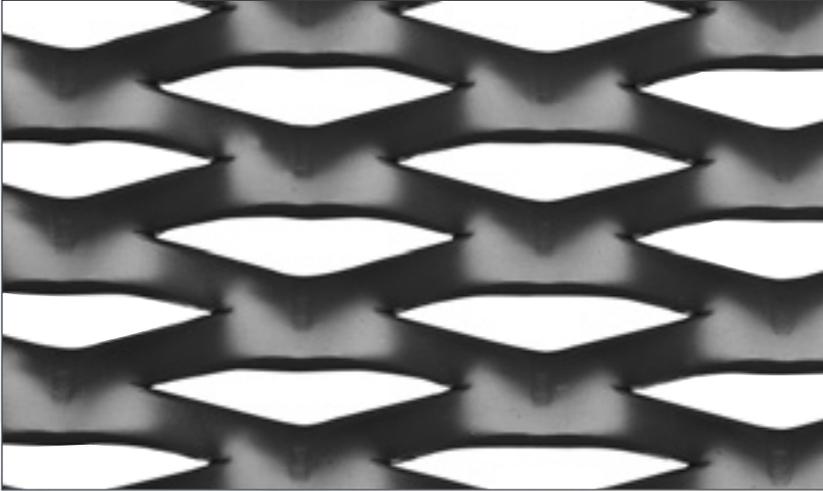
3

1 - FILS 6 - DL 90 x DC 30 (22.3) - av 7.5 x sp 4 mm
Fils 20 - DL 45 x DC 15 (11.4) - av 3.3 x sp 3 mm
Hot dip galvanised steel

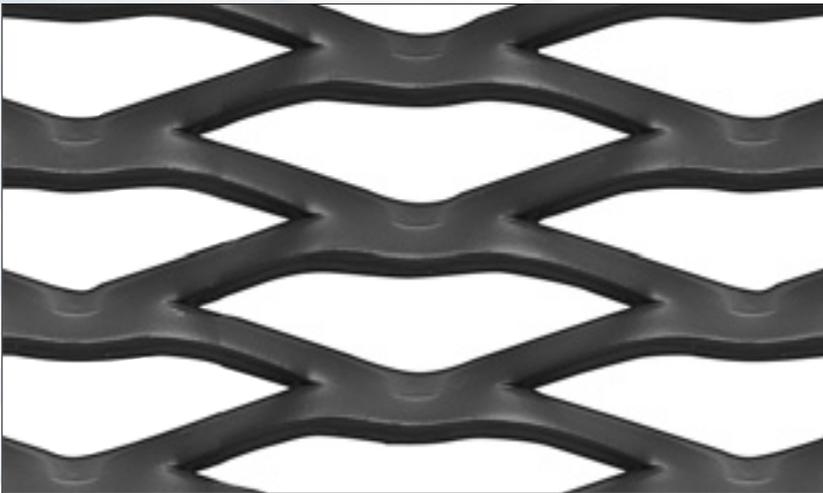
2/3 - FILS 20 - DL 45 x DC 15 (11.4) - av 3.3 x sp 3 mm
Hot dip galvanised steel

• Expanded gratings

Mesh dimensions (1:1)



Types Fils 4 - Fils 5



Types Fils 6 - Fils 7 - Fils 8



Types Fils 1 - Fils 2 - Fils 3

All gratings are expanded from carbon steel. On request some of the meshes can be processed from pre-galvanized steel, aluminium, copper, brass and stainless.

Some of the gratings types can be processed also from thickness 1.5 - 2 and 2.5 mm.

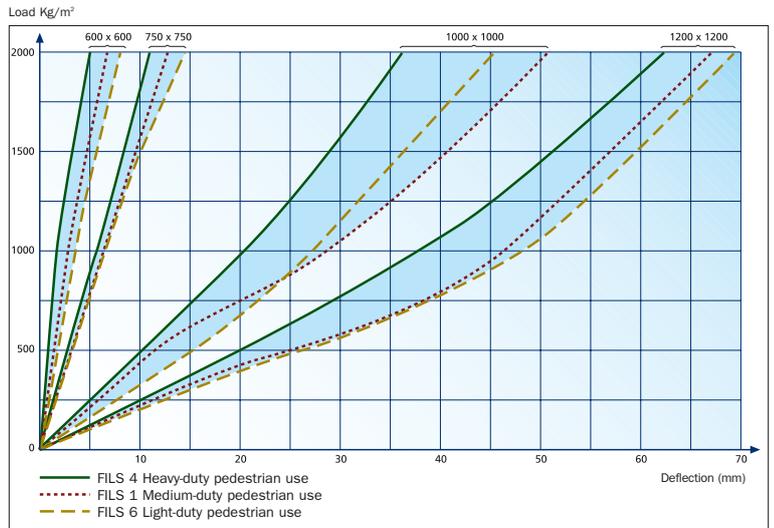
| Type | DL x DC mm | Actual DL x DC mm | Strand width av/mm | Thickness sp/mm | Weight kg/m ² | DL width mm | DC length mm |
|------|------------|-------------------|--------------------|-----------------|--------------------------|-------------|--------------|
|------|------------|-------------------|--------------------|-----------------|--------------------------|-------------|--------------|

| | | | | | | | |
|---------------|-----------|-----------|-----|---|----|----------------------|----------------------|
| Fils 4 | 62.5 x 20 | 62.5 x 20 | 7.5 | 4 | 23 | 1000 1250 | 2000 2500 |
| Fils 5 | 62.5 x 20 | 62.5 x 20 | 7.5 | 3 | 18 | 1000 1250 1500 | 2000 2500 3000 |

| | | | | | | | |
|---------------|---------|-----------|-----|---|----|---------------|---------------|
| Fils 6 | 90 x 30 | 90 x 22.3 | 7.5 | 4 | 21 | 1000 | 2000 |
| Fils 7 | 90 x 30 | 90 x 22.3 | 8.3 | 4 | 23 | made to order | made to order |
| Fils 8 | 90 x 30 | 90 x 22.3 | 7.2 | 5 | 25 | made to order | made to order |

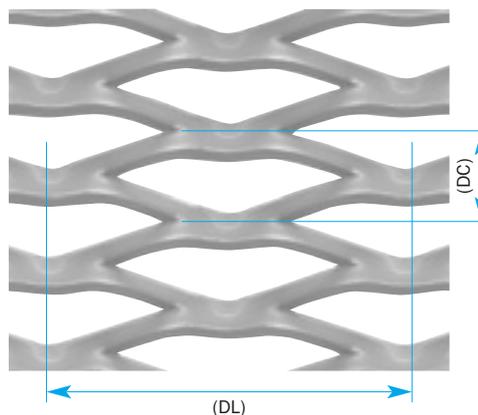
| | | | | | | | |
|---------------|----------|------------|---|---|------|----------------------|----------------------|
| Fils 1 | 110 x 40 | 110 x 25.4 | 7 | 4 | 17 | 1000 1250 1500 | 2000 2500 3000 |
| Fils 2 | 110 x 40 | 110 x 25.4 | 8 | 4 | 19.5 | 1000 | 2000 |
| Fils 3 | 110 x 40 | 110 x 25.4 | 7 | 5 | 22 | 1000 | 2000 |

The highlighted data are for the mesh in the photos. *The weights given in the table are indicative and refer to steel grating*



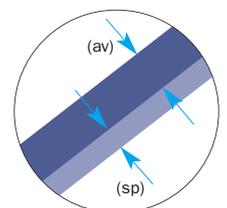
Load test

The data shown in the graph refer to the laying of frameless gratings fixed by welding to the support beams on either side of the walkway. The self-supporting grating panels are edged and framed with sections proportional to the expected load.



Mesh dimensions

DL = LW - long way
DC = SW - short way
av = w - strand width
sp = t - thickness



FILS 20 - DL 45 x DC 15 (11.4) - av 3.3 x sp 2 mm
 AISI 304 steel

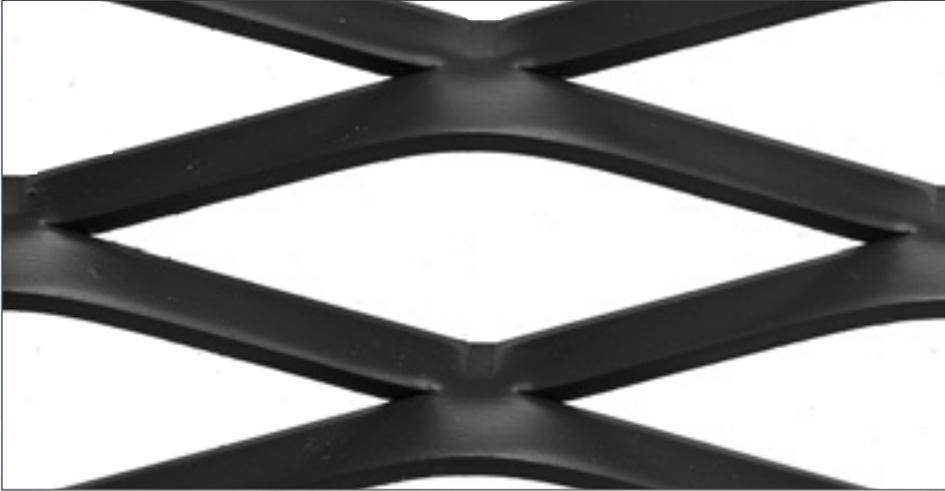


COLISEUM - DL 200 x DC 75 (80) - av 24 x sp 2 mm
 Aluminium

• Expanded and flattened gratings

Expanded grating

Mesh dimensions (1:1)

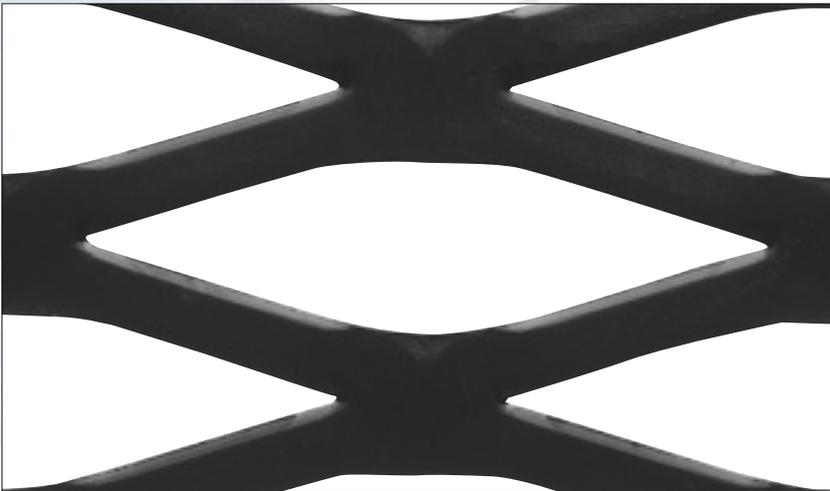


Type Fils 9

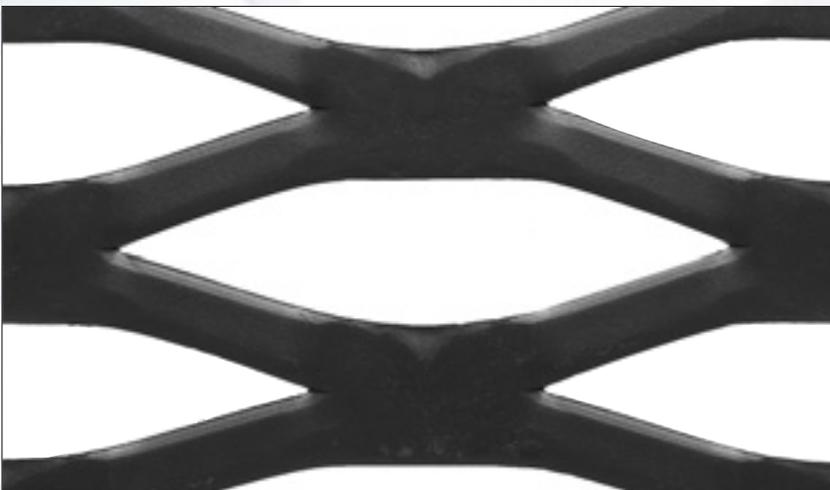
All gratings are expanded from carbon steel. On request some of the meshes can be processed from pre-galvanized steel, aluminium, copper, brass and stainless.

Some of the gratings types can be processed also from thickness 1.5 - 2 and 2.5 mm.

Flattened grating



Types SP 2 - SP 5



Types SP 2A - SP 5A

| Type | DL x DC mm | Actual DL x DC mm | Strand width av/mm | Thickness sp/mm | Weight kg/m ² | DL width mm | DC length mm |
|---------------|------------|-------------------|--------------------|-----------------|--------------------------|---------------|---------------|
| Fils 9 | 125 x 40 | 125 x 43 | 12 | 4 | 17.5 | made to order | made to order |
| SP 2 | 110 x 40 | 110 x 41.6 | 9.5 | 4 | 14 | 1000 1250 | 2000 2500 |
| SP 5 | 110 x 40 | 110 x 41.6 | 9.5 | 5 | 17.5 | made to order | made to order |
| SP 2A | 110 x 40 | 110 x 37 | 9.5 | 4 | 16 | 1000 | 2000 |
| SP 5A | 110 x 40 | 110 x 37 | 9.5 | 5 | 18.5 | made to order | made to order |

Sheet sizes available

SP = Flattened

The weights given in the table are indicative and refer to steel grating

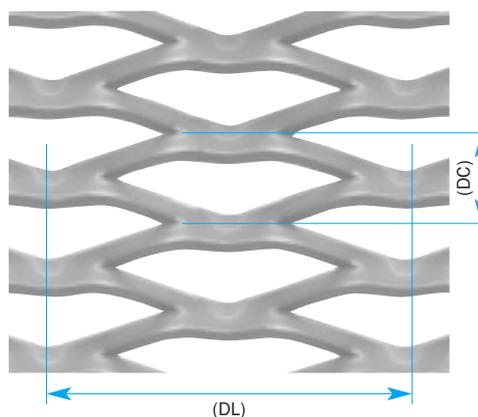
The highlighted data are for the mesh in the photos.



SP 2 - DL 110 x DC 40 (41.6) - av 9.5 x sp 4 mm
Hot dip galvanised steel

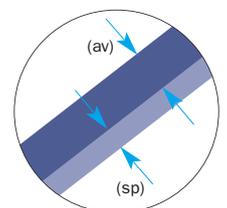


AMBASCIATA - DL 110 x DC 40 (52) - av 24 x sp 1.5 mm
Natural anodised aluminium



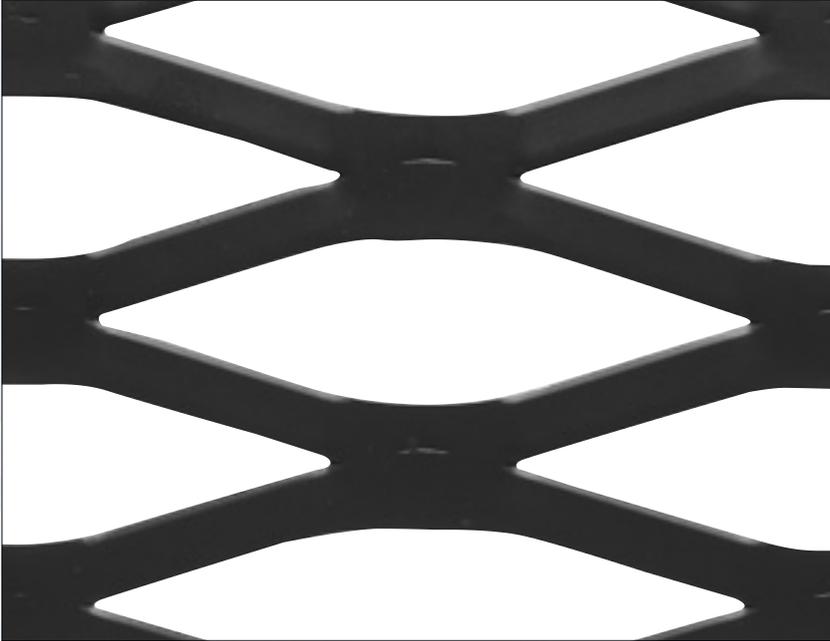
Mesh dimensions

- DL = LW - long way
- DC = SW - short way
- av = w - strand width
- sp = t - thickness

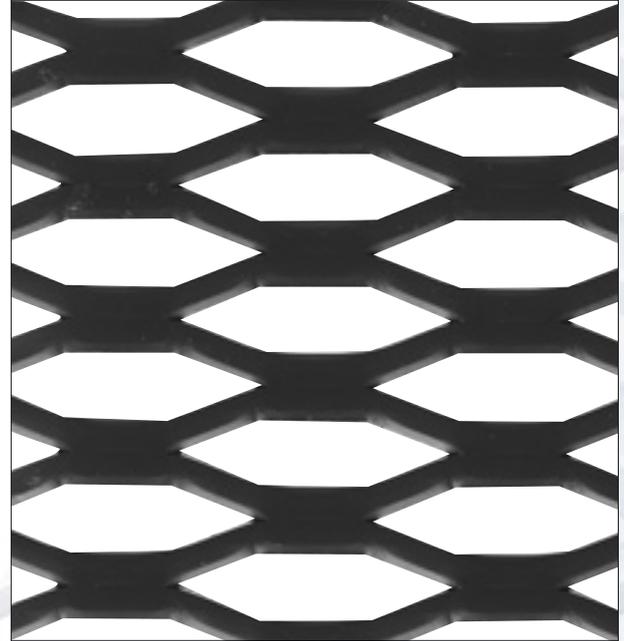


- **Expanded and flattened grating**

Flattened grating for livestock

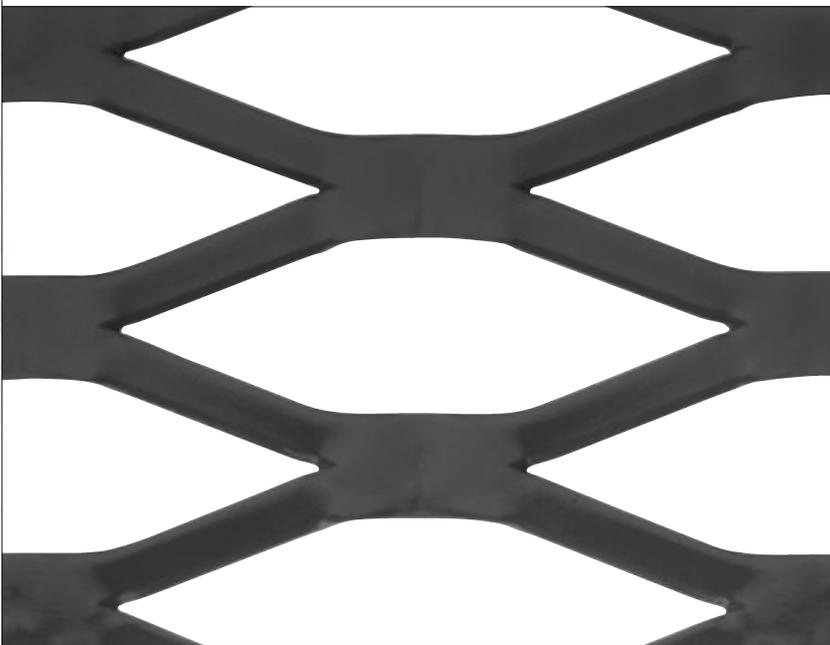


PS 03 flattened - PS 04 flattened



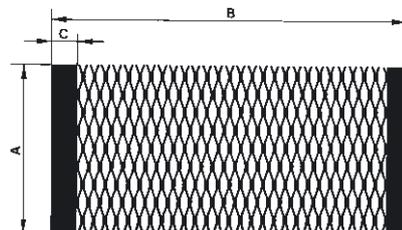
SC 3 flattened

Flattened grating loading trays for tile and brick kilns

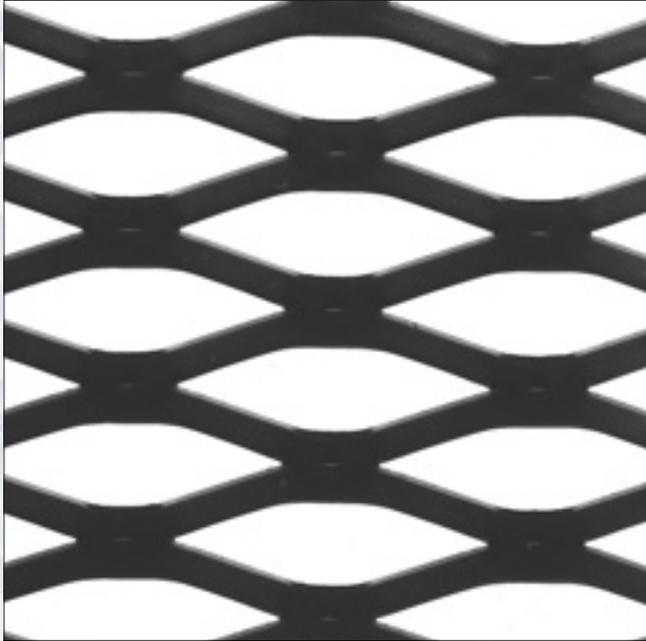


These loading trays, made from expanded flattened carbon steel sheet, not only provide a perfectly flat surface, but also let hot air circulate freely. The special strength of these trays allow for fast safe handling.

The trays come with two solid sheet borders for easy assembly. These borders can be eliminated on request.



Mesh dimensions (1:1)



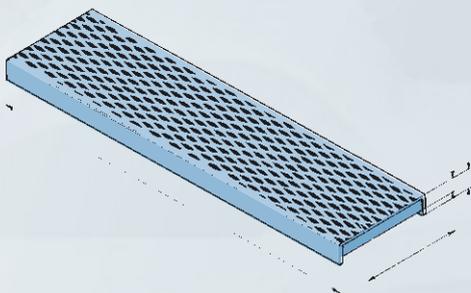
PS 01 flattened - PS 02 flattened



The platforms are made from expanded flattened hot dip galvanised steel sheet for lasting protection against corrosion. These are the most practical and low-cost solution for paving livestock farm buildings.

MAIN ADVANTAGES

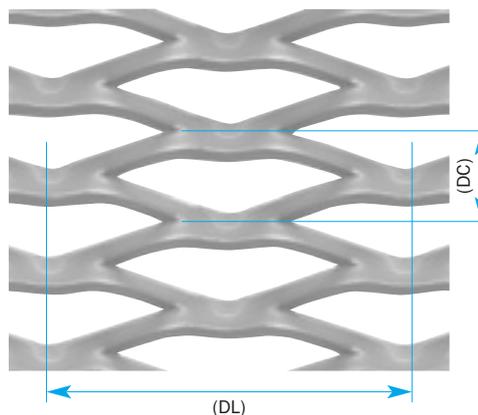
- Easy to clean thanks to their good ratio of open area.
- A more hygienic environment.
- Longer life span thanks to hot dip galvanising.
- Easy to install even in existing buildings.



| Type | DL x DC mm | Actual DL x DC mm | Aperture dimensions | Strand width av/mm | Thickness sp/mm | Weight kg/m ² | DL width mm | DC length mm |
|------------------|------------|-------------------|---------------------|--------------------|-----------------|--------------------------|---------------|---------------|
| PS 03 | 110 x 40 | 110 x 40 | 85 x 21 | 9.5 | 3 | 11 | made to order | made to order |
| PS 04 | 110 x 40 | 110 x 40 | 85 x 21 | 9.5 | 4 | 15 | made to order | made to order |
| SC 3 | 52 x 14 | 52 x 18 | 35 x 9 | 4.8 | 3 | 12.5 | 1000 | 2000 |
| PS 01 | 53.5 x 20 | 53.5 x 21.5 | 40 x 12 | 4.8 | 2 | 7 | 1000 | 2000 |
| PS 02 | 53.5 x 20 | 53.5 x 21.5 | 40 x 12 | 4.8 | 3 | 10.5 | 1000 | 2000 |
| Platforms | 110 x 40 | 110 x 37 | 80 x 24 | 7 | 3 | 9 | made to order | made to order |

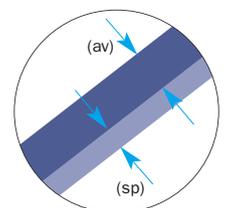
The highlighted data are for the mesh in the photos.

