

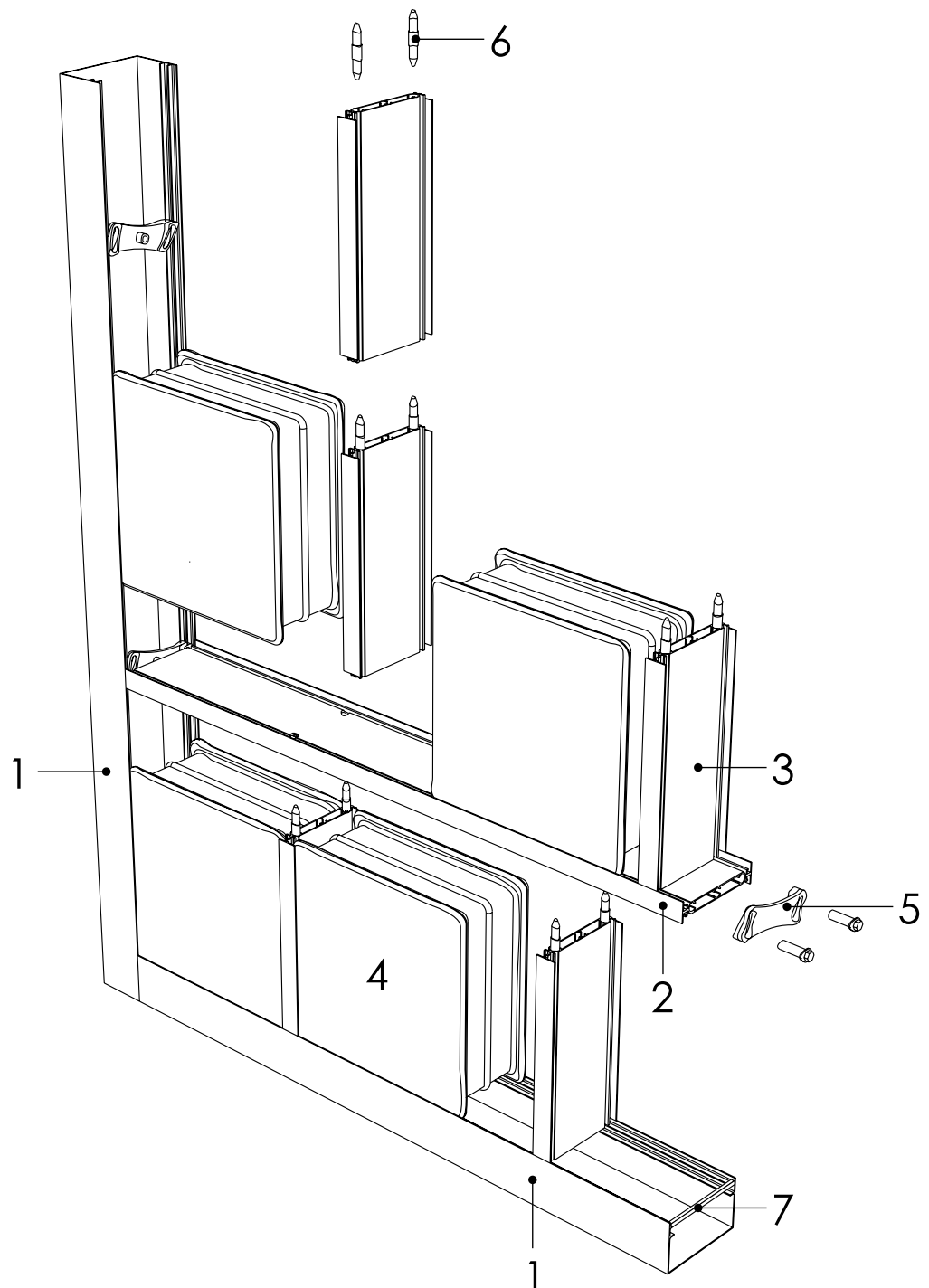
POSA IN OPERA CON SISTEMI DI MONTAGGIO FACILITATI

M E T A L[®]

MADE IN ITALY

**SISTEMA MODULARE PER VETROCEMENTO
MODULAR SYSTEM FOR GLASSBLOCK**

STRUTTURA / STRUCTURE > ALLUMINIO / ALUMINIUM



I COMPONENTI

- 1 PROFILO PERIMETRALE
- 2 CORRENTE
- 3 TRAMEZZINA
- 4 VETROMATTONONE
- 5 A-80 CON VITI
- 6 S-42
- 7 PONTICELLO

GB COMPONENTS

- 1 PERIMETRAL PROFILE
- 2 RAIL
- 3 PARTITION
- 4 GLASS BLOCK
- 5 A-80 WITH SCREWS
- 6 S-42
- 7 BRIDGE

CERTIFICATO - PATENTED

GB INSTALLATION MANUAL

NOTICE CAREFULLY THE POSITION OF THE VARIOUS PARTS FORMING THE METAL ALUMINIUM STRUCTURE AND THE INTERSTICE WITH THE WEDGES. FOLLOW THE ASSEMBLY ORDER.

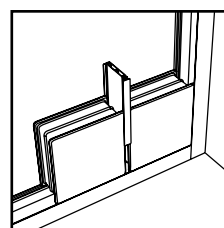
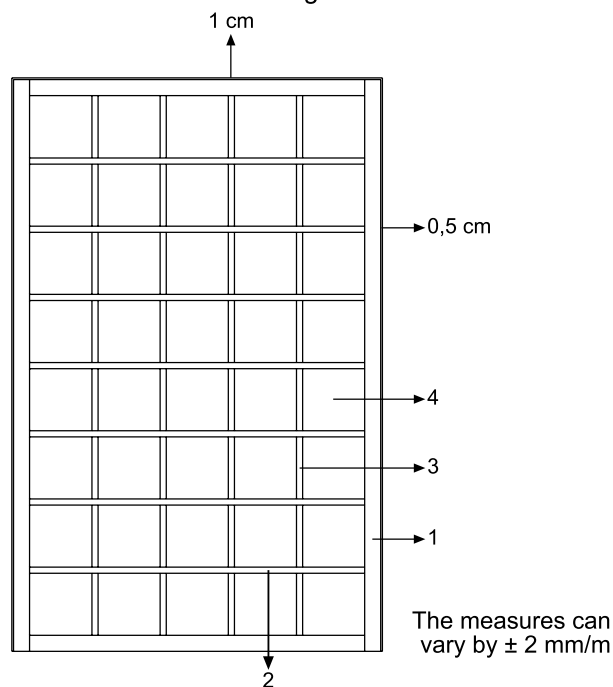
M E T A L[®]

MADE IN ITALY

MODULAR SYSTEM FOR GLASSBLOCKS
ALUMINIUM STRUCTURE

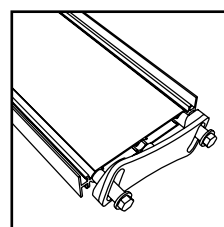
1 Groove's opening:

Add. the base and the high of 1 cm



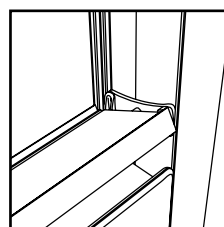
HH-80

2.3 Put down the first glassblock raw on the horizontal profile "PU-80" and put the vertical partition "HH-80/.." between the glassblocks.



A-80

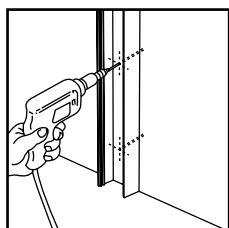
2.4 Fix the hooks "A-80" into the ends of the horizontal reels "CH-80/.." using the screws supplied. Unscrew a quarter of circle the screws.



CH-80

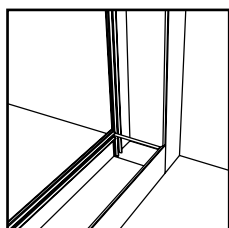
2.5 Turn and clasp the horizontal reel "CH-80/.." into the vertical profiles "PU-80", insert the hooks "A-80" into the right profile guide. Push the hooks "A-80" downward.