The weights given in the table are indicative and refer to steel grating



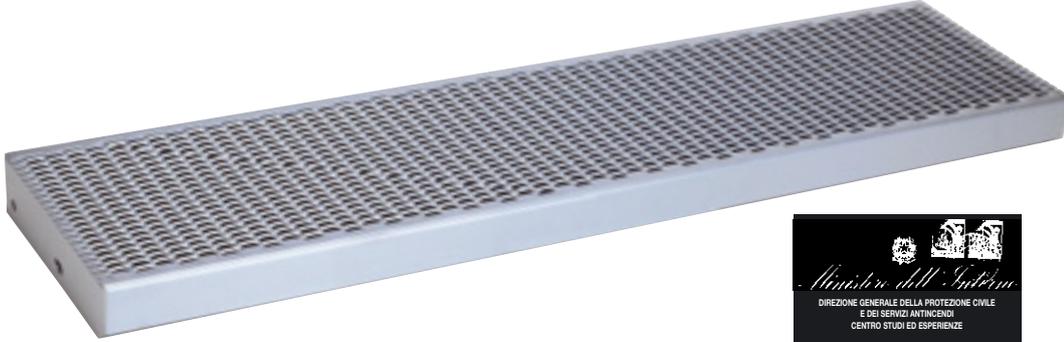
Mesh dimensions

- DL = LW - long way
- DC = SW - short way
- av = w - strand width
- sp = t - thickness

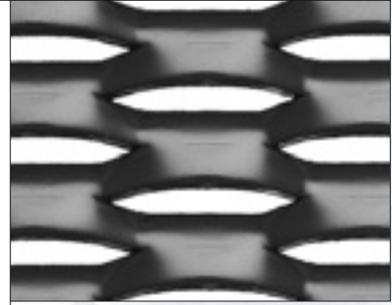


• Stair treads

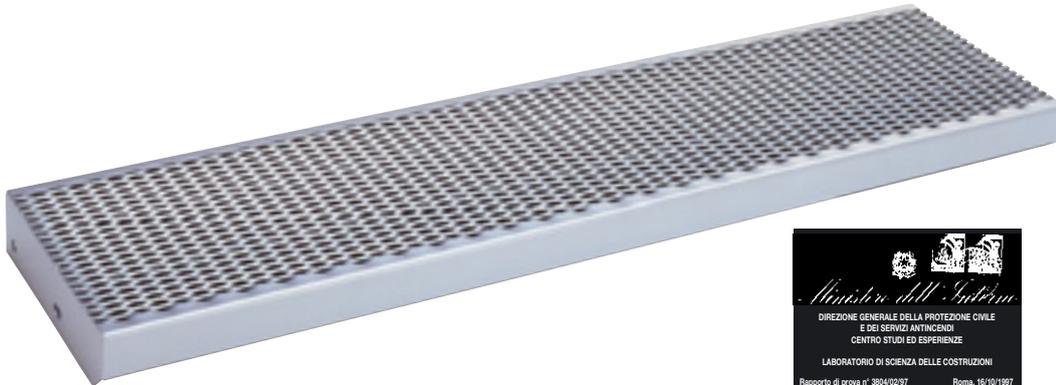
SICURFILS Fils 21 sp 3 mm



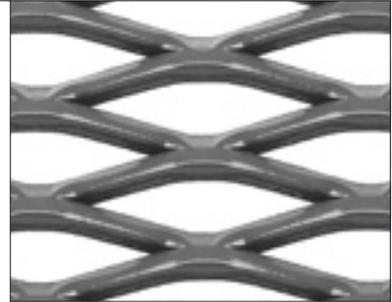
TYPE-APPROVED TREAD
400 kg concentrated load capacity



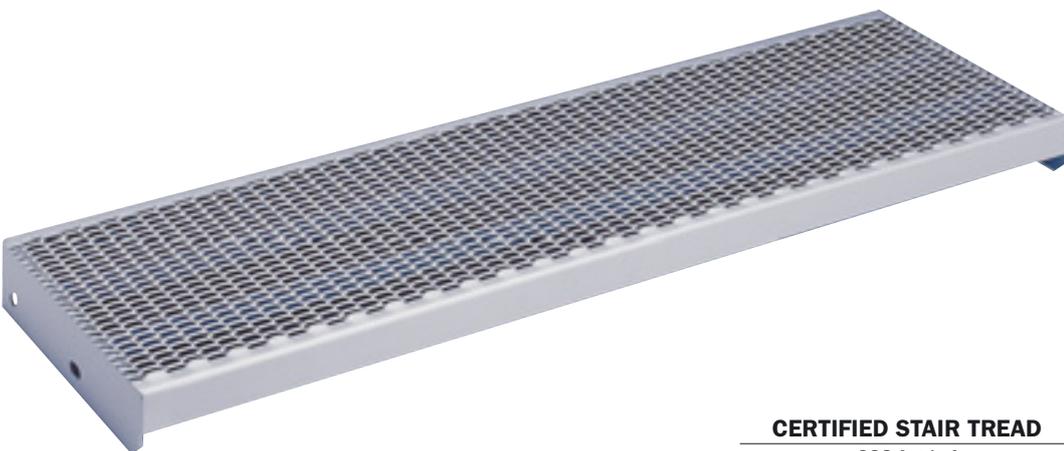
BETA 43 x 10 sp 3 mm



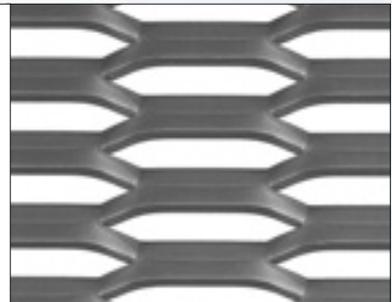
TYPE-APPROVED TREAD
200 kg concentrated load capacity



GAMMA Fils 20 sp 2.5 mm



CERTIFIED STAIR TREAD
600 kg/m²
evenly distributed load capacity



| Type | DL mm | H mm | DC mm | Unit weight kg |
|------------------|-------|------|-------|----------------|
| SICURFILS | 1200 | 73 | 300 | 15.7 |
| BETA | 1200 | 73 | 300 | 10 |
| GAMMA | 1200 | 72.5 | 300 | 10.5 |

| | | | | |
|-------------|------|----|-----|----|
| BETA | 1200 | 73 | 300 | 10 |
|-------------|------|----|-----|----|

| | | | | |
|--------------|------|------|-----|------|
| GAMMA | 1200 | 72.5 | 300 | 10.5 |
|--------------|------|------|-----|------|

Stair treads and baseboards can be made to order.

All our expertise for your safety.

Our stair treads and landings have been tested and approved by the major European control BODIES. In addition, they are fully compliant with the stringent standards set under Italian Ministerial Decree dated 16th January 1996 which establishes the new load capacities.

On request, our Technical Office can calculate and supply the load details for each tread and landing even in the case of small runs of non standard products.

Our products are built in accordance with legal requirements and strict standards of workmanship to guarantee:

- **STRENGTH**
- **SAFETY**
- **NON-SLIP**
- **HIGH-HEEL SAFE**
- **FLAME/SMOKE BREAK**
- **ANTIPANIC**

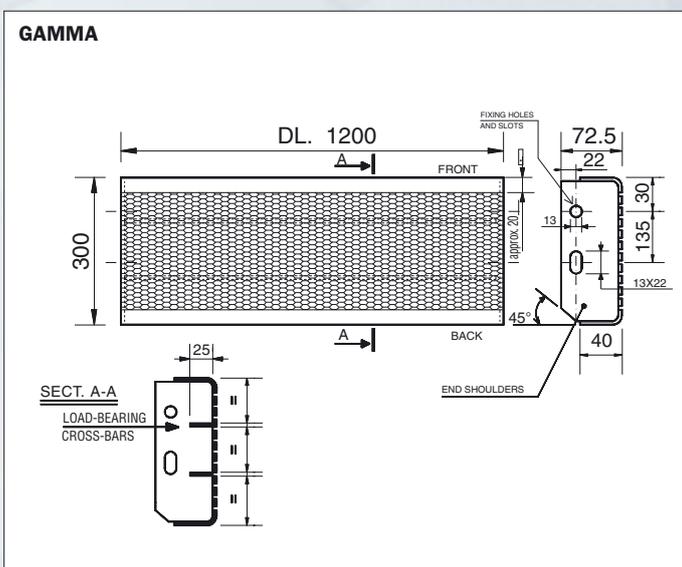
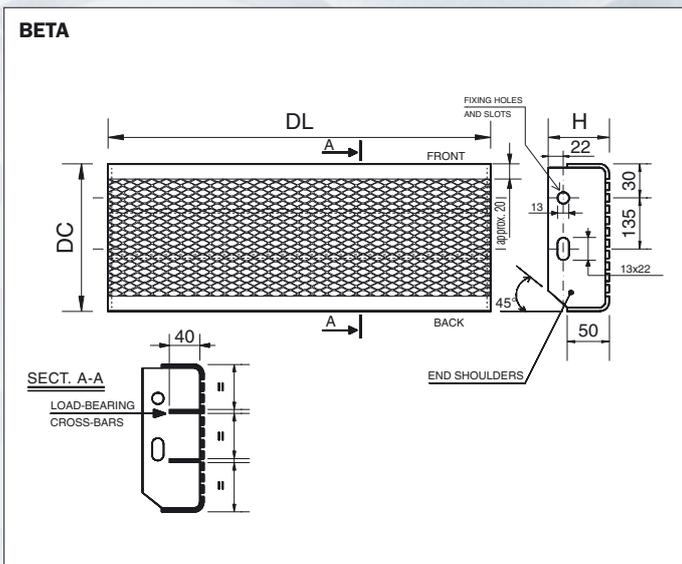
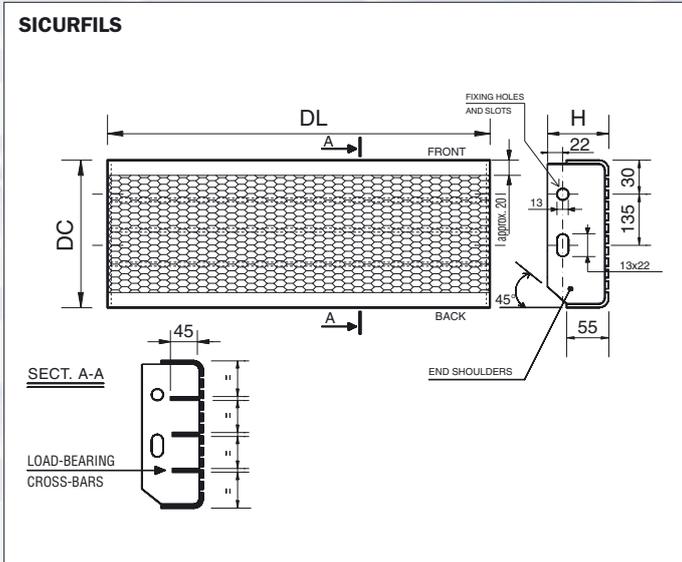
Our wide range of treads and landings (also available in stainless steel) lets you find the perfect solution to cut costs for each application.



Nut and bolt for stair treads:
• SICURFILS • BETA • GAMMA
hole Ø 13 mm - slot 13 x 22 mm



Bolt M12 x 30 mm

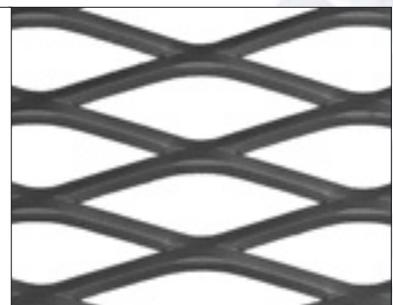


• Stair treads

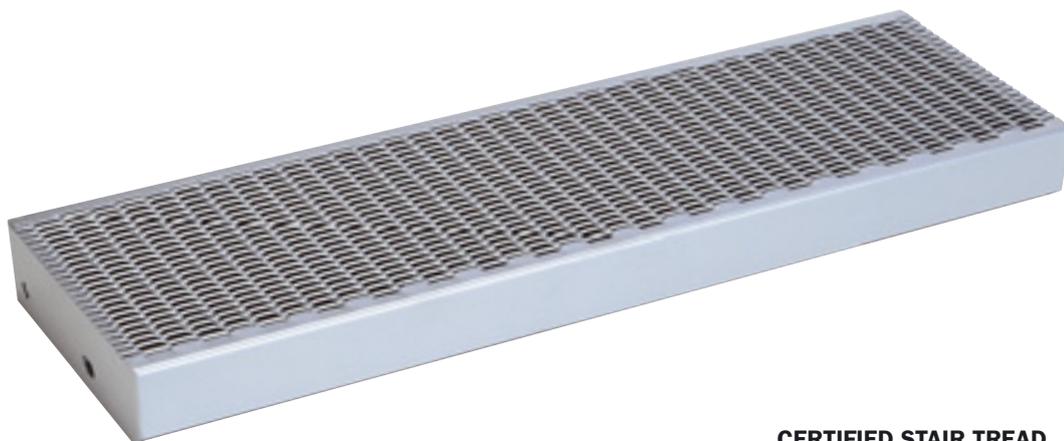
ECO 43 x 10 sp 2 mm



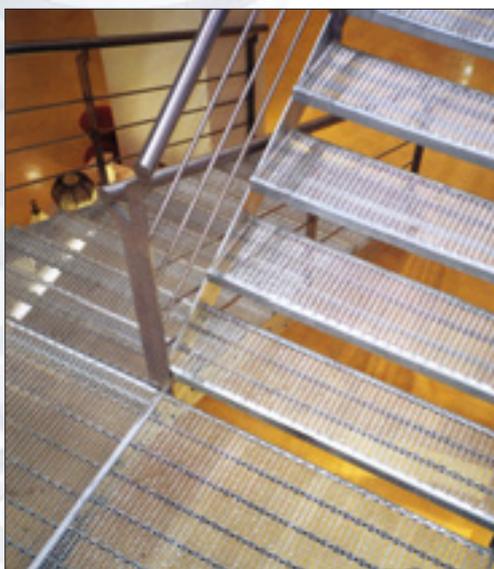
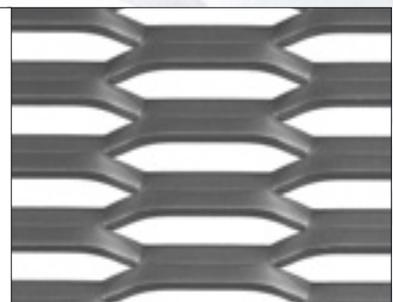
TYPE-APPROVED TREAD
400 kg concentrated load capacity



GALAXI Fils 20 sp 2 mm



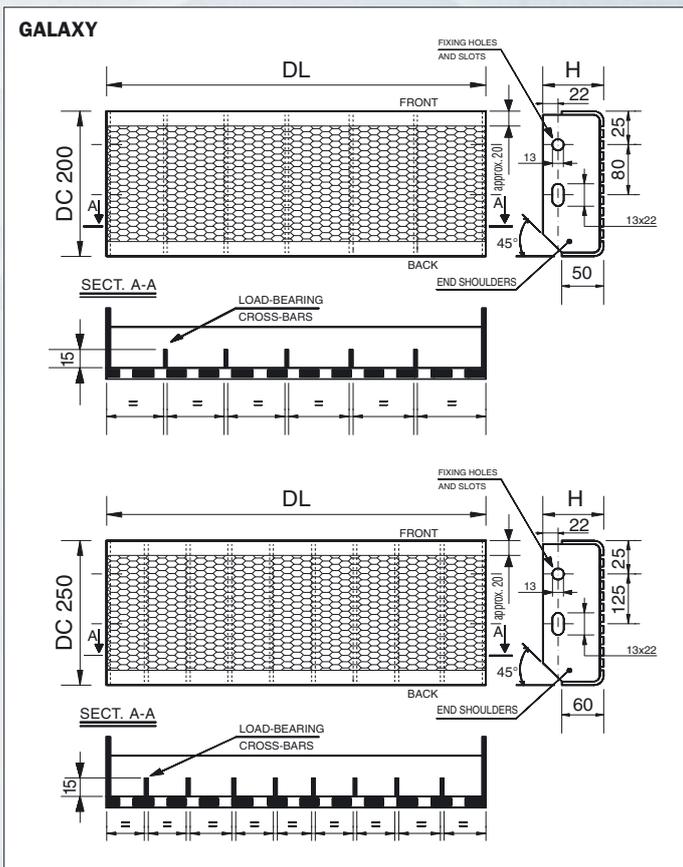
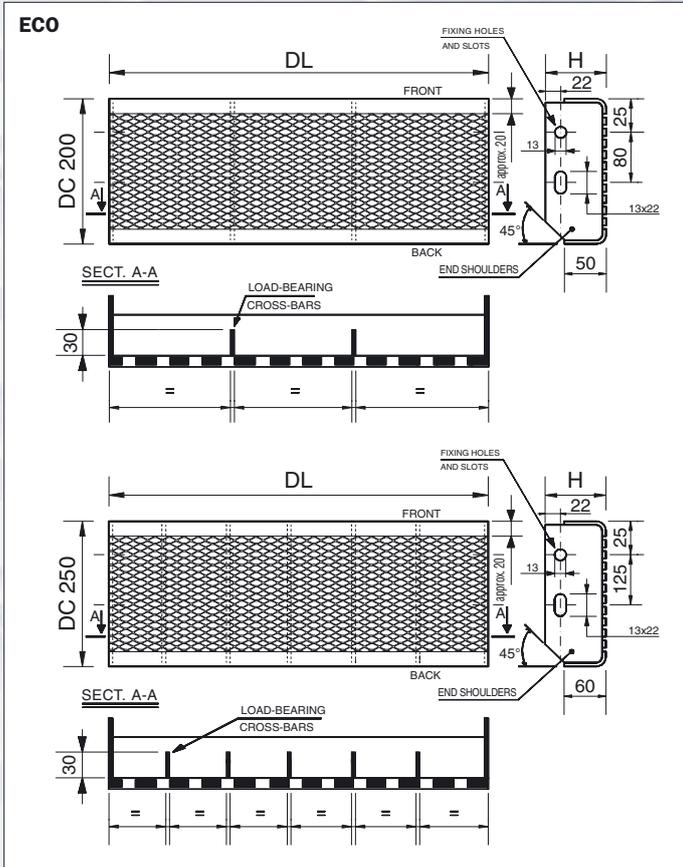
CERTIFIED STAIR TREAD
200 kg concentrated load capacity



Nut and bolt for stair treads:
• ECO
• GALAXI
hole \varnothing 13 mm
slot 13 x 22 mm



Bolt M12 x 30 mm

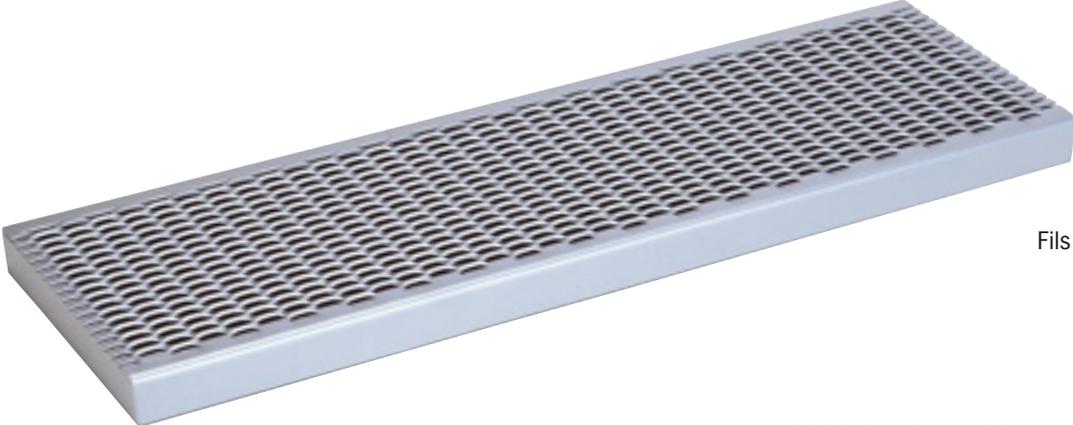


| Type | DL mm | H mm | DC mm | Unit weight kg |
|---------------|-------|------|-------|----------------|
| ECO | 1000 | 72 | 250 | 5.6 |
| | 900 | 72 | 250 | 5.3 |
| | 800 | 72 | 250 | 4.9 |
| | 700 | 72 | 200 | 3.4 |
| | 600 | 72 | 200 | 3.1 |
| 500 | 72 | 200 | 2.7 | |
| GALAXI | 1000 | 72 | 250 | 6.5 |
| | 800 | 72 | 250 | 5.4 |
| | 700 | 72 | 200 | 3.9 |
| | 600 | 72 | 200 | 3.4 |
| | 500 | 72 | 200 | 3 |

Stair treads can be made to order.

- **Stair treads**
- **Fils baseboards**

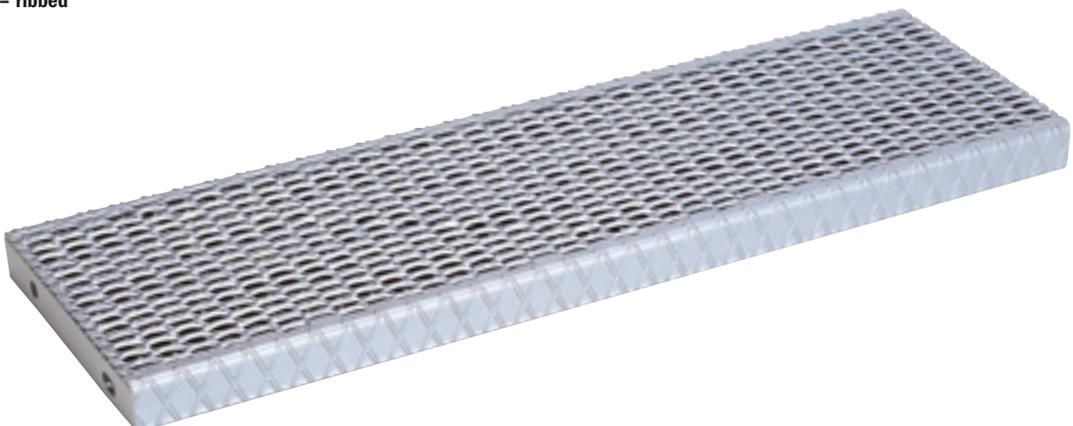
INDUSTRIA Fils 21 Fils 5 sp 2.5 mm Fils 21



CERTIFIED STAIR TREAD
200 kg concentrated load capacity

SUPERFILS Fils 21  sp 3 mm Fils 21

S = ribbed



CERTIFIED STAIR TREAD
200 kg concentrated load capacity



“INDUSTRIA” stair treads
Details of the welded fixing
system



Nut and bolt for stair
treads:
• SUPERFILS
hole Ø 13 mm
slot 13 x 22 mm

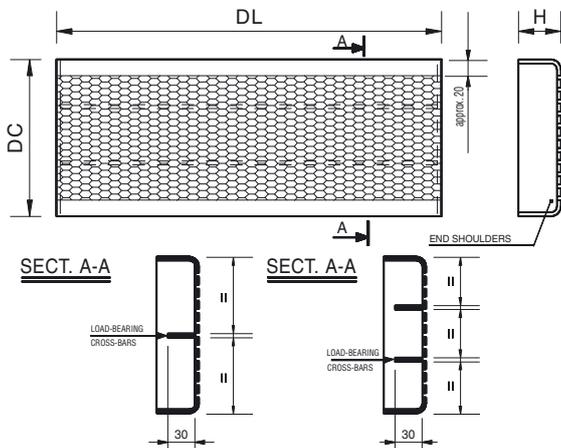


Bolt M12 x 30 mm

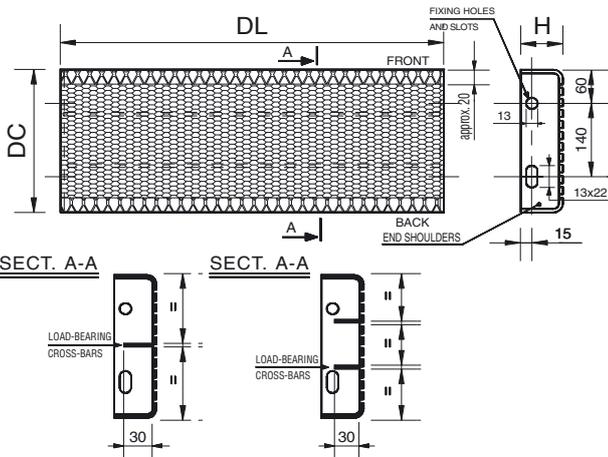
| Type | DL mm | H mm | DC mm | Unit weight kg |
|------------------|-------|------|-------|----------------|
| INDUSTRIA | 1000 | 40 | 250 | 8.6 |
| | 900 | 40 | 250 | 7.5 |
| | 800 | 40 | 250 | 5.9 |
| | 700 | 40 | 250 | 5.1 |
| | 600 | 40 | 250 | 4.2 |
| 500 | 40 | 250 | 3.5 | |
| SUPERFILS | 1000 | 40 | 250 | 11 |
| | 800 | 40 | 250 | 8 |
| | 700 | 40 | 250 | 6.6 |

Stair treads and baseboards can be made to order.

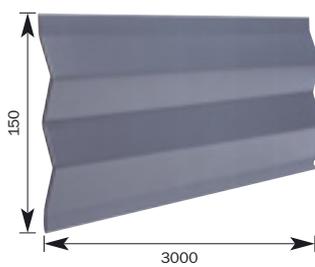
INDUSTRIA



SUPERFILS



Fils baseboards



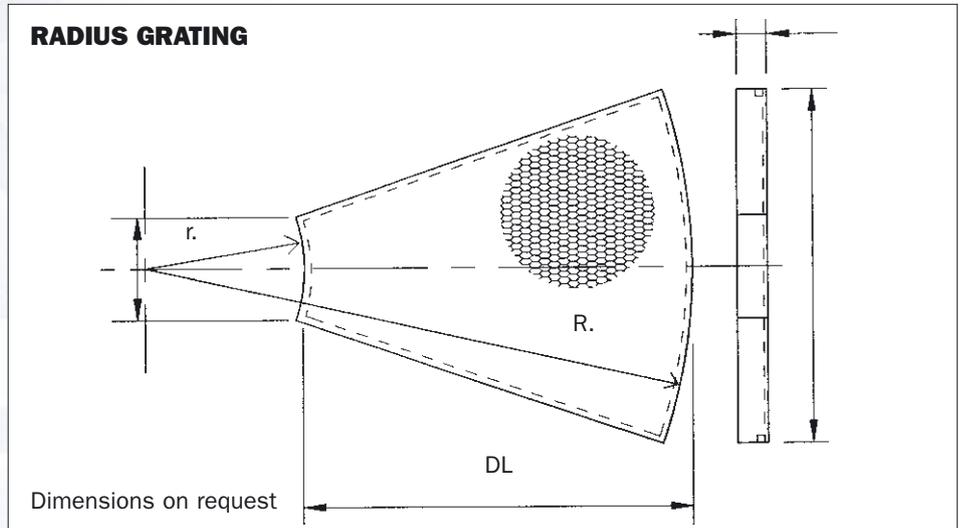
FILS BASEBOARDS

Standard size

| mm | Thickness mm | Unit weight kg |
|------------|--------------|----------------|
| 150 x 3000 | 2.5 | 9.6 |

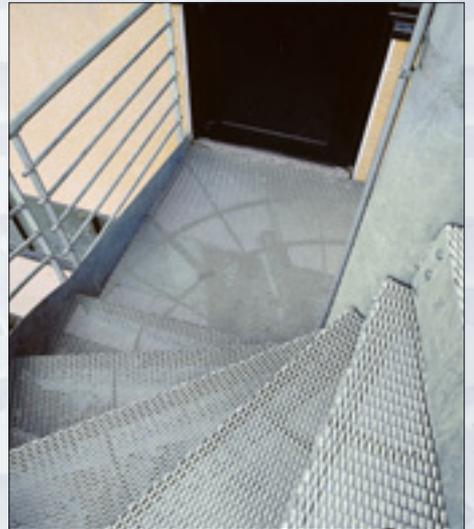
• Grating for spiral staircases

Production of “radius” step grating for spiral staircases made to order.

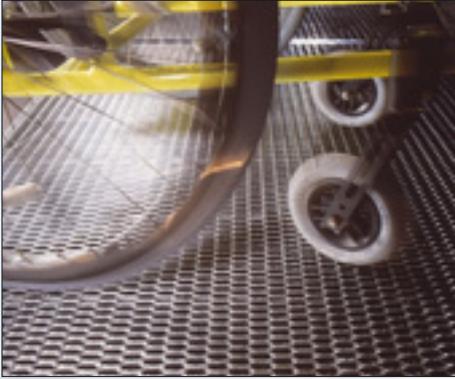


Hot dip galvanised steel





• Landings

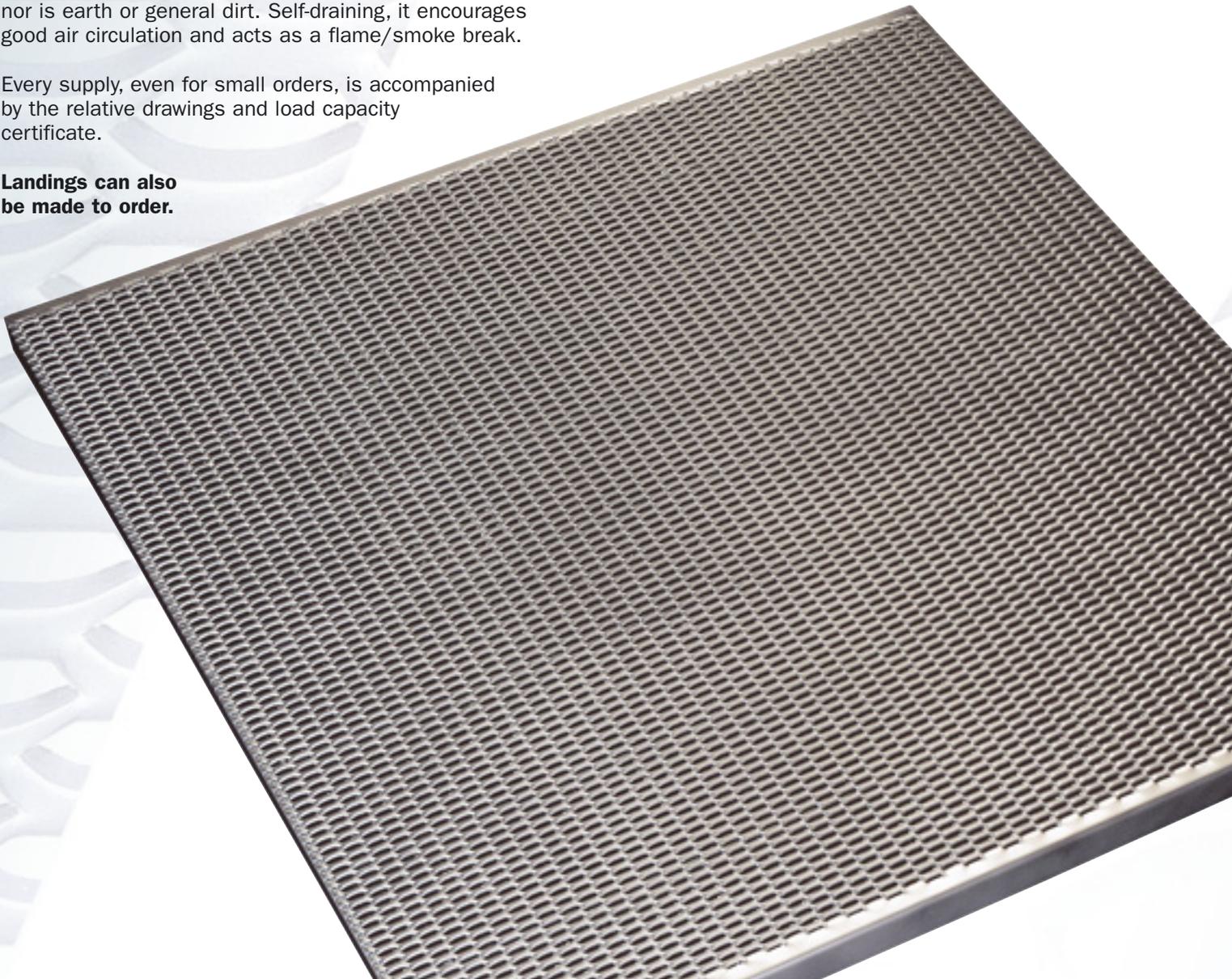


Our landings (conforming the new requirements under **Italian Ministerial Decree dated 16th January 1996**) are made from expanded FILS sheet-metal, have side frames and suitably sized support flats and are ready to use.

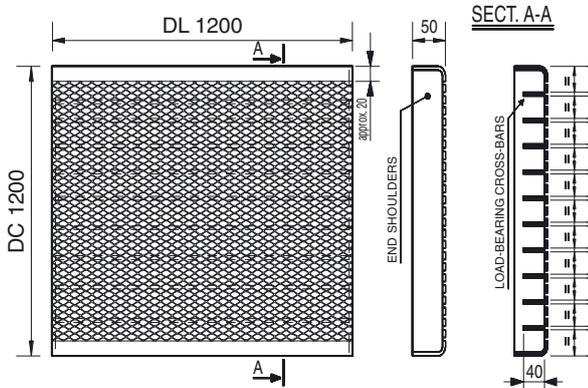
There are many advantages in using FILS landings. In fact, the mesh is high-heel safe, non-slip and antipanic. Snow is not trapped (thus preventing the formation of ice), nor is earth or general dirt. Self-draining, it encourages good air circulation and acts as a flame/smoke break.

Every supply, even for small orders, is accompanied by the relative drawings and load capacity certificate.

Landings can also be made to order.

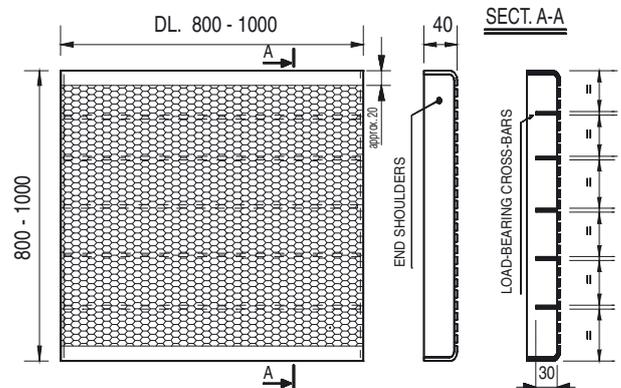


Landing for BETA 43 x 10 sp 3 mm



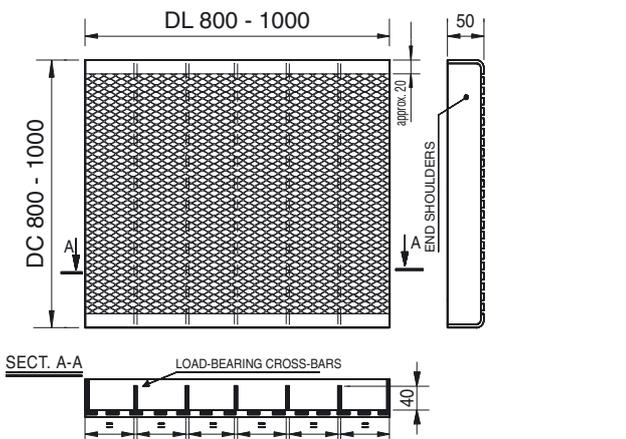
| DL mm | H mm | DC mm | Unit weight kg |
|-------|------|-------|----------------|
| 1200 | 50 | 1200 | 39 |

Landing for INDUSTRIA Fils 21 sp 3 mm



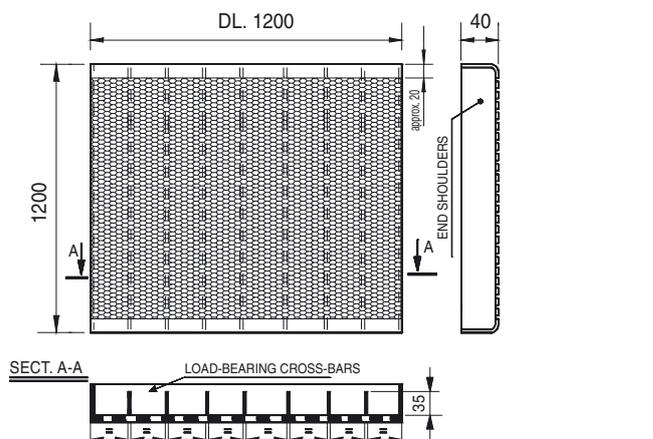
| DL mm | H mm | DC mm | Unit weight kg |
|-------|------|-------|----------------|
| 800 | 40 | 800 | 21 |
| 1000 | 40 | 1000 | 34 |
| 1200 | 50 | 1200 | 62 |

Landing for ECO 43 x 10 sp 3 mm



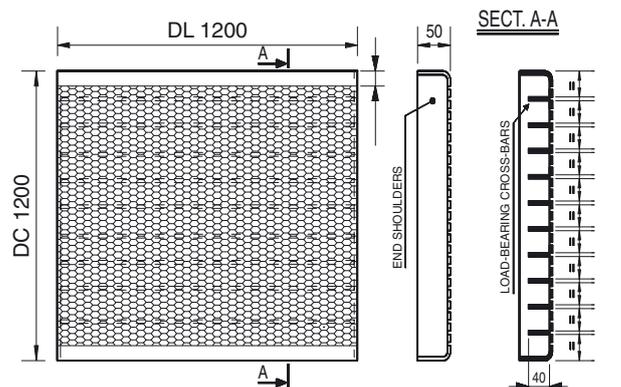
| DL mm | H mm | DC mm | Unit weight kg |
|-------|------|-------|----------------|
| 800 | 50 | 800 | 15 |
| 1000 | 50 | 1000 | 23 |

Landing for GAMMA Fils 20 sp 2.5 mm



| DL mm | H mm | DC mm | Unit weight kg |
|-------|------|-------|----------------|
| 1200 | 40 | 1200 | 34 |

Landing for SICURFILS Fils 21 sp 3 mm



| DL mm | H mm | DC mm | Unit weight kg |
|-------|------|-------|----------------|
| 1200 | 50 | 1200 | 62 |

Landings can be made to order.

• Grating



FILS 21 The ribbed non-slip metal grating with official recognition.

This essential characteristic is in fact confirmed by tests carried out by the Italian ISPEL Test laboratory (formerly ENPI) and certification, CSC n° 2782, issued by the Engineering Laboratory.

The tested grating is made from untreated ribbed sheet-metal that has been cut and then expanded. Attrition tests were conducted using both dry and oily samples in all directions.

The tests have been carried out making a weighted slide run horizontally along the grating. The base of this slide was lined with various materials such as leather and rubber to simulate the behaviour of various types of footwear. The slide was made to move in different directions and was connected to a high precision measuring instrument which easily recorded satisfactory coefficients of attrition on the surface of the grating.

ISPEL (ex ENPI)
Servizi e ricerche controlli tecnici

Grigliostop further improves the excellent non-slip qualities of grating made from standard sheet-metal, reproducing the typical surface roughness of grating produced from **ribbed** sheet-metal.

GRATING FOR AIR DUCTS AND DRAIN COVERS

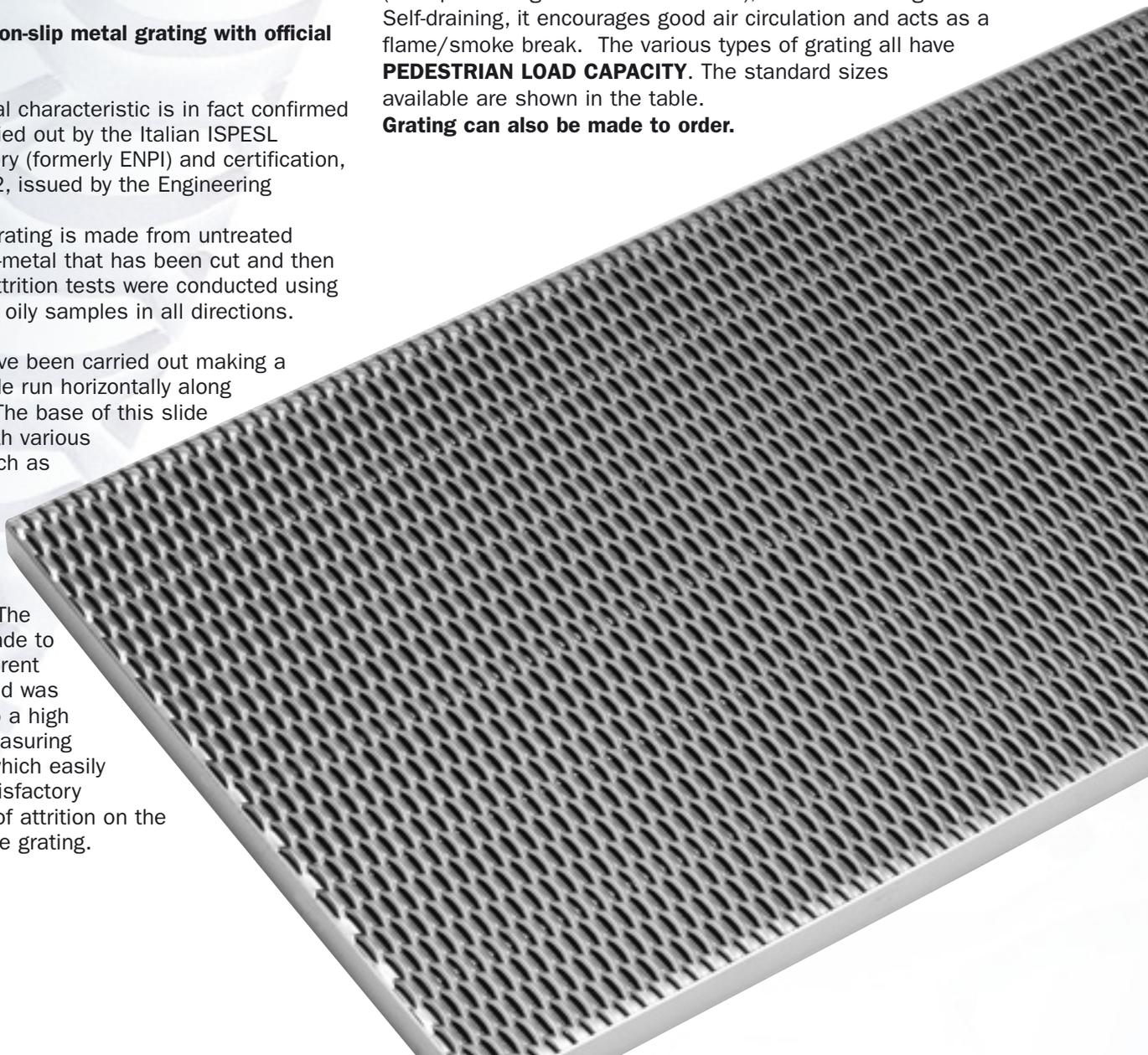
The grating is made from FILS expanded sheet-metal, has a side frame and suitably sized support flats and is ready to use.

The possible applications are many, such as:

- gaps
- inspection catwalks
- areas with pedestrian and industrial traffic
- air-inlets
- underground passage covers

There are many advantages in using FILS grating. In fact, the mesh is high-heel safe, non-slip and prevents accidents. Snow is not trapped (thus preventing the formation of ice), nor is earth or general dirt. Self-draining, it encourages good air circulation and acts as a flame/smoke break. The various types of grating all have **PEDESTRIAN LOAD CAPACITY**. The standard sizes available are shown in the table.

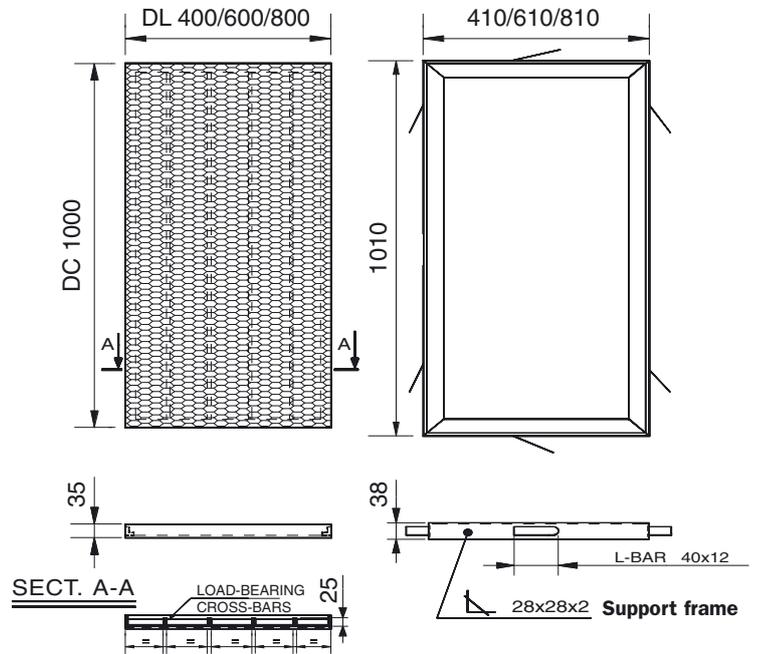
Grating can also be made to order.