2 Now you can start building the wall



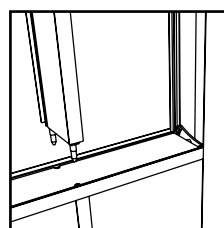
PU-80

2.1 Put and fix the vertical U profile "PU-80" on the wall with expansion dowels (screws the dowels as you build the wall).



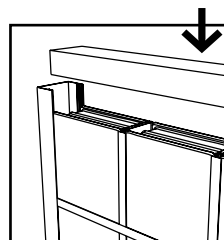
PU-80

2.2 Position and fix the first horizontal "PU-80" to the floor aligning it to the vertical profile using the plastic spacer as in the picture. Position and fix the second vertical profile "PU-80", on this located horizontal profile to the floor one doesn't have to position any other profile, only the glass block and the inserted partitions, see picture n° 3. To position and to fix the second vertical "profile PU-80."



S-42

2.6 Put down the next glassblock and vertical partitions raws, insert the plastic pins "S-42" through the "CH-80/.." and "HH-80/.." holes until the end of the wall. To lay down the last glassblock there is one vertical partition "HH-80/.." cutted in two halves: Insert the first half, the glass and then the second half.



PU-80

2.7 Insert down the horizontal profile "PU-80" above the last glassblock raw, be sure that the vertical partitions "HH-80/.." inside the profile.



- KEEP AWAY FROM THE REACH OF CHILDREN.
- DO NOT SWALLOW.
- READ CAREFULLY THE INSTRUCTIONS.
- DO NOT DISPOSE IN THE ENVIRONMENT AFTER USE.
- USE ALL THE SYSTEM COMPONENTS CONTAINED IN THE PACKING.



ACCORGIMENTI PER LA REALIZZAZIONE DI PARETI DOCCIA E PER USO ESTERNO RECOMMENDATIONS FOR INSTALLING A SHOWERS IN OR OUT



Prima di posizionare i vetromattoni all'interno della struttura METAL in alluminio si dovrà procedere alla stesura di silicone acetico neutro anti-muffa sui quattro bordi interni di ogni vetromattone, in modo che una volta in appoggio sui profili in alluminio creino una totale sigillatura nei confronti dell'acqua.

Nel caso di pareti doccia questa sigillatura dovrà avvenire nel lato esterno della parete doccia, cioè non dovremo applicare il silicone nella parete interna al piatto doccia, bensì nella parete esterna.

Per fare defluire l'acqua che si inserirà all'interno della nostra parete doccia dalle fughe non siliconate del vetromattone, dovremo praticare tre piccoli fori nel nostro primo profilo orizzontale PU-80 (quello in appoggio verso il pavimento).

I tre fori dovranno essere eseguiti rispettivamente a destra, al centro e a sinistra del nostro profilo dal lato interno del nostro box doccia, così facendo l'acqua defluirà verso lo scarico del piatto doccia.

Per quanto riguarda eventuali pareti con un lato rivolto verso l'esterno della casa o in ogni caso soggette alle intemperie, si dovrà procedere come sopra indicato per le pareti doccia con la unica variante che **il sigillante siliconico dovrà essere sempre steso dal lato interno della parete**, cioè quello non esposto alle intemperie. **I fori per fare defluire l'acqua dovranno essere eseguiti nel primo profilo orizzontale PU-80** (quello in appoggio sul pavimento) **verso l'esterno della parete**.