Grating and support frames



Grating

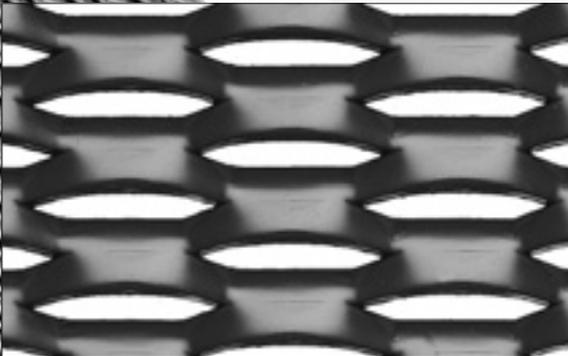


Dimensions in mm

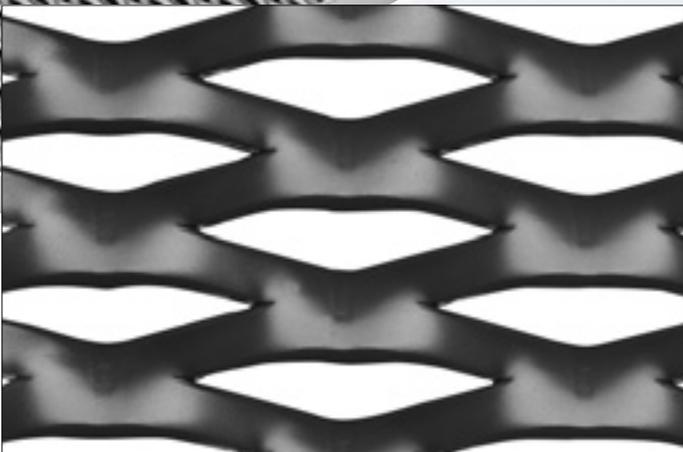
| TYPE | DL mm | H mm | DC mm | Unit weight kg |
|------------------------------------|-------|------|-------|----------------|
| Fils 4 sp 4 mm | 400 | 35 | 1000 | 21 |
| | 600 | 35 | 1000 | 28 |
| | 800 | 35 | 1000 | 37 |
| Fils 21 sp 3 mm | 400 | 35 | 1000 | 19 |
| | 600 | 35 | 1000 | 25 |
| | 800 | 35 | 1000 | 32 |
| Fils 1 sp 4 mm | 400 | 35 | 1000 | 18 |
| | 600 | 35 | 1000 | 24 |
| | 800 | 35 | 1000 | 31.5 |
| Support frames L 38x38x2 | 410 | 38 | 1010 | 3.2 |
| | 610 | 38 | 1010 | 3.6 |
| | 810 | 38 | 1010 | 4.1 |

Grating can be made to order.

Fils 21



Fils 4



Fils 1



- **Manhole covers**
- **Gully covers**
- **Support frames**



The **manhole** and **gully covers** are produced from expanded **FILS 21** sheet-metal and have a side frame and suitably sized support flats and are ready to use.

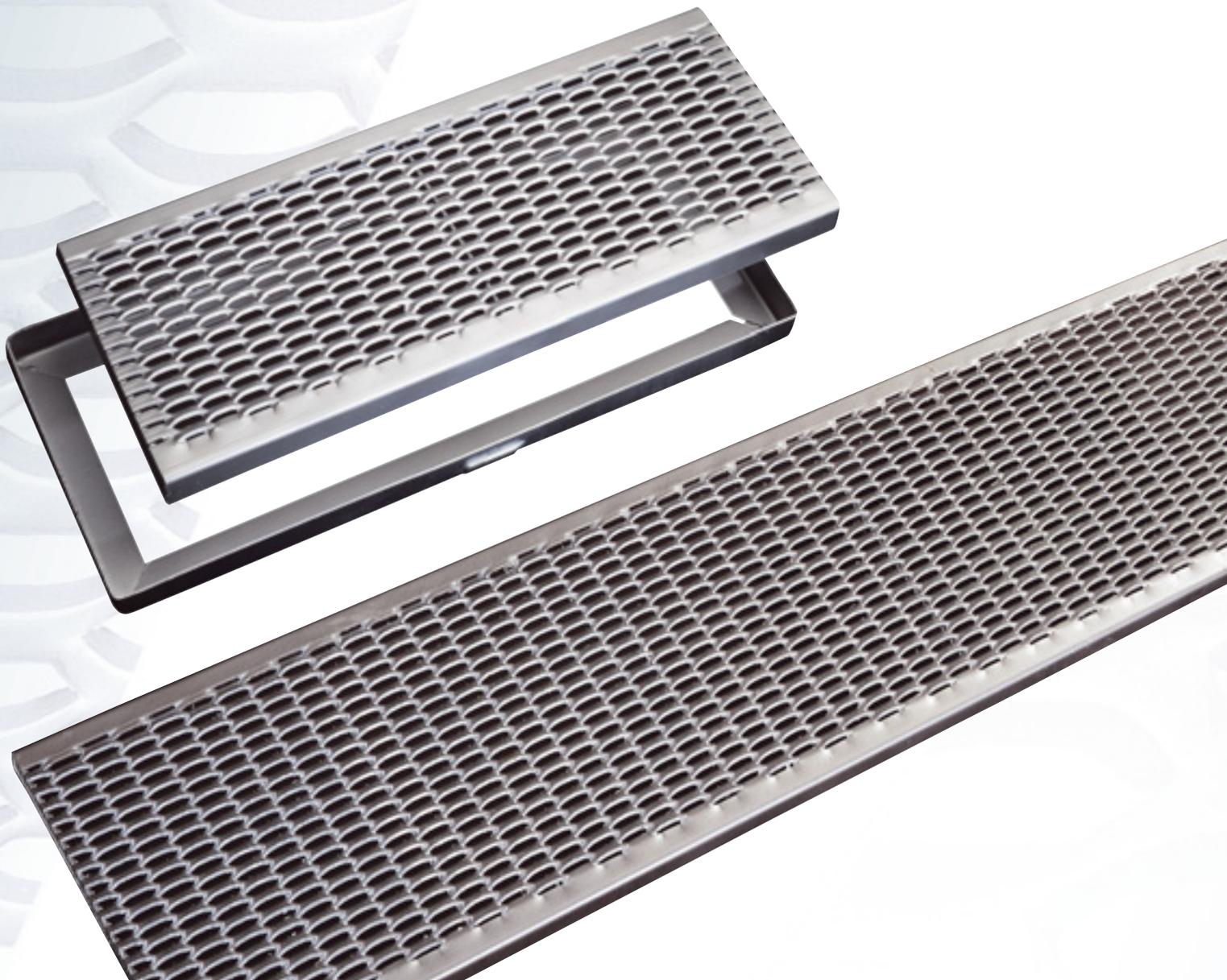
There are many possible applications for **manhole covers**, especially for covering inspection tunnels and for all kinds of pipe-ways.

The **gully covers** are ideal for drains and small aeration tunnels.

All the manhole and gully covers have **PEDESTRIAN LOAD CAPACITY**. There are many advantages in using FILS gully and manhole covers. In fact, the mesh is high-heel safe and non-slip and allows for earth, general dirt, snow (thus preventing the formation of ice) and water to pass.

The standard sizes of gully and manhole covers available are shown in the tables.

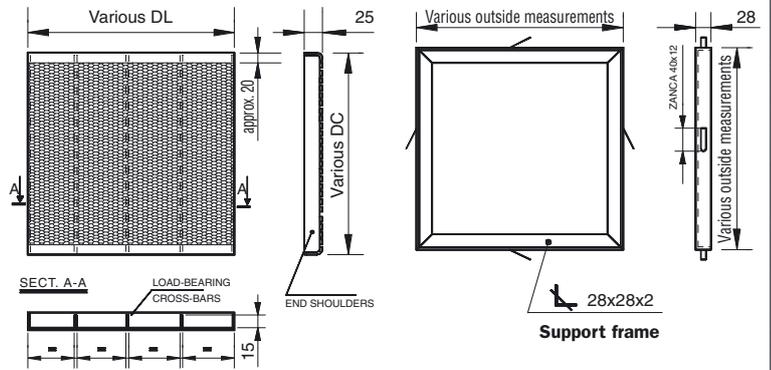
Gully and manhole covers can also be made to order.





Manhole cover

Dimensions in mm

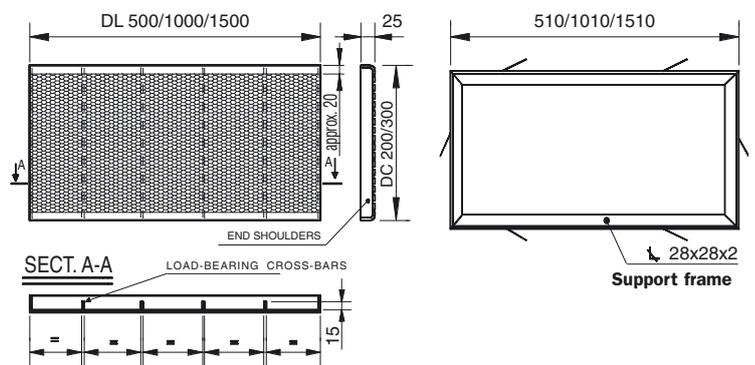


| TYPE | DL mm | H mm | DC mm | Unit weight kg |
|------------------------------------|-------|------|-------|----------------|
| Fils 21 | 200 | 25 | 200 | 1.6 |
| | 250 | 25 | 250 | 2.2 |
| | 300 | 25 | 300 | 3 |
| | 350 | 25 | 350 | 4.5 |
| | 400 | 25 | 400 | 5.5 |
| Support frames └ 28x28x2 | 210 | 28 | 210 | 0.6 |
| | 260 | 28 | 260 | 0.8 |
| | 310 | 28 | 310 | 0.9 |
| | 360 | 28 | 360 | 1.1 |
| | 410 | 28 | 410 | 1.3 |
| | 510 | 28 | 510 | 1.6 |

Gully and manhole covers can be made to order.

Gully cover

Dimensions in mm



| TYPE | DL mm | H mm | DC mm | Unit weight kg |
|------------------------------------|-------|------|-------|----------------|
| Fils 21 | 500 | 25 | 200 | 3.3 |
| | 1000 | 25 | 200 | 6.4 |
| | 1500 | 25 | 300 | 13 |
| Support frames └ 28x28x2 | 510 | 28 | 210 | 1.2 |
| | 1010 | 28 | 210 | 2 |
| | 1510 | 28 | 310 | 3 |

- **Doormats**
- **Soakaway drains**
- **Serrafilis**

Doormats

LUSO DOORMAT

The "Lusso" doormat is produced from **expanded carbon steel sheet with a hot dip galvanised finish**. Thanks to its design features, it is extremely practical and useful in all situations where people come indoors.

Suitable for use on any surface, it is extremely strong and easy to care for.

It lets rain, snow, earth and general dirt pass, is non-slip and high-heel safe.

It can withstand even the harshest of weather and so is virtually indestructible. Easy to handle, it is simple to clean.

The "Lusso" doormat has a 5-year guarantee against rust and breakage for normal pedestrian use.



| LUSO doormat | Unit weight kg |
|--------------------|----------------|
| 1000 x 500 x 22 mm | 7.0 |
| 800 x 400 x 22 mm | 4.7 |
| 700 x 350 x 22 mm | 3.7 |

Fils 20 - sp 2 mm



5

**YEAR GUARANTEE
AGAINST RUST
AND BREAKAGE**

Soakaway drains

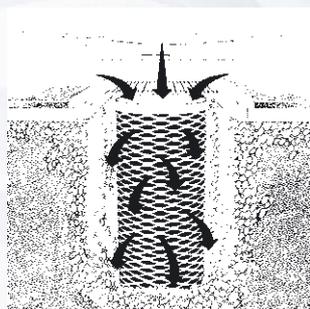
These allow for the drainage and dispersal of rain water in reasonably permeable land without the need to connect these to drains, the sewer mains or self-draining wells.

This makes for savings in terms of cost and time in both new and existing projects which do not guarantee adequate levels of drainage.

Easy to install, there is no need for specialist personnel. This system for draining away rain water also lets you stabilise underground water flows. The FILS soakaway drains are made from FILS SP2 expanded and flattened sheets with guaranteed compressive strength to withstand the pressure applied by the soil. Maintenance-free.

FILS soakaway drains are supplied with a hot dip galvanised finish and are produced in standard sizes of 500 mm and 1000 mm. They can be stacked on top of each other for extra depth.

| TYPE | SP2 | SP2 | SP2 | SP2 |
|----------------|------|------|------|------|
| DL mm | 110 | 110 | 110 | 110 |
| DC mm | 40 | 40 | 40 | 40 |
| av - mm | 9.5 | 9.5 | 9.5 | 9.5 |
| sp - mm | 4 | 4 | 4 | 4 |
| Diameter mm | 400 | 600 | 400 | 600 |
| Height mm | 500 | 500 | 1000 | 1000 |
| Unit weight kg | 10.5 | 15.5 | 16.5 | 24.5 |



SERRAFILS

With their modular design, these frames are suitable for all soil types and are easy to assemble and join together.

The hot dip galvanised finish offers lasting protection.

Dimensions

Width: 1200 mm

Length: 2000 mm

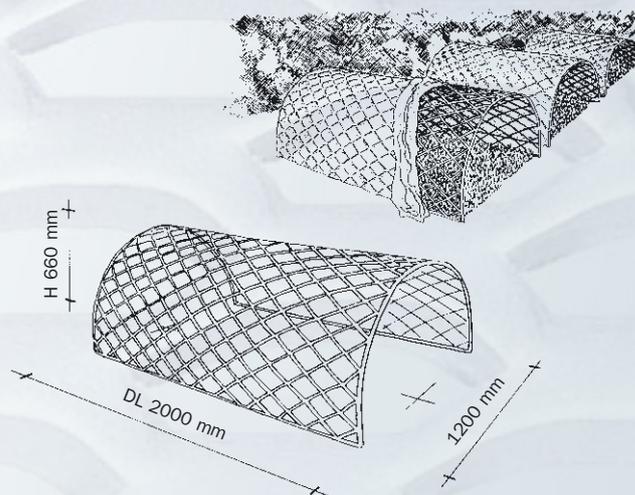
Height: 660 mm

“Serrafilis” frames can also be supplied made to order.

Flattened mesh, 200 x 100 mm, av 5 - sp 3

Applications

To protect garden produce and flowers from frost and obtain crops out of season, force spring crops and provide warm soil for sowing.

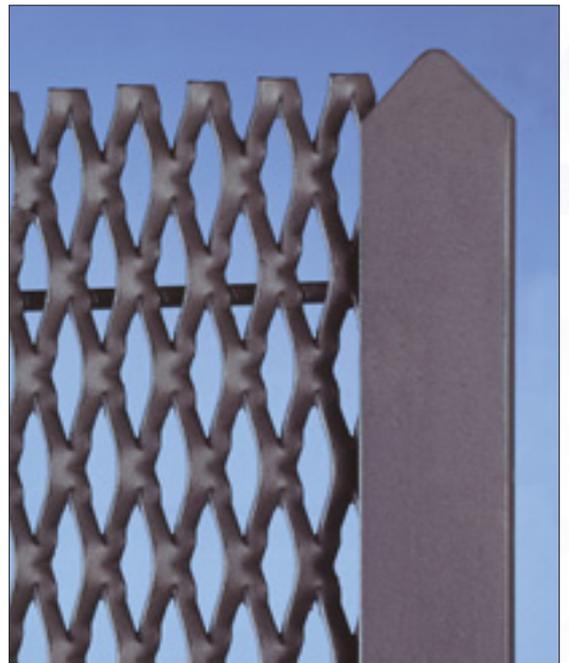
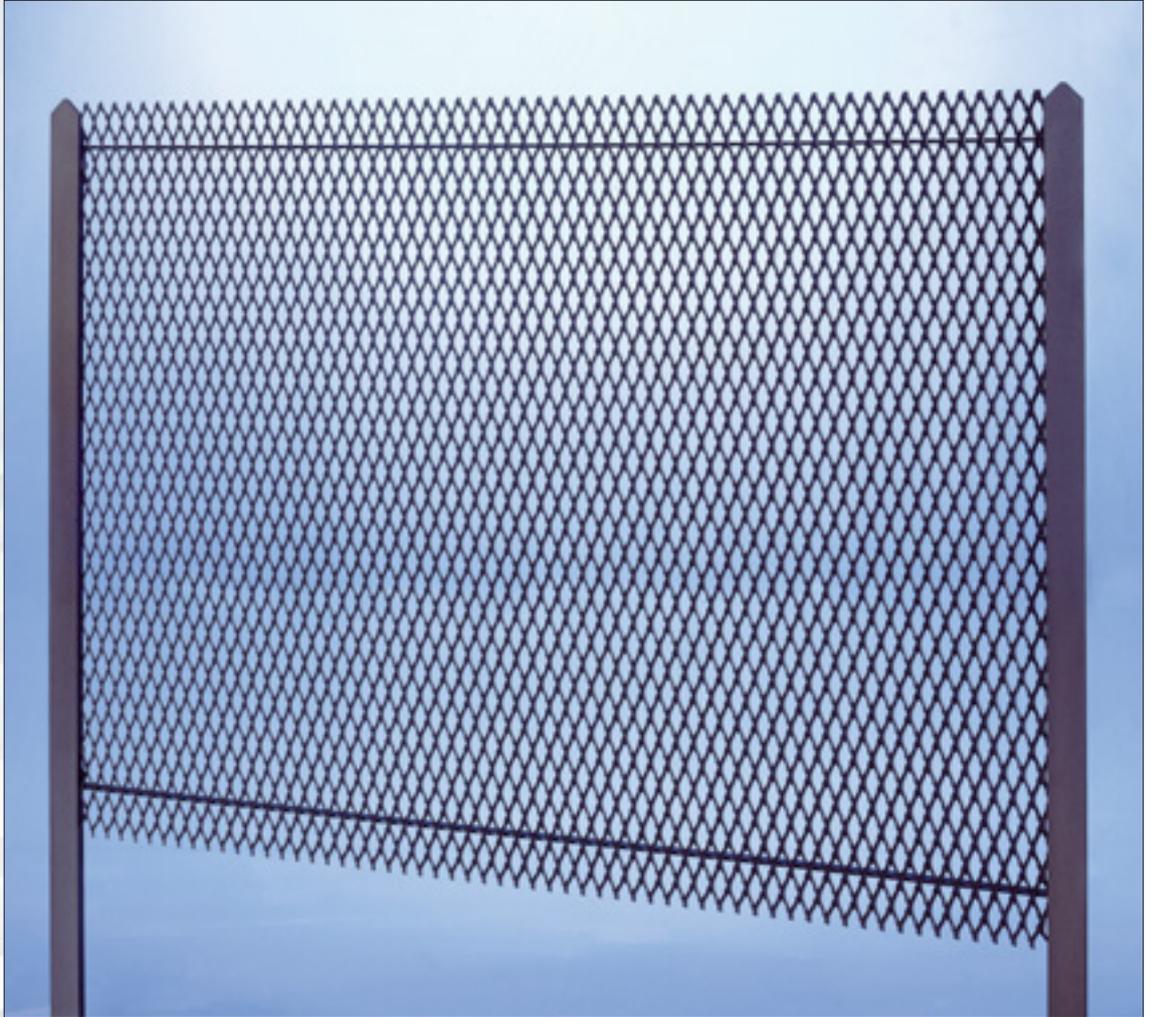


• Panel fencing “Facile”

Easy to mount, lovely to look at.

“Facile” is fast and easy to mount thanks to the system used to fix the panels to the posts: just nuts and bolts.

“Facile” creates the perfect “continuous façade” fence, without any gaps between one panel and the next.



Production

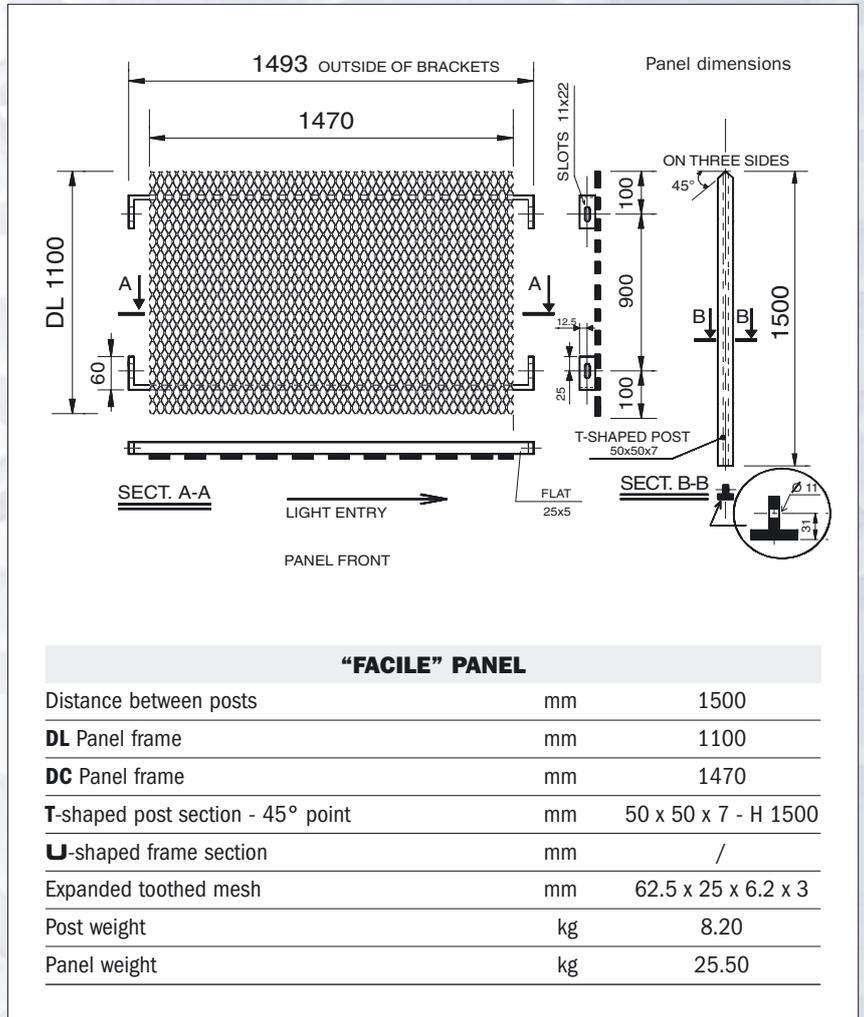
Our fences come in standard sizes and can also be made to order. The posts and fixing bolts are supplied together with the fence panel.

Finish

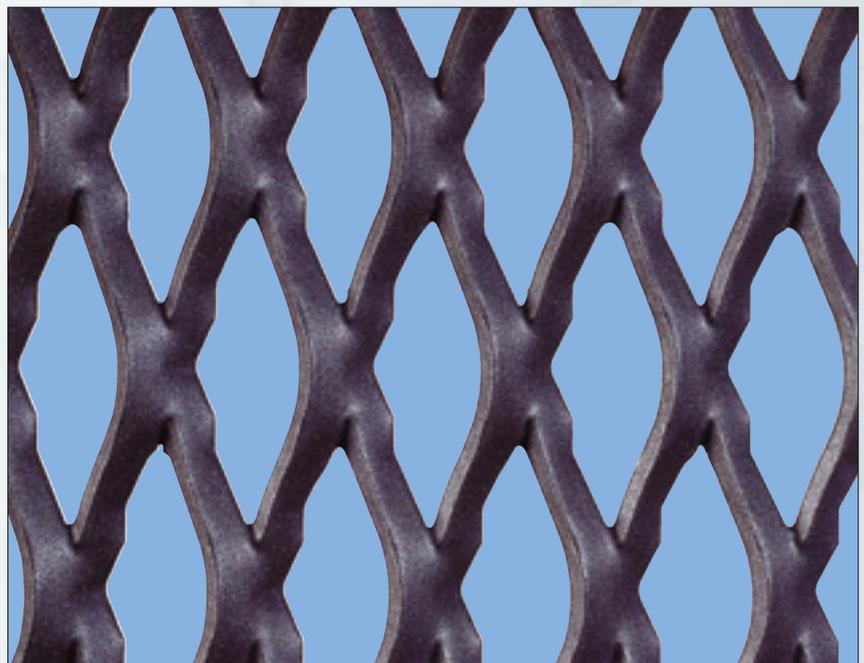
The panels and posts can be supplied: untreated, hot dip galvanised or painted with polyester powder exterior paint in all RAL table colours.



The expanded mesh panels are quickly and simply fitted to the posts using M10 x 25 mm nuts and bolts (hot dip galvanised steel or AISI 304 steel).



Life-size mesh, TYPE 97
DL 62.5 x DC 25 - av 6.2 x sp 3 mm

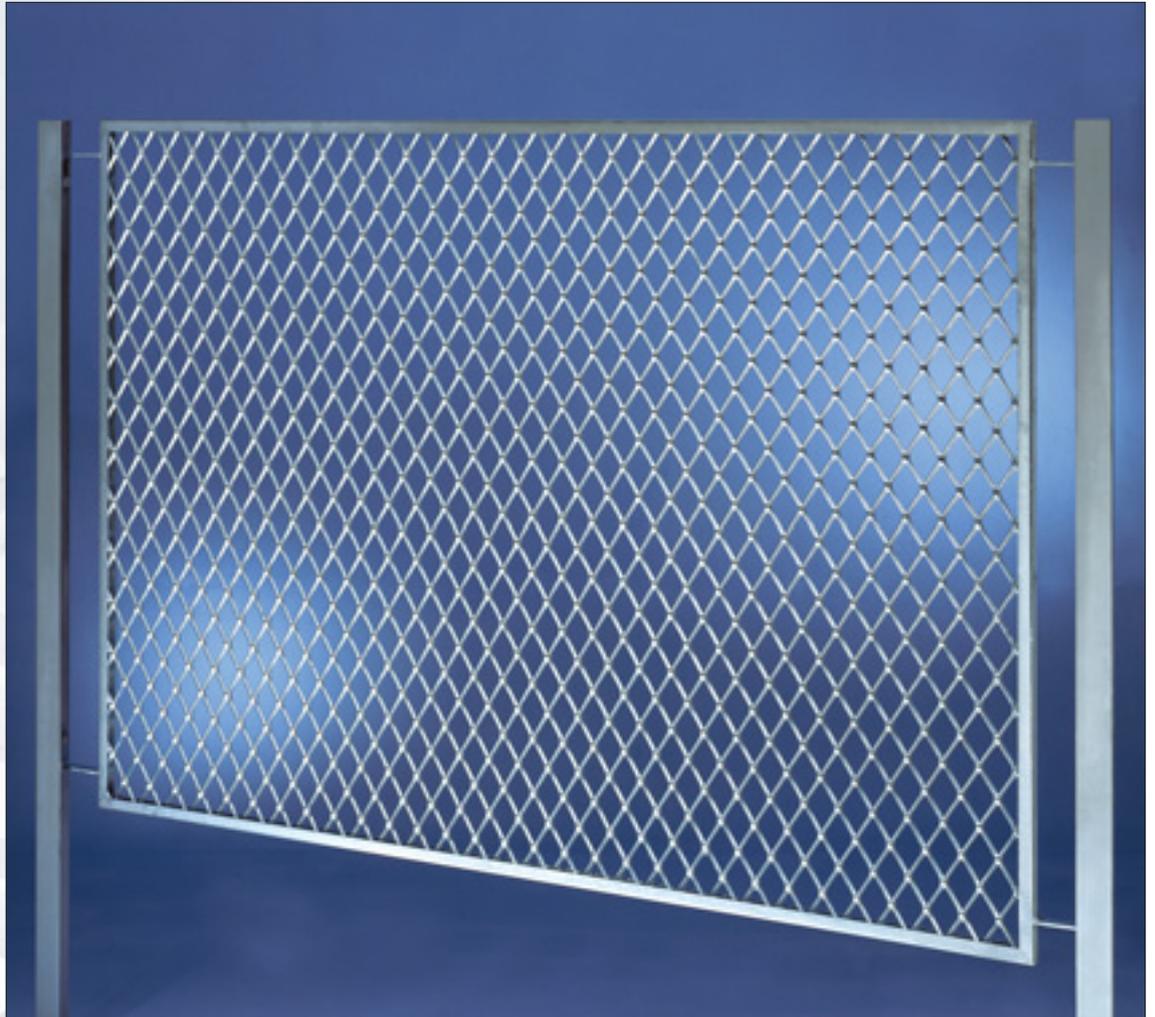


The original toothing of the expanded mesh makes the panel unmistakable and decorative at the same time.

• Panel fencing “Nuova Primavera”

Versatile and practical.

Expanded mesh has revolutionised the concept of fencing. It guarantees practicality and, especially, reliability; it is ideal for residential properties and industrial premises alike.

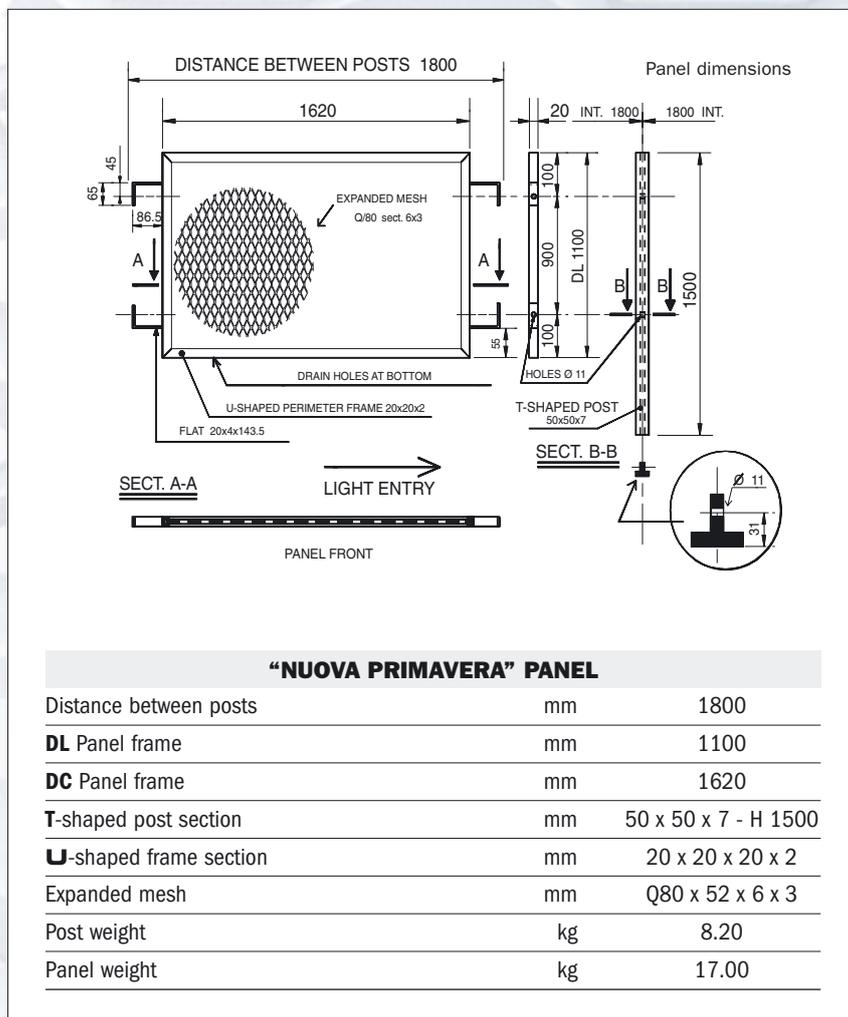


Production

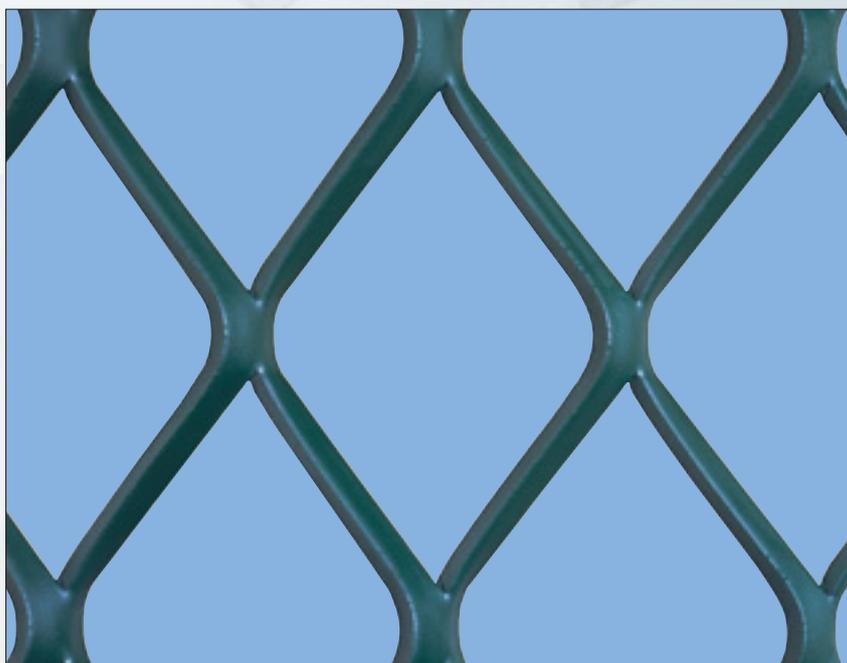
Our fences come in standard sizes and can also be made to order. The posts and fixing bolts are supplied together with the fence panel.

Finish

The panels and posts can be supplied: untreated, hot dip galvanised or painted with polyester powder exterior paint in all RAL table colours.



The expanded mesh panels are quickly and simply fitted to the posts using M10 x 25 mm nuts and bolts (hot dip galvanised steel or AISI 304 steel).



Life-size mesh, TYPE Q80
DL 80 x DC 52 - av 6 x sp 3 mm

• Panel fencing “Roberta”

Decorative, ideal everywhere.

Made with the same type of expanded mesh as **Nuova Primavera**, here it has a decorative patterned top reminiscent of the most elegant railings. The look is further embellished by the joins between the panels and posts, for an especially pleasing railing effect.



Production

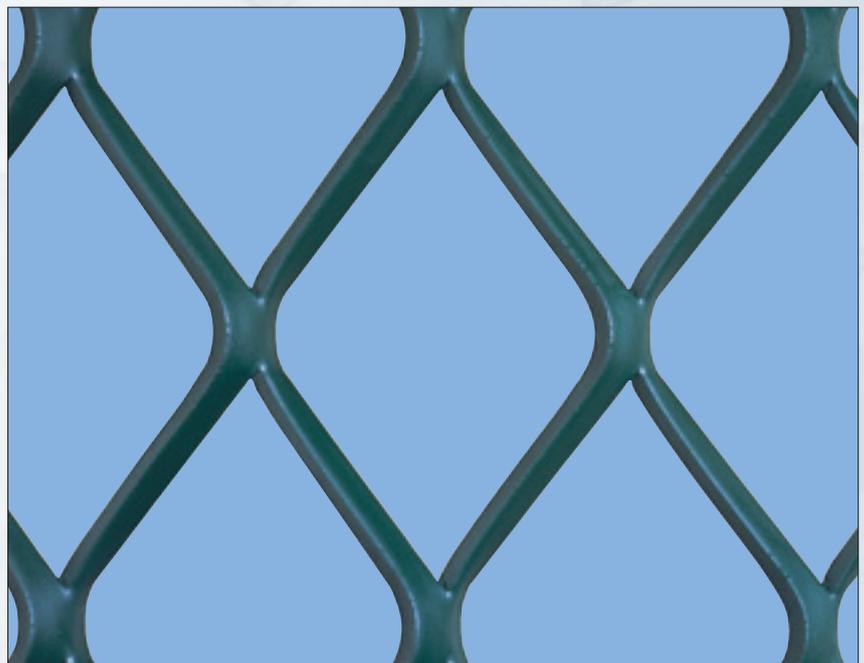
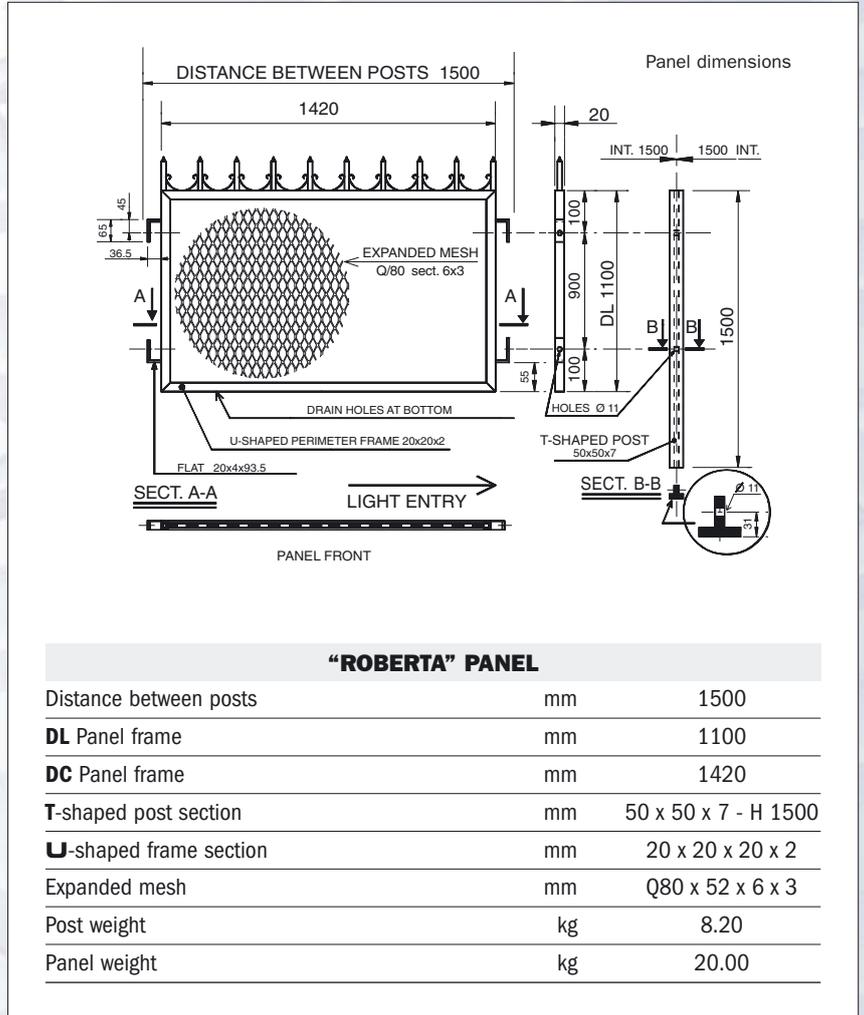
Our fences come in standard sizes and can also be made to order. The posts and fixing bolts are supplied together with the panel.

Finish

The panels and posts can be supplied: untreated, hot dip galvanised or painted with polyester powder exterior paint in all RAL table colours.



The expanded mesh panels are quickly and simply fitted to the posts using M10 x 25 mm nuts and bolts (hot dip galvanised steel or AISI 304 steel).



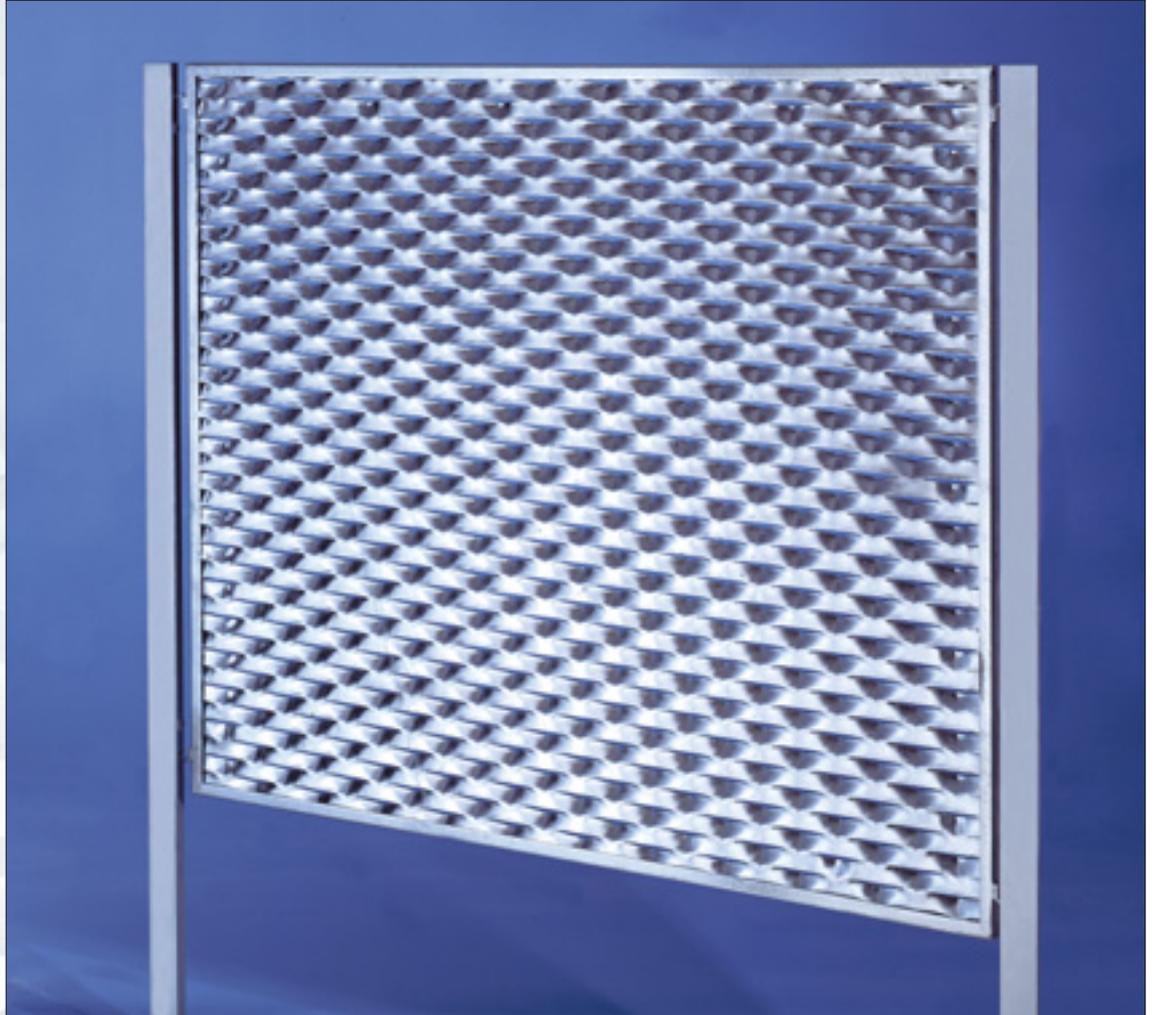
Life-size mesh, TYPE Q80
DL 80 x DC 52 - av 6 x sp 3 mm

• Panel fencing “Ambasciata”

Prestige and privacy.

An elegant, prestigious and extremely robust fence.

The special type of mesh produced from expanded sheet-metal protects your privacy **by almost totally making it impossible to see through from the outside, whilst allowing good through-vision from the inside.**

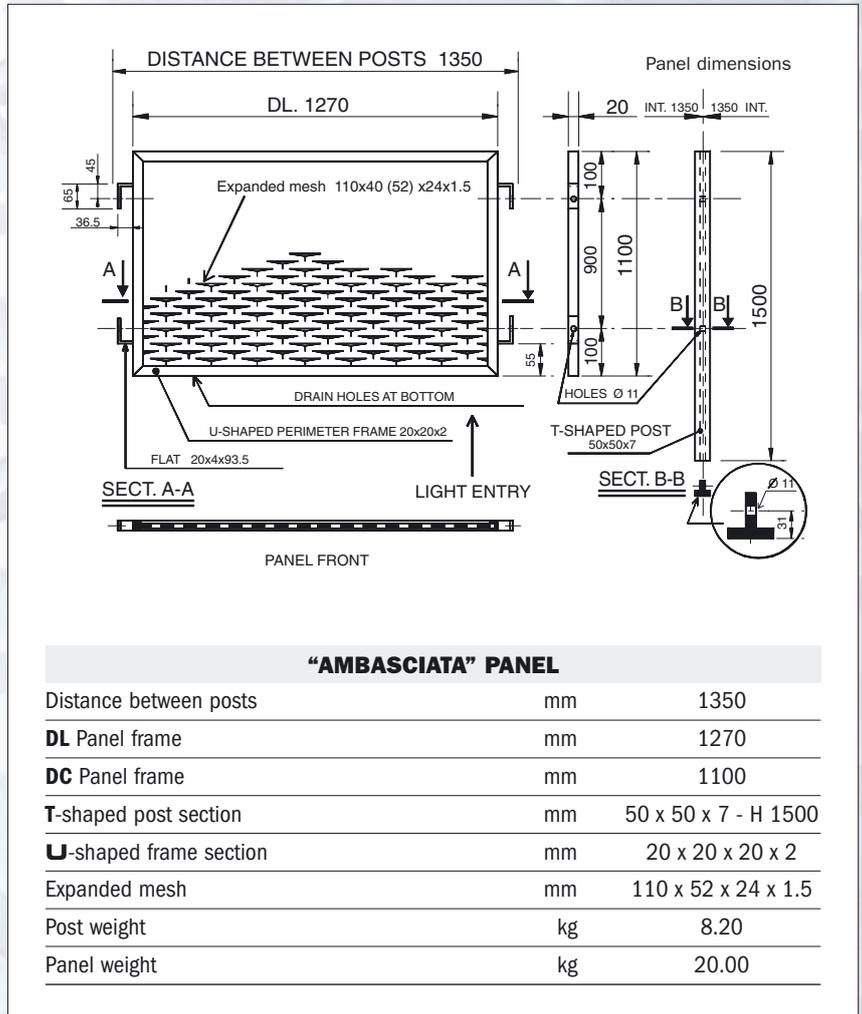


Production

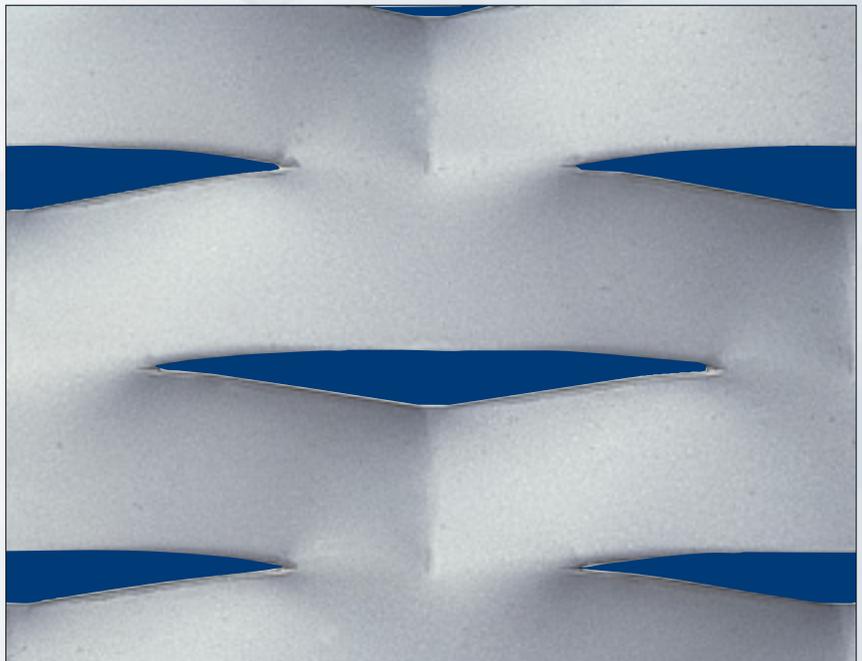
Our fences come in standard sizes and can also be made to order. The posts and fixing bolts are supplied together with the panel.

Finish

The panels and posts can be supplied: untreated, hot dip galvanised or painted with polyester powder exterior paint in all RAL table colours.



The expanded mesh panels are quickly and simply fitted to the posts using M10 x 25 mm nuts and bolts (hot dip galvanised steel or AISI 304 steel).

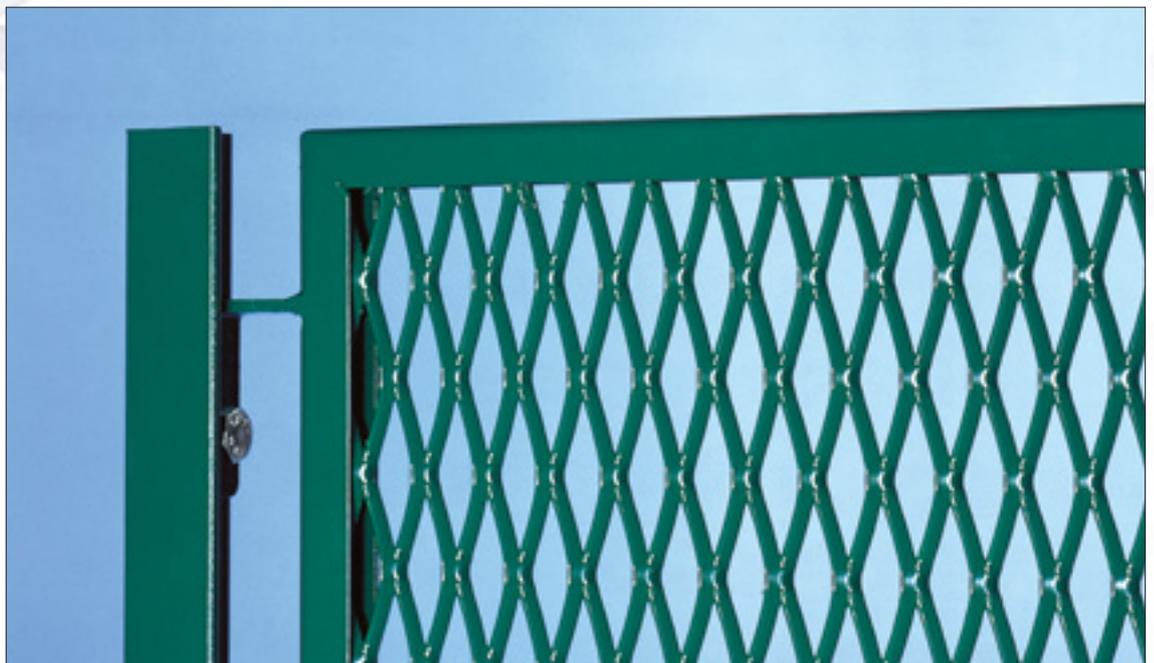
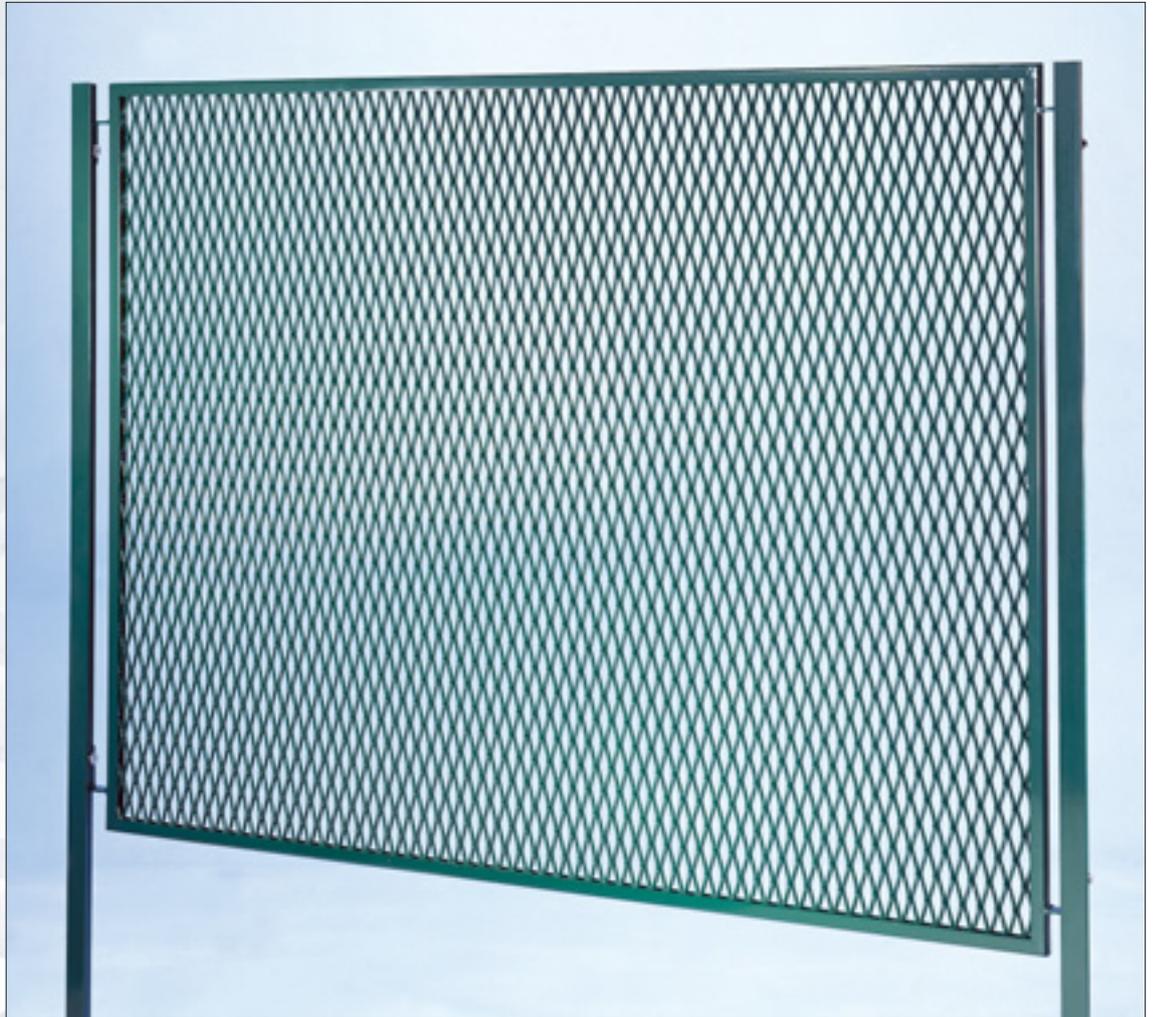


Life-size mesh, TYPE AMBASCIATA
DL 110 x DC 40 (52) - av 24 x sp 1.5 mm

• Panel fencing “Rombo”

A competitive choice.

“Rombo” expanded mesh is also ideal for large areas, such as big industrial complexes, storage areas, parks and shopping centre lots. It guarantees an extremely attractive price/performance ratio.



Production

Our fences come in standard sizes and can also be made to order. The posts and fixing bolts are supplied together with the panel.

Finish

The panels and posts can be supplied: untreated, hot dip galvanised or painted with polyester powder exterior paint.

Colours available:

RAL 6005 and MILD STEEL.

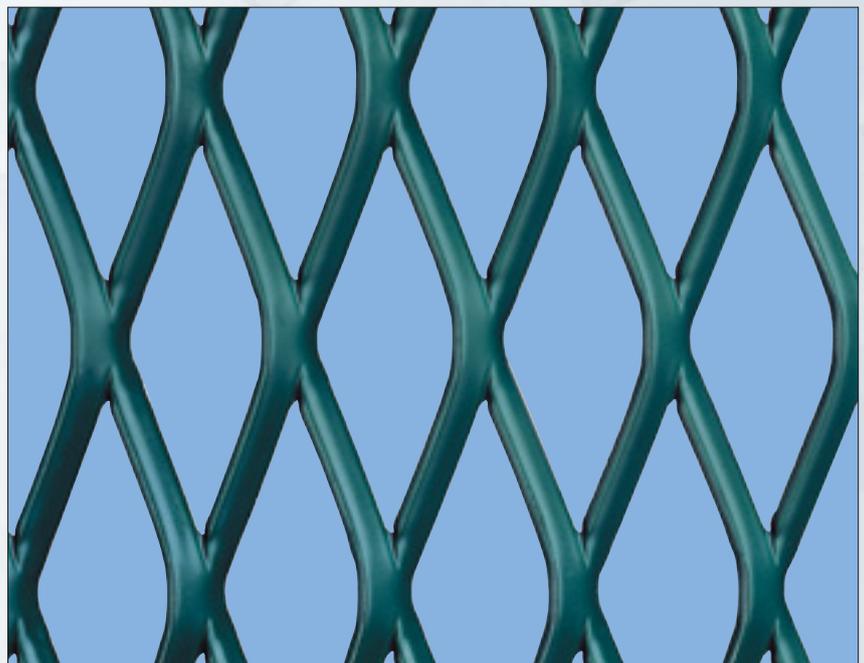
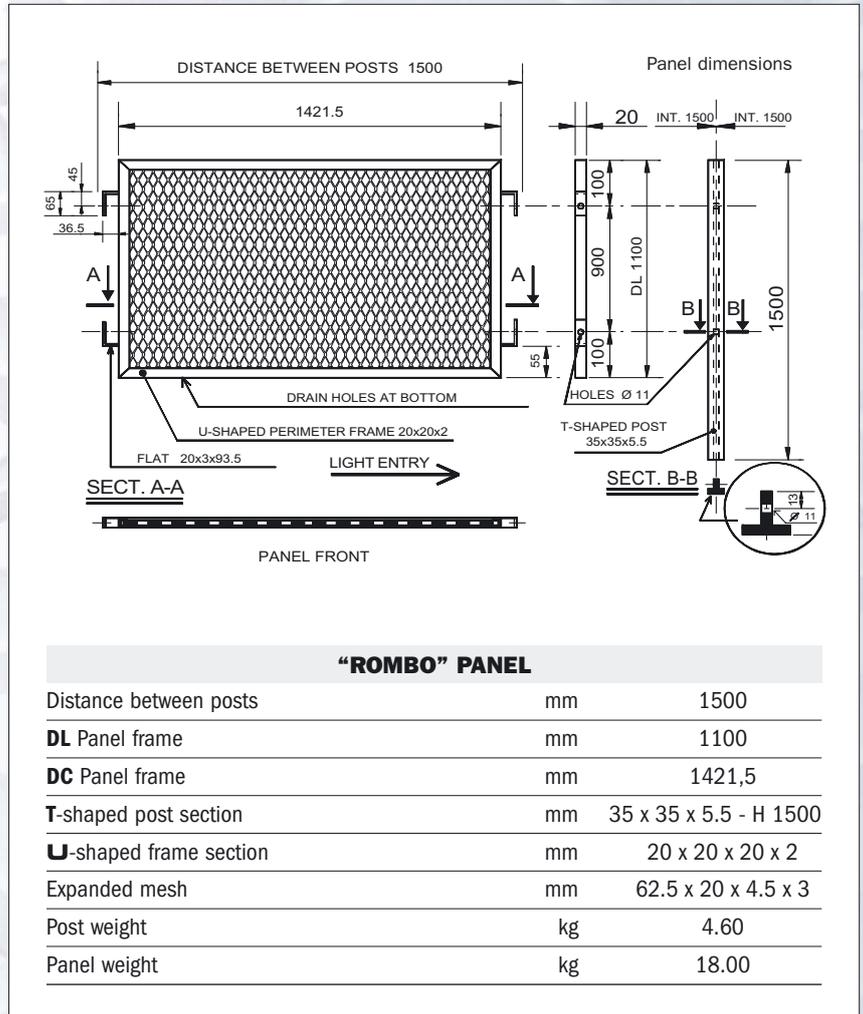


RAL 6005

MILD STEEL



The expanded mesh panels are quickly and simply fitted to the posts using M10 x 25 mm nuts and bolts (hot dip galvanised steel or AISI 304 steel).



Life-size mesh, TYPE N 22
DL 62.5 x DC 20 (23.4) - av 4.5 x sp 3 mm

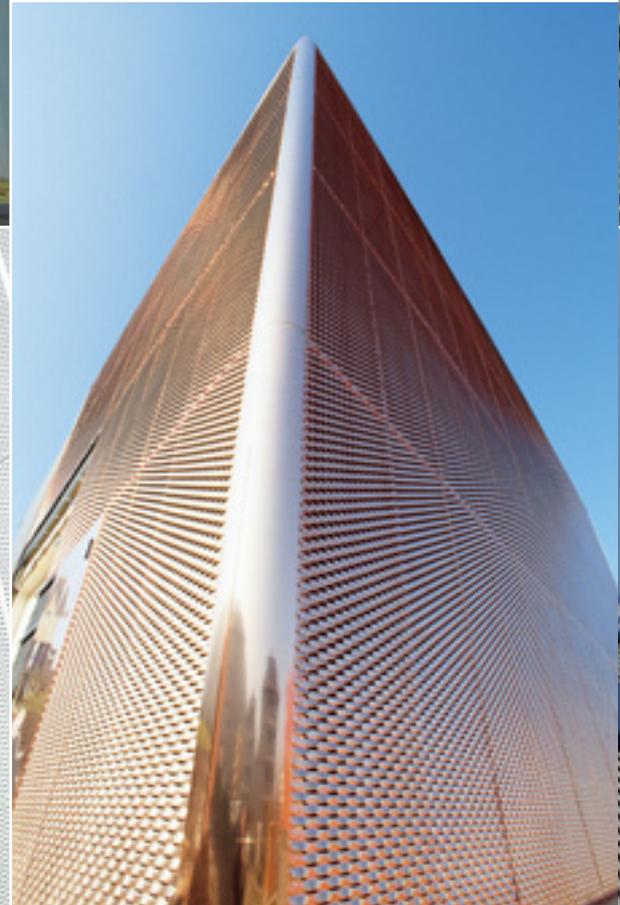


protech line

A technical fabric to clothe modern architecture.

AMBASCIATA - DL 110 x DC 40 (52) - av 24 x sp 1.5 mm
Aluminium

AMBASCIATA - DL 110 x DC 40 (52) - av 24 x sp 1.5 mm
Aluminium



AMBASCIATA - DL 110 x DC 40 (52) - av 24 x sp 1.5 mm
Natural anodised aluminium

AMBASCIATA - DL 110 x DC 40 (52) - av 24 x sp 1.5 mm
Copper



COLISEUM - DL 200 x DC 75 (80) - av 24 x sp 2 mm
Aluminium



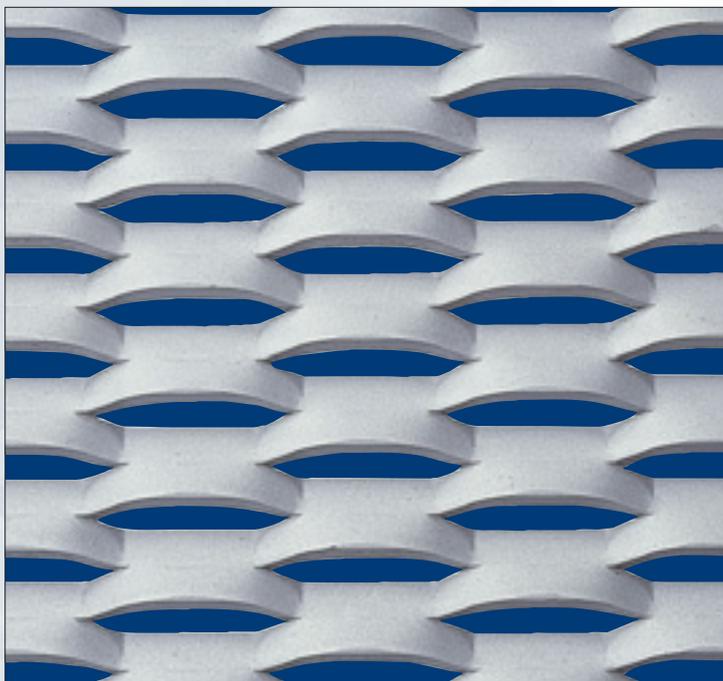
AMBASCIATA - DL 110 x DC 40 (52) - av 24 x sp 1.5 mm
Aluminium

GATE - DL 76 x DC 31 (35) - av 11 x sp 2 mm
Hot dip galvanised steel

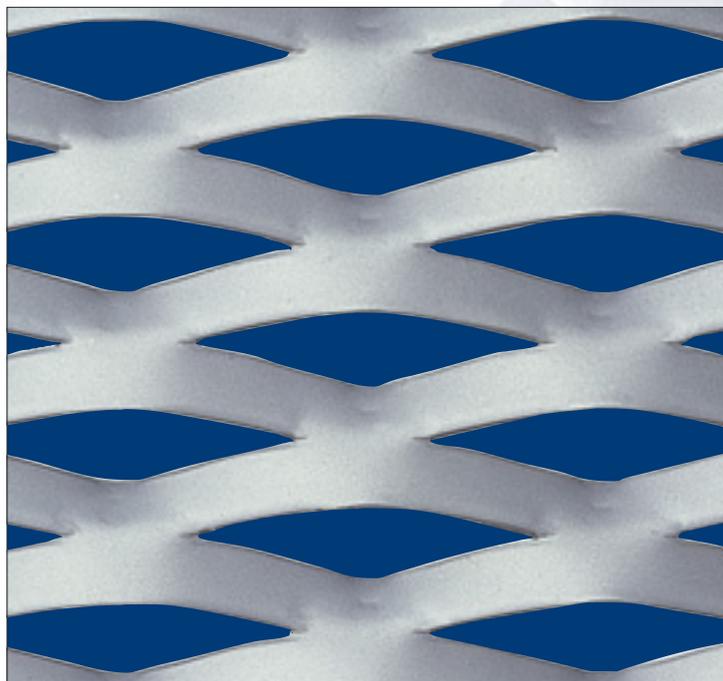
**Personalised choice
for façades and large surfaces.**

The mesh is carefully studied to provide attractive cladding and obtain modular elements.
The materials used (aluminium, steel, copper and other metals) have been treated with a protective finish for long-life.

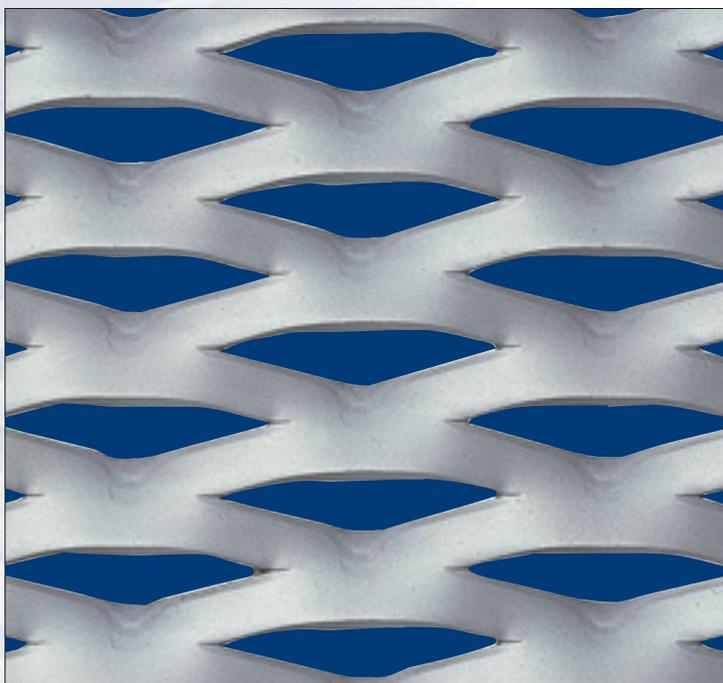
Mesh dimensions 1:1



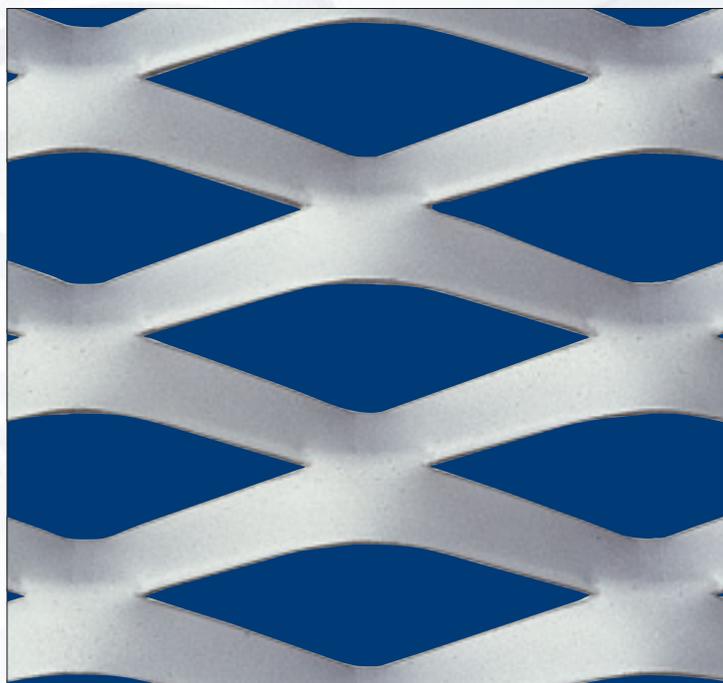
Fils 21 - DL 45 x DC 15 (13.4) - av 5 x sp 1.5 mm



Airport - DL 62.5 x DC 20 (25.5) - av 9.1 x sp 1.5 mm



Fils 5 - DL 62.5 x DC 20 - av 7.5 x sp 1.5 mm



Gate - DL 76 x DC 31 (35) - av 11 x sp 1.5 mm



AMBASCIATA - DL 110 x DC 40 (52) - av 24 x sp 2 mm
Hot dip galvanised steel

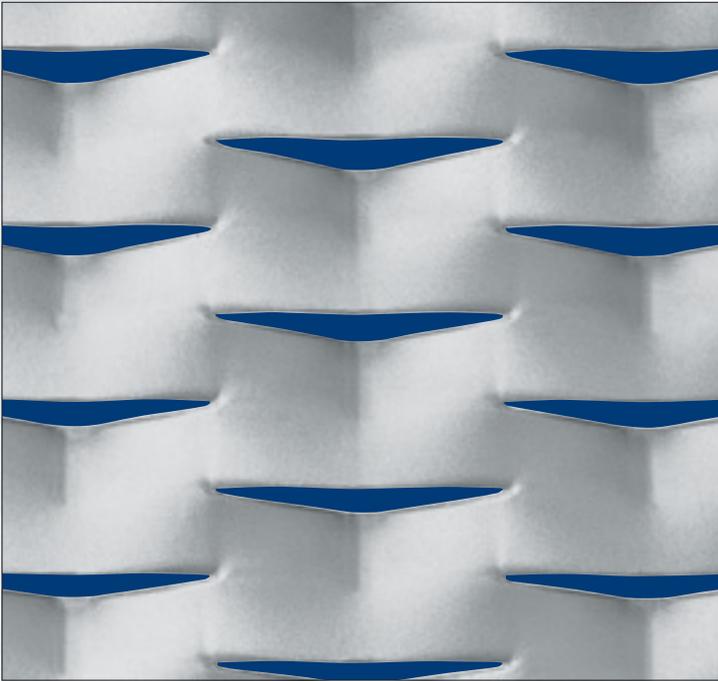


AIRPORT - DL 62,5 x DC 20 (25.5) - av 9.1 x sp 1.5 mm
Natural anodised aluminium

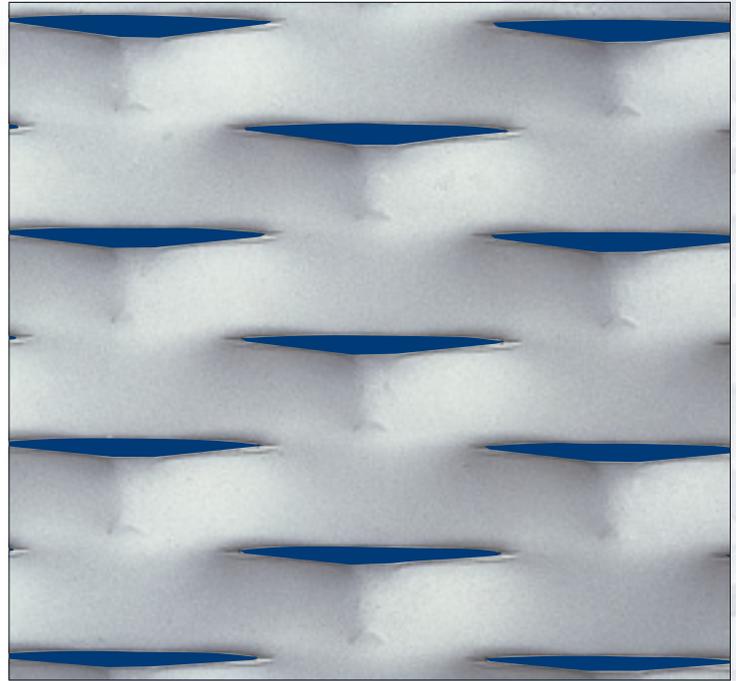
| Type | Mesh mm | Steel kg/m ² | Aluminium kg/m ² | DL sizes mm | % front aperture |
|----------------|------------------------------|-------------------------|-----------------------------|--|------------------|
| Fils 21 | 45 x 15 (13.4) - 5 x 3 | 17.5 | 6.0 | [1000 - 1250 - 1500 x 3000] 2000 - 2500 x max. 2000 | 23% |
| | 45 x 15 (13.4) - 5 x 2 | 11.6 | 4.0 | | |
| | 45 x 15 (13.4) - 5 x 1.5 | 8.8 | 3.0 | | |
| Fils 5 | 62.5 x 20 - 7.5 x 3 | 18.0 | 6.0 | [1000 - 1250 - 1500 x 3000] 2000 - 2500 x max. 2000 | 25% |
| | 62.5 x 20 - 7.5 x 2 | 12.0 | 4.0 | | |
| | 62.5 x 20 - 7.5 x 1.5 | 9.0 | 3.0 | | |
| Airport | 62.5 x 20 (25.5) - 9.1 x 2 | 11.0 | 3.6 | [1000 - 1250 - 1500 x 3000] 2000 - 2500 x max. 2000 | 28.5% |
| | 62.5 x 20 (25.5) - 9.1 x 1.5 | 8.2 | 2.7 | | |
| Gate | 76 x 31 (35) - 11 x 2 | 10.2 | 3.4 | [1000 - 1250 - 1500 x 3000] 2000 - 2500 x max. 2300 | 37% |
| | 76 x 31 (35) - 11 x 1.5 | 7.8 | 2.6 | | |

The sheet dimensions can be made to order.

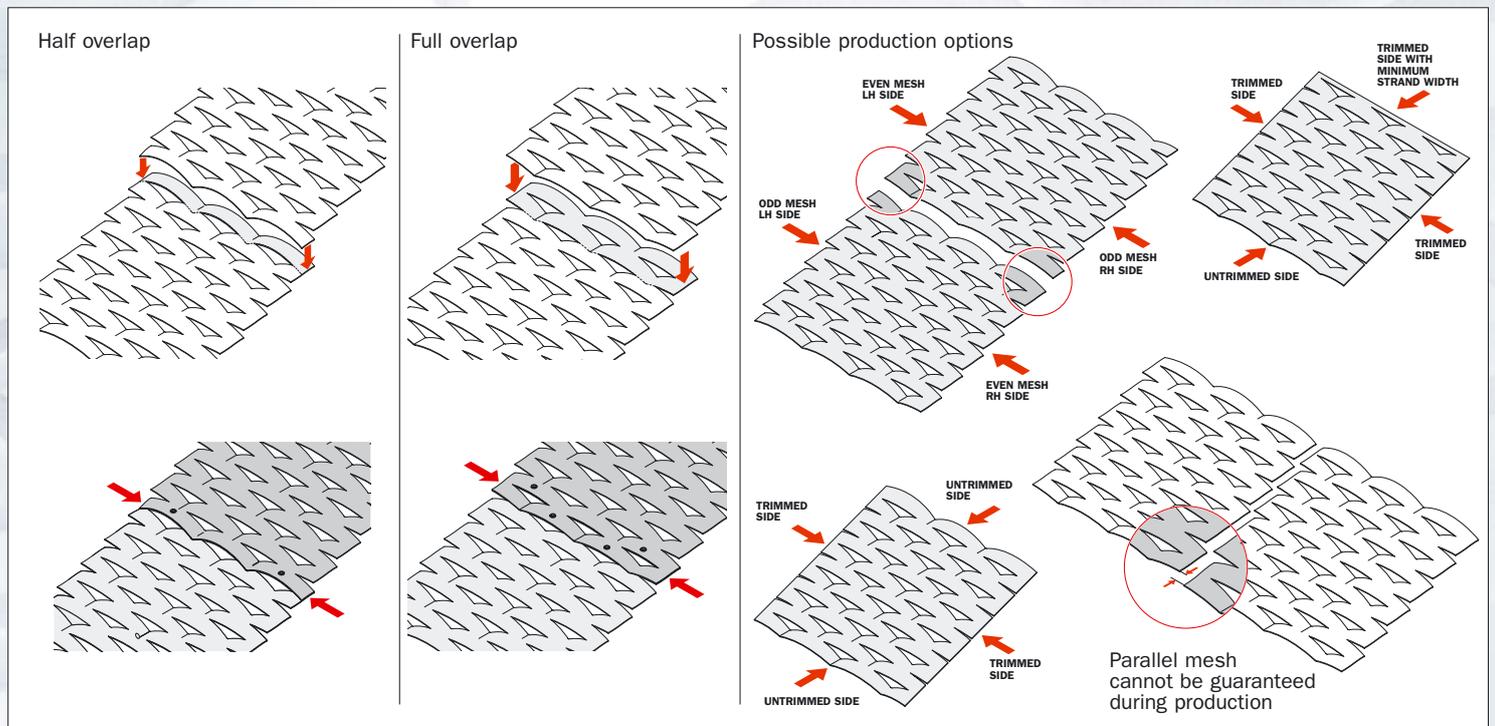
Mesh dimensions 1:1



Idea - DL 76 x DC 31 (24) - av 11 x sp 1.5 mm



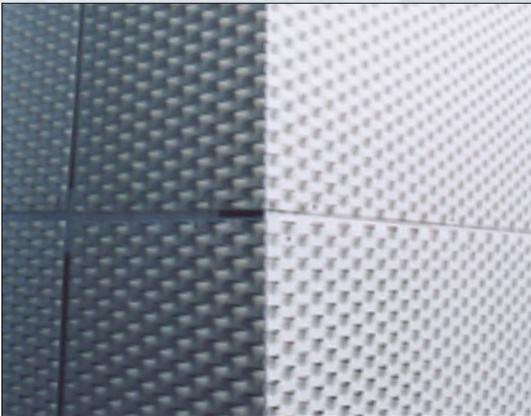
Privacy - DL 62.5 x DC 20 (28) - av 14 x sp 1.5 mm



| Type | Mesh mm | Steel kg/m ² | Aluminium kg/m ² | DL sizes mm | % front aperture |
|-------------|-------------------------|-------------------------|-----------------------------|--|------------------|
| Idea | 76 x 31 (24) - 11 x 1.5 | 10.6 | 3.6 | [1000 - 1250 - 1500 x 3000] [2000 - 2500 x max. 1600] | 8.5% |
| | 76 x 31 (24) - 11 x 2 | 14.1 | 4.7 | | |

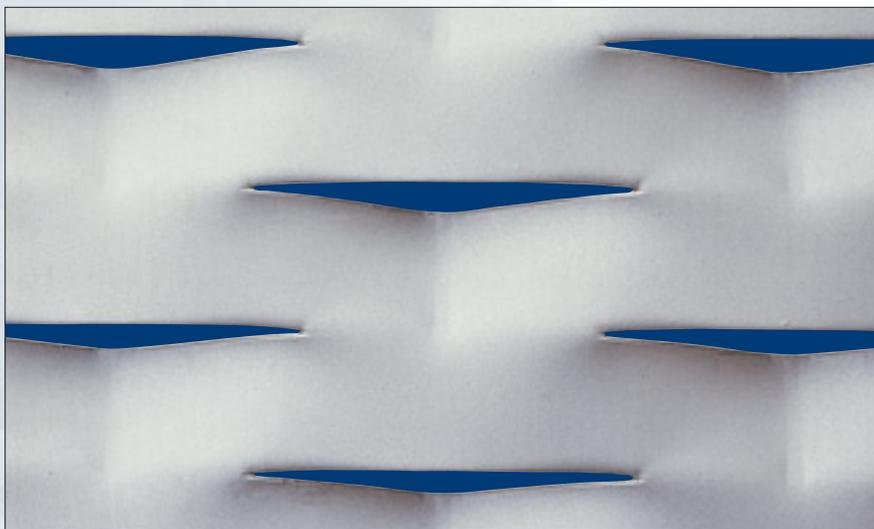
| | | | | | |
|----------------|---------------------------|------|-----|--|----|
| Privacy | 62.5 x 20 (28) - 14 x 2 | 15.6 | 5.2 | [1000 - 1250 - 1500 x 3000] [2000 - 2500 x max. 1500] | 0% |
| | 62.5 x 20 (28) - 14 x 1.5 | 11.7 | 3.9 | | |

The sheet dimensions can be made to order.

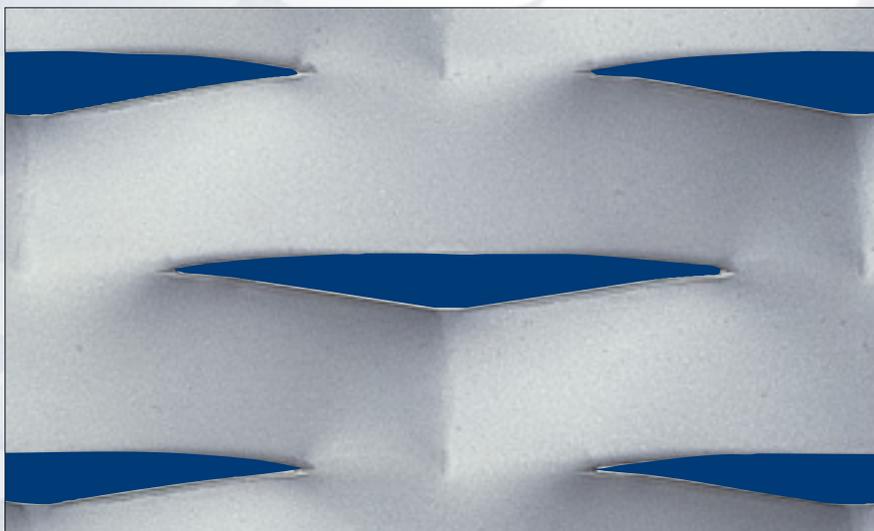


PRIVACY - DL 62.5 x DC 20 (28) - av 14 x sp 1.5 mm
Natural anodised aluminium

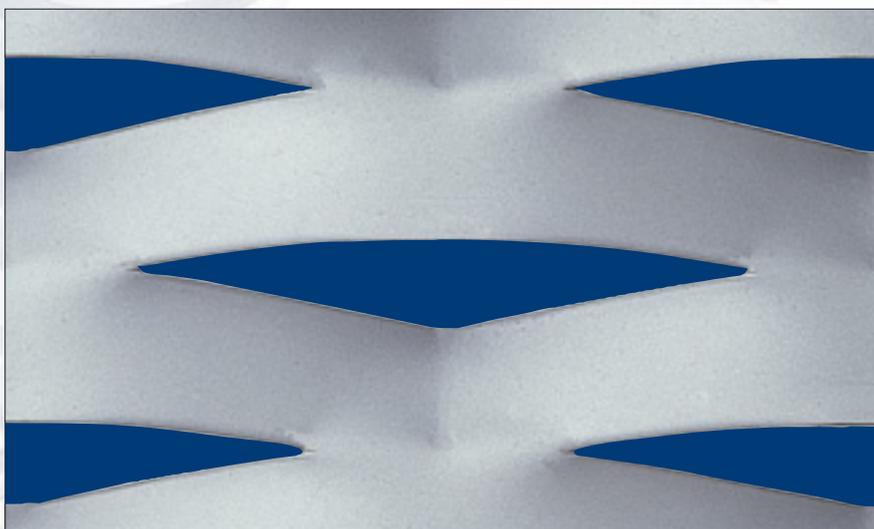
Mesh dimensions 1:1



Reserve - DL 90 x DC 30 (38) - av 18 x sp 1.5 mm



Ambasciata - DL 110 x DC 40 (52) - av 24 x sp 1.5 mm



Academy - DL 115 x DC 40 (48) - av 20 x sp 1.5 mm



1

1/2 - ACADEMY - DL 115 x DC 40 (48) - av 20 x sp 1.5 mm

1 - Anodised aluminium, bronze

2 - Anodised aluminium painted with polyester powder exterior paint

3 - AMBASCIATA - DL 110 x 40 (52) - av 24 x sp 1.5 mm

Hot dip galvanised Sendzimir steel

| Type | Mesh mm | Steel kg/m ² | Aluminium kg/m ² | DL sizes mm | % front aperture |
|-------------------|--------------------------|-------------------------|-----------------------------|--|------------------|
| Reserve | 90 x 30 (38) - 18 x 1.5 | 11.0 | 3.6 | [1000 - 1250 - 1500 x 3000 2000 - 2500 x max. 1500] | 5% |
| | 90 x 30 (38) - 18 x 2 | 14.6 | 4.8 | | |
| Ambasciata | 110 x 40 (52) - 24 x 3 | 21.1 | 7.0 | [1000 - 1250 - 1500 x 3000 2000 - 2500 x max. 1600] | 7.5% |
| | 110 x 40 (52) - 24 x 2 | 14.1 | 4.7 | | |
| | 110 x 40 (52) - 24 x 1.5 | 10.6 | 3.6 | | |
| Academy | 115 x 40 (48) - 20 x 3 | 19.3 | 6.4 | [1000 - 1250 - 1500 x 3000 2000 - 2500 x max. 1800] | 16.5% |
| | 115 x 40 (48) - 20 x 2 | 12.8 | 4.2 | | |
| | 115 x 40 (48) - 20 x 1.5 | 9.7 | 3.2 | | |
| Sierra | 160 x 40 (52) - 24 x 1.5 | 10.6 | 3.6 | [1000 - 1250 - 1500 x 3000 2000 - 2500 x max. 1600] | 7.5% |
| | 160 x 40 (52) - 24 x 2 | 14.1 | 4.7 | | |

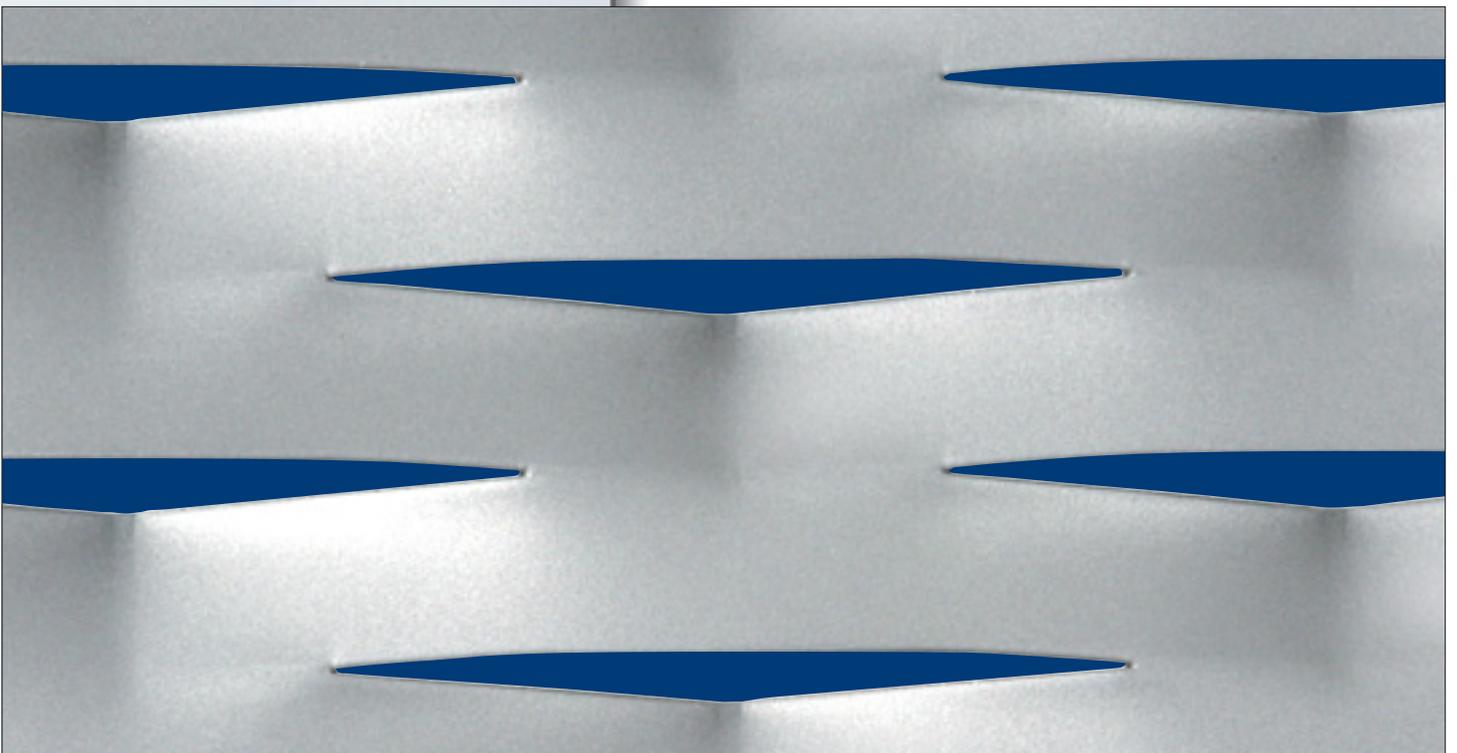
The sheet dimensions can be made to order.



2

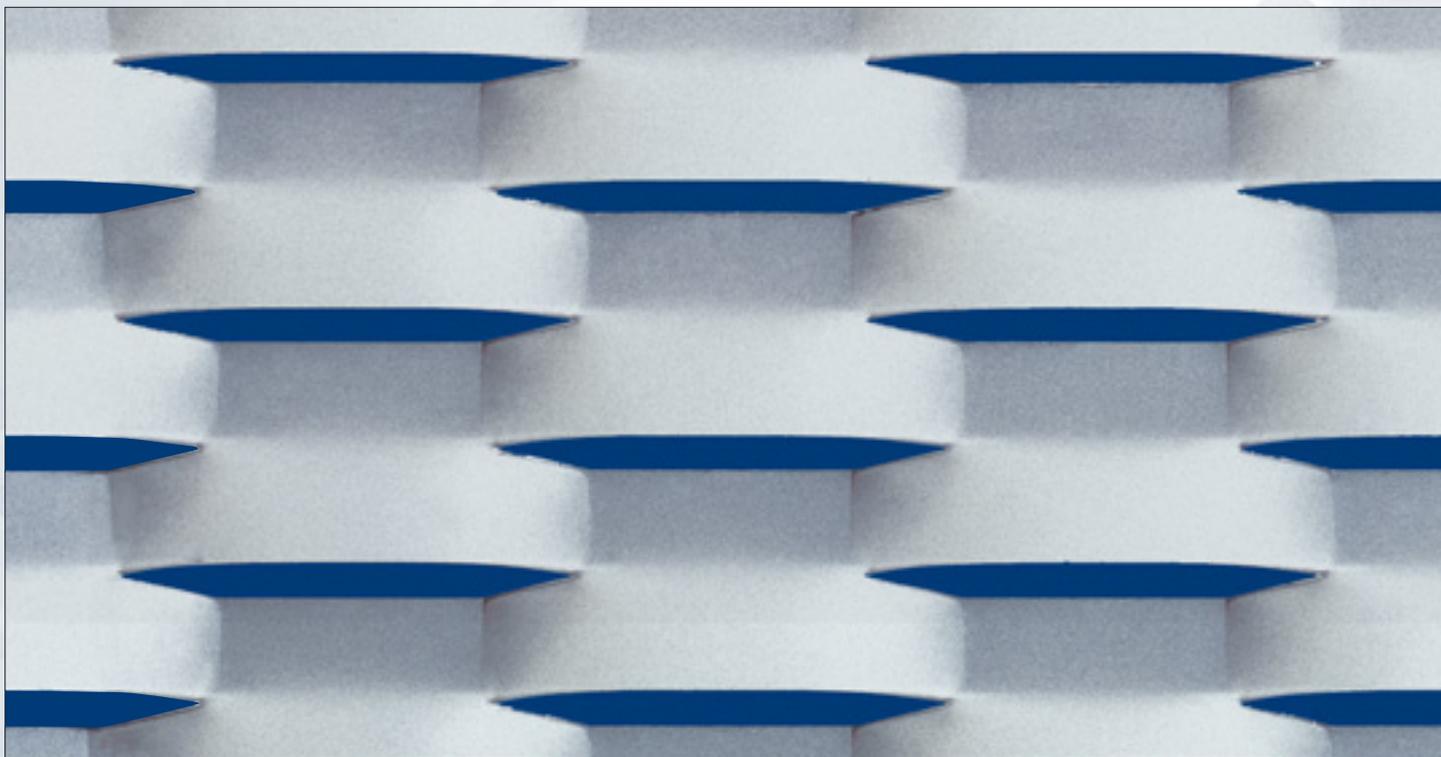


3

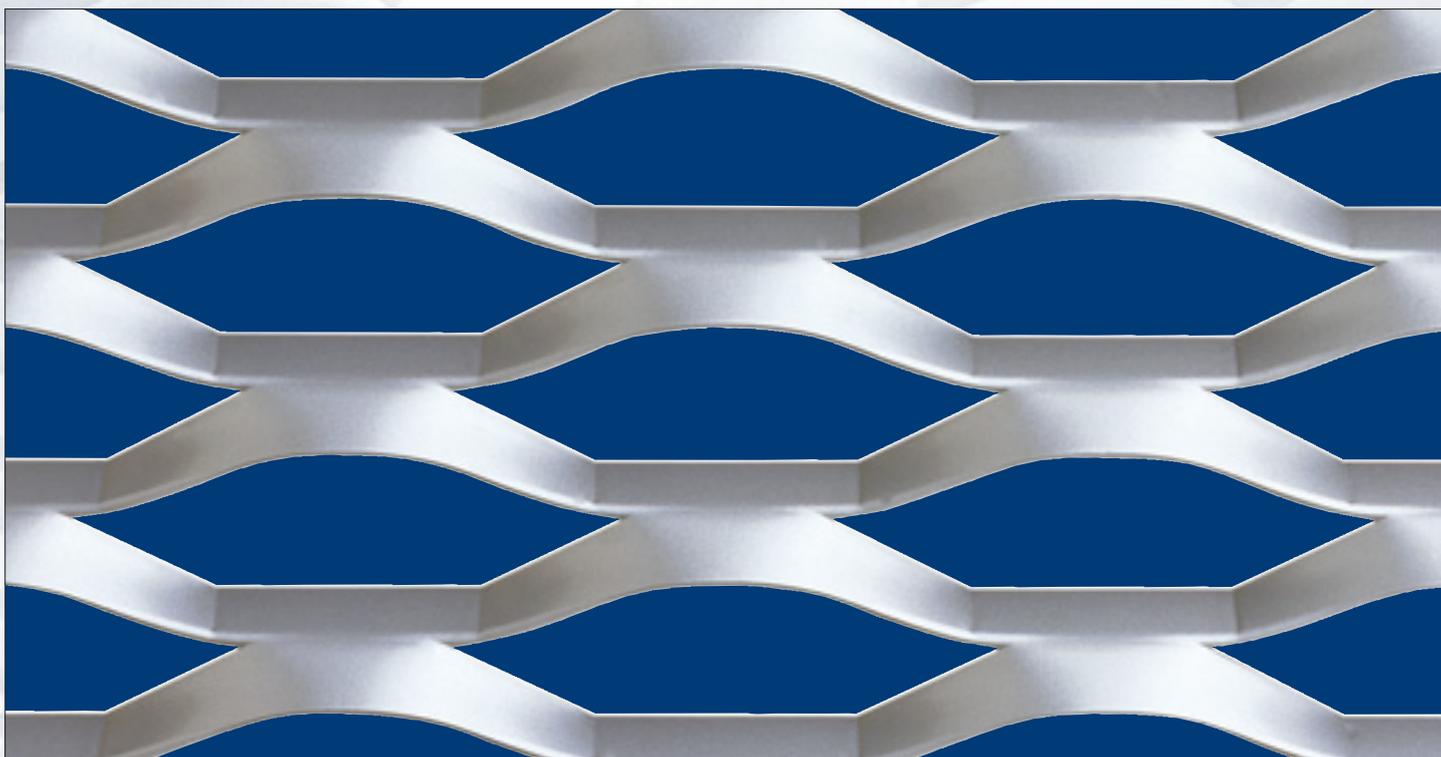


Sierra - DL 160 x DC 40 (52) - av 24 x sp 1.5 mm

Mesh dimensions 1:1



Esperia - DL 100 x DC 40 (34) - av 15 x sp 1.5 mm



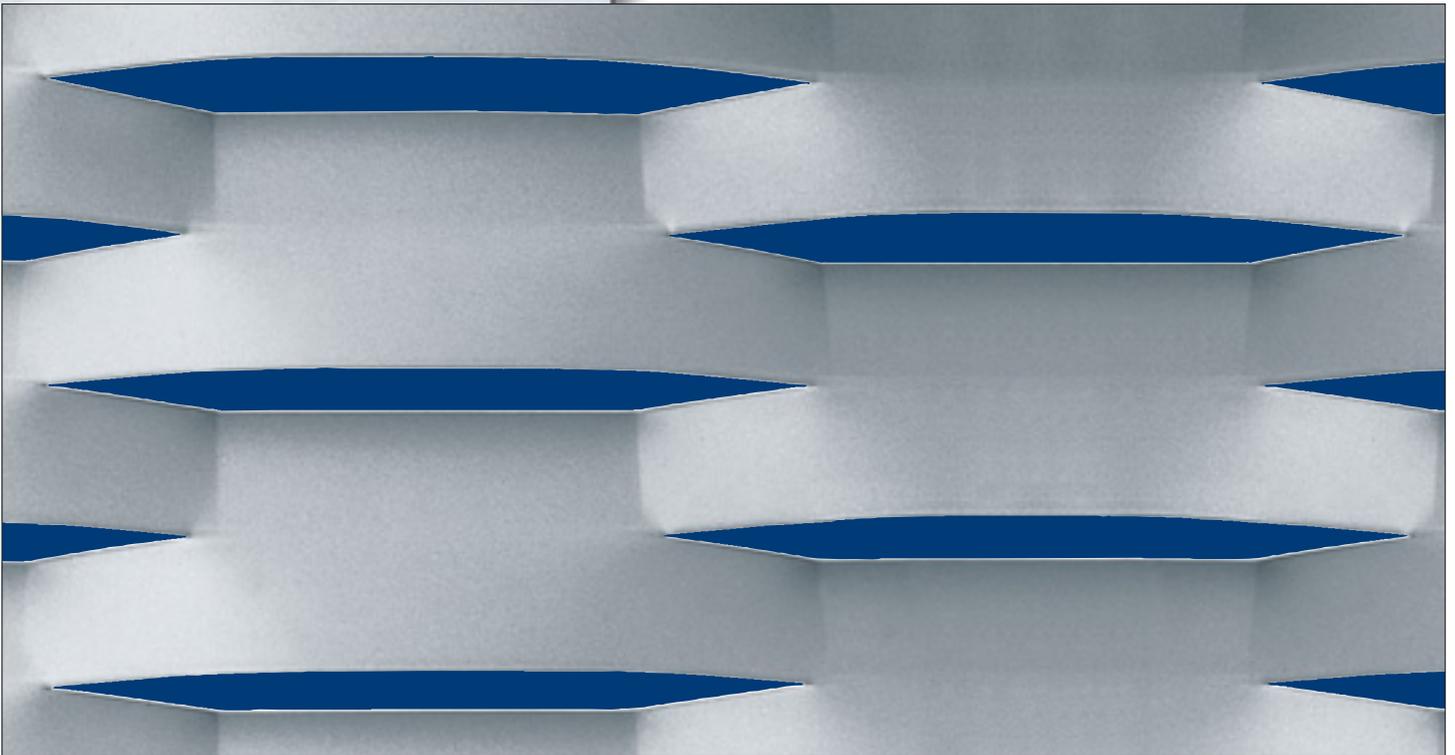
Grafica - DL 100 x DC 40 (34) - av 10 x sp 1.5 mm

| Type | Mesh mm | Steel kg/m ² | Aluminium kg/m ² | DL sizes mm | % front aperture |
|----------------|--------------------------|-------------------------|-----------------------------|--|------------------|
| Esperia | 100 x 40 (34) - 15 x 1.5 | 10.3 | 3.4 | [1000 - 1250 - 1500 x 3000 2000 x 2500 x max. 1700] | 11.5% |
| | 100 x 40 (34) - 15 x 2 | 13.7 | 4.5 | | |
| Grafica | 100 x 40 (34) - 10 x 1.5 | 6.9 | 2.3 | [1000 - 1250 - 1500 x 3000 2000 - 2500 x max. 2500] | 41.0% |
| | 100 x 40 (34) - 10 x 2 | 9.3 | 3.1 | | |
| College | 160 x 40 (40) - 18 x 1.5 | 10.8 | 3.6 | [1000 - 1250 - 1500 x 3000 2000 - 2500 x max. 1600] | 10.0% |
| | 160 x 40 (40) - 18 x 2 | 14.4 | 4.8 | | |

The sheet dimensions can be made to order.

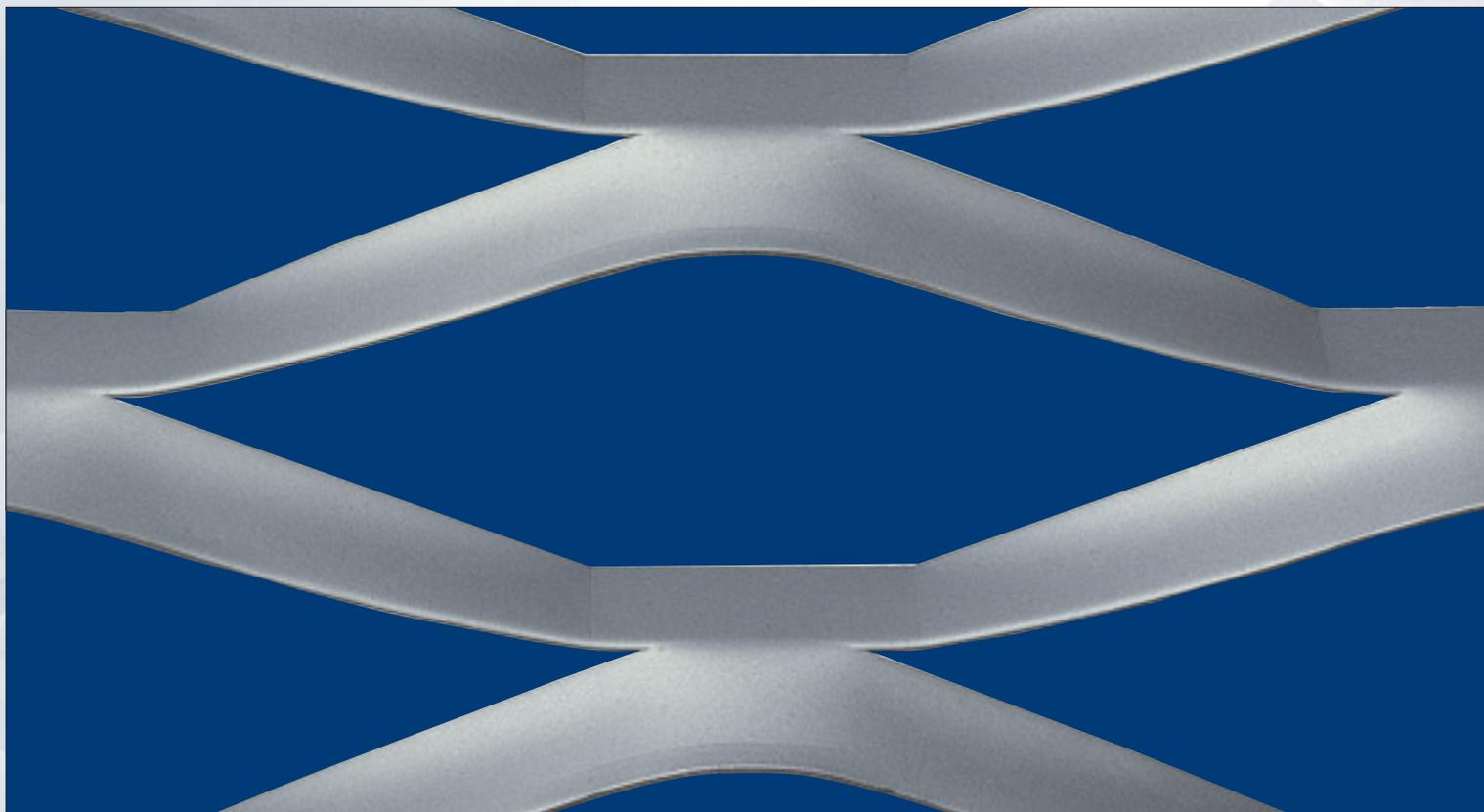


ESPERIA - DL 100 x DC 40 (34) - av 15 x sp 1.5 mm
Aluminium painted
with polyester powder exterior paint

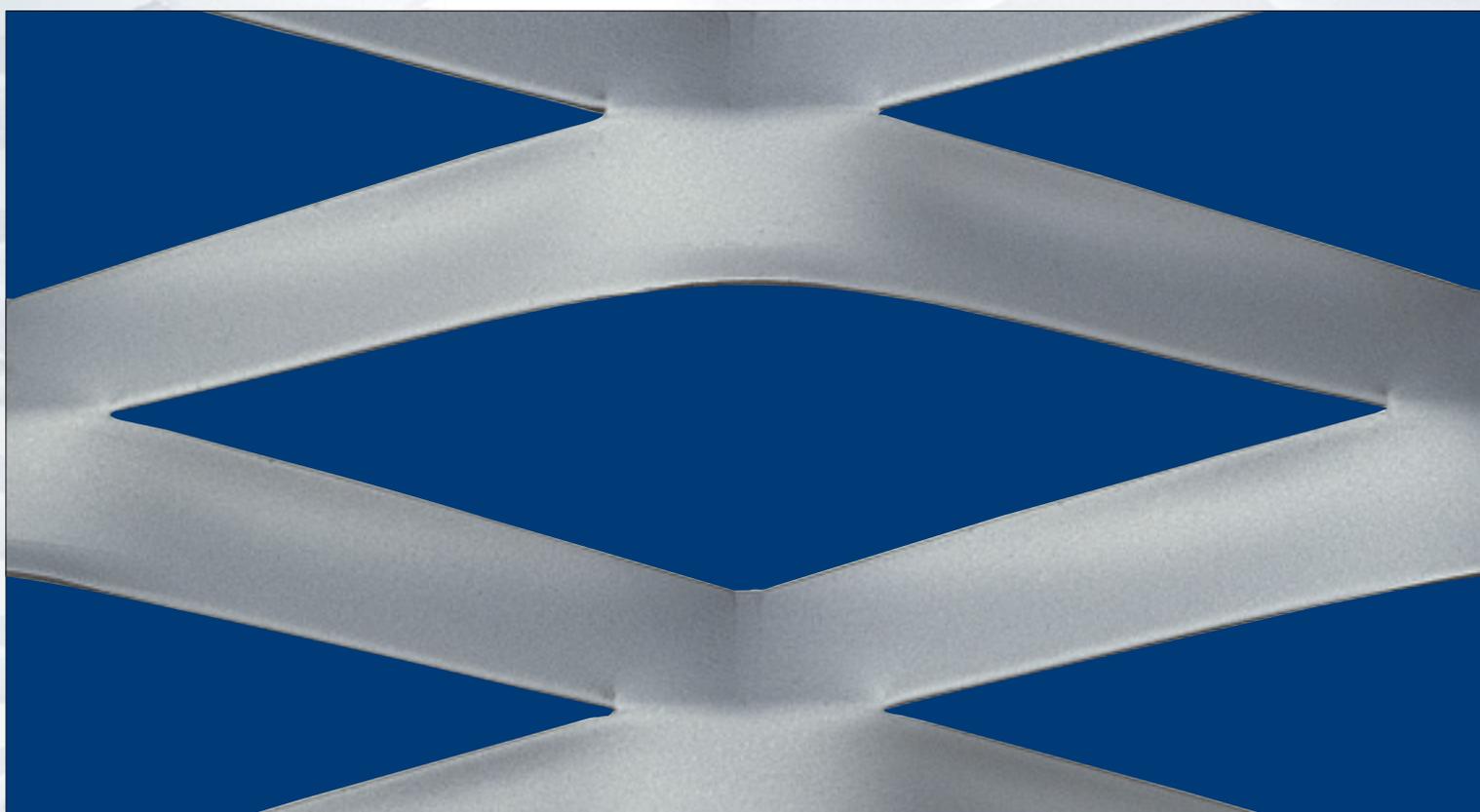


College - DL 160 x DC 40 (40) - av 18 x sp 1.5 mm

Mesh dimensions 1:1



Stadium - DL 200 x DC 65 (70) - av 20.6 x sp 1.5 mm



Coliseum - DL 200 x DC 75 (80) - av 24 x sp 1.5 mm

| Type | Mesh mm | Steel kg/m ² | Aluminium kg/m ² | DL sizes mm | % front aperture |
|-----------------|----------------------------|-------------------------|-----------------------------|-------------------------------|------------------|
| Stadium | 200 x 65 (70) - 20.6 x 3 | 14.0 | 4.6 | [1000 - 1250 - 1500 x 3000] | 41% |
| | 200 x 65 (70) - 20.6 x 2 | 9.3 | 3.1 | | |
| | 200 x 65 (70) - 20.6 x 1.5 | 7.2 | 2.4 | | |
| Coliseum | 200 x 75 (80) - 24 x 3 | 14.1 | 4.7 | [1000 - 1250 - 1500 x 3000] | 40% |
| | 200 x 75 (80) - 24 x 2 | 9.4 | 3.2 | | |
| | 200 x 75 (80) - 24 x 1.5 | 7.1 | 2.4 | | |

The sheet dimensions can be made to order.



1



2



3



4

1/2 - COLISEUM - DL 200 x DC 75 (80) - av 24 x sp 2 mm
Hot dip galvanised steel

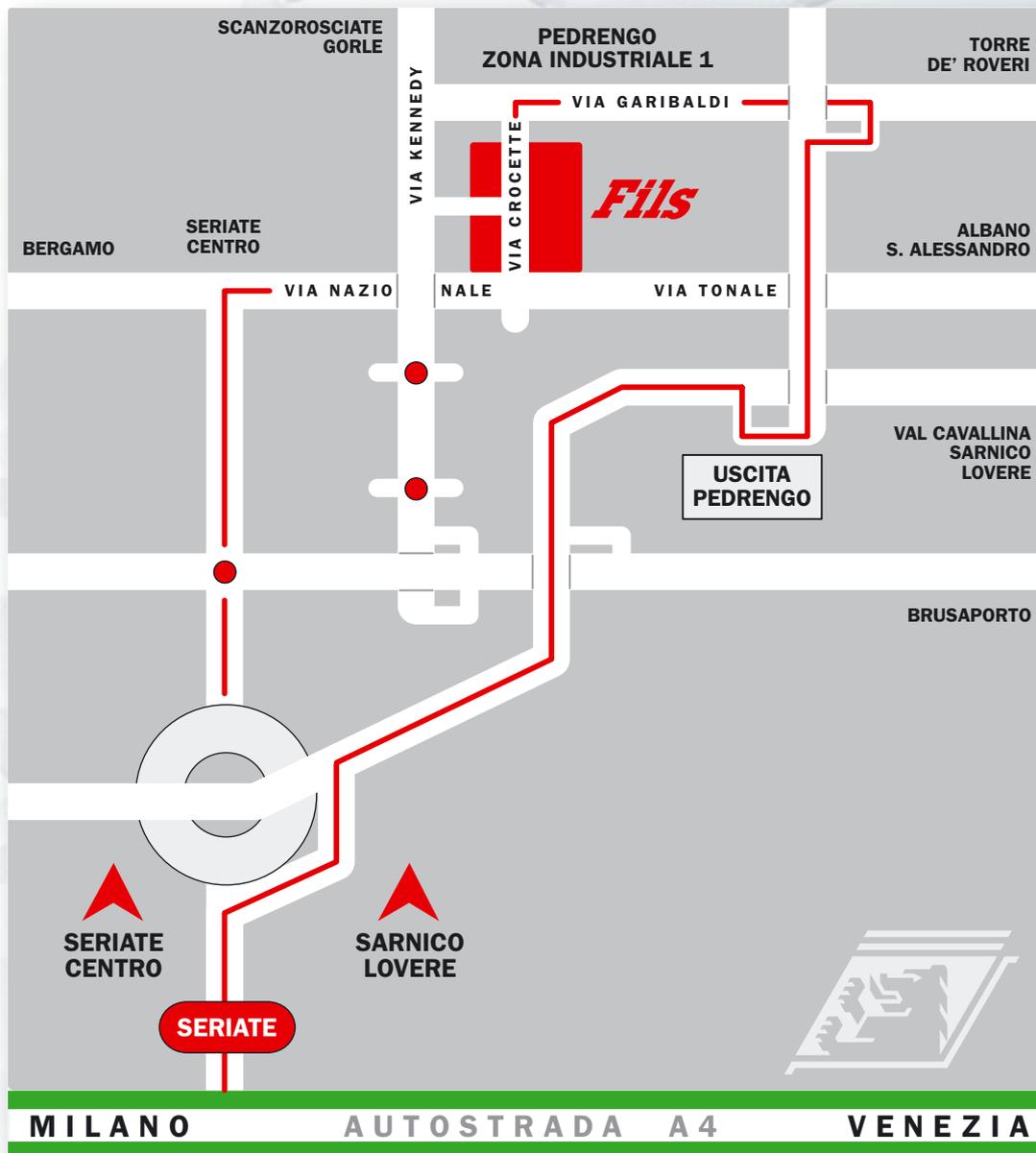
3/4 - COLISEUM - sp 3 mm
Natural anodised aluminium



FILS S.p.A.

Fabbrica Italiana Lamiere Stirate
24066 PEDRENGO (Bergamo) Italy
Via Crocette, 21 (Zona Ind.1)

Tel. 035 661 471
Fax 035 655 875
fils@fils.it





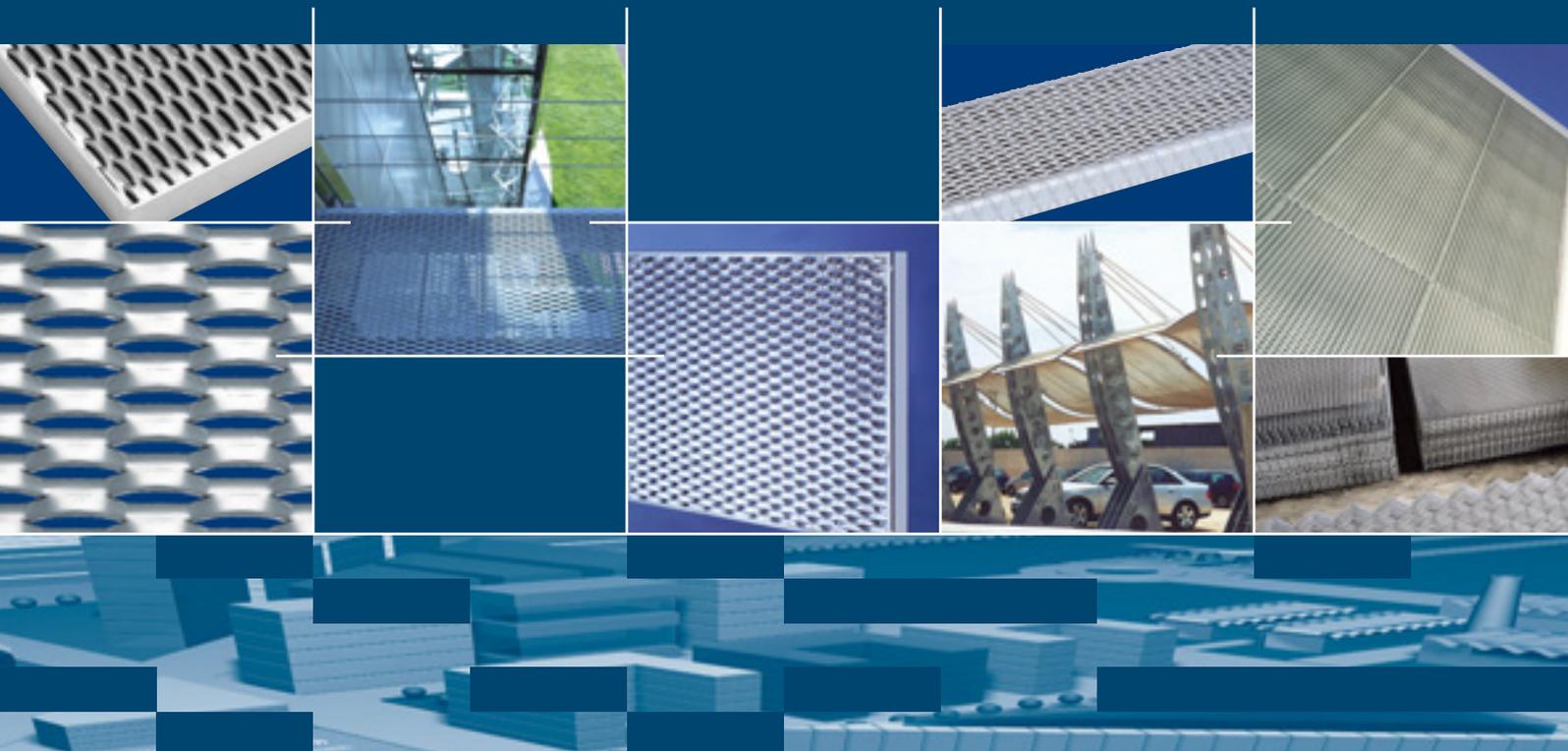
FILS S.p.A.

Fabbrica Italiana Lamiera Stirate
24066 PEDRENGO (Bergamo) Italy
Via Crocette, 21 (Zona Ind.1)

Tel. 035 661 471
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www.fils.it



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