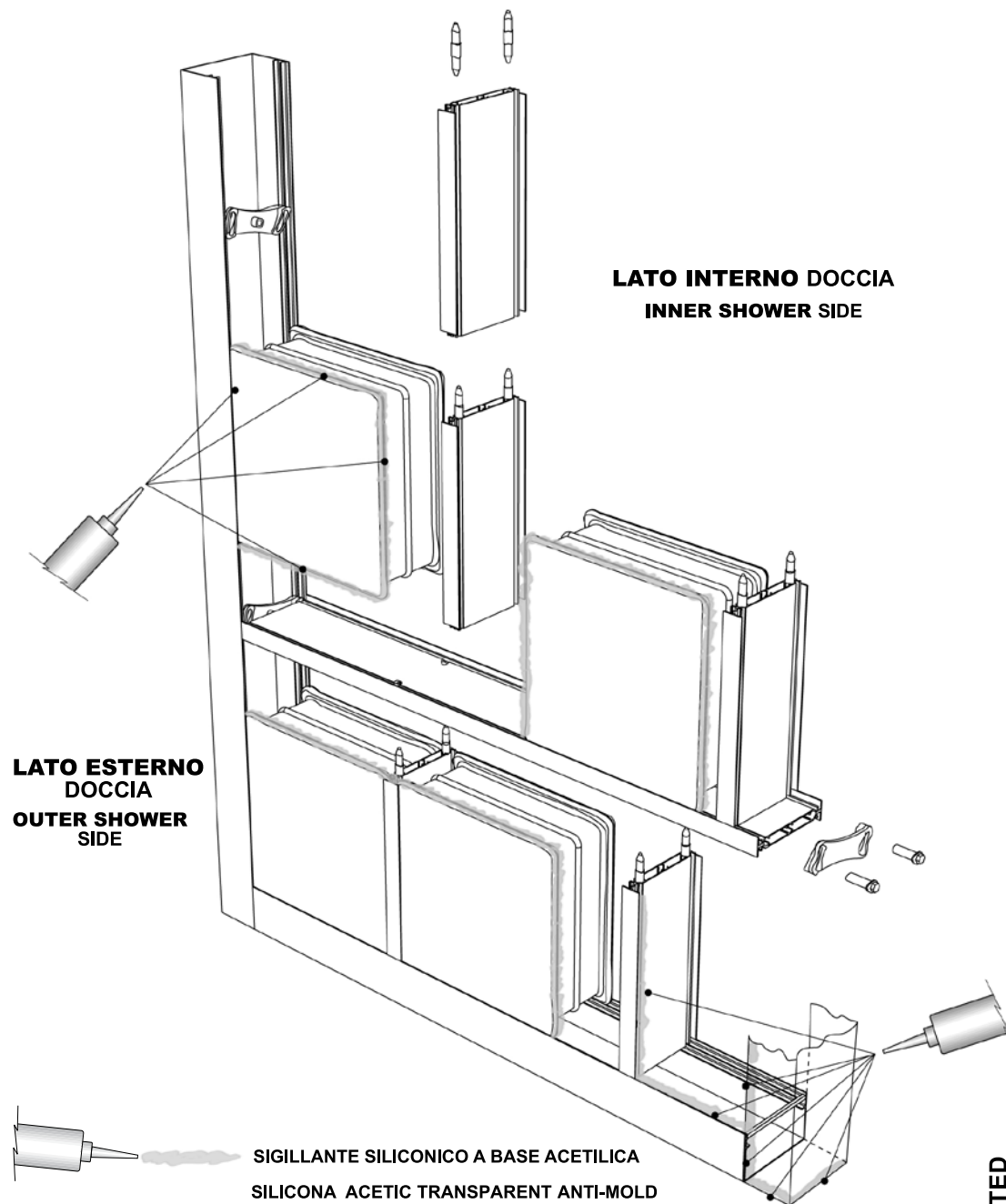


Before put the glass blocks inside the system Metal in aluminum, will have to proceed to extend a thread of silicona acetic transparent anti-mold on the four interior sides of the glass block, so that once supported in the aluminum profiles a sealed total regarding the water that can filter in the aforementioned wall.

To make flow inside the shower floor the eventual water filtered in the system Metal, we will have to carry out two small holes on the part horizontal profile, leaning on the base, this way, making that the water filtered inside the structure usually flows in the shower floor.

Important, don't use silicona inside the showerwall to avoid the possible mold.

In walls carried out in showers, the silicona will extend on the external part of the same, outside of the plate never in contact with the water. But, for external walls, the silicona will be extended by the interior part of the same one, never in the part external.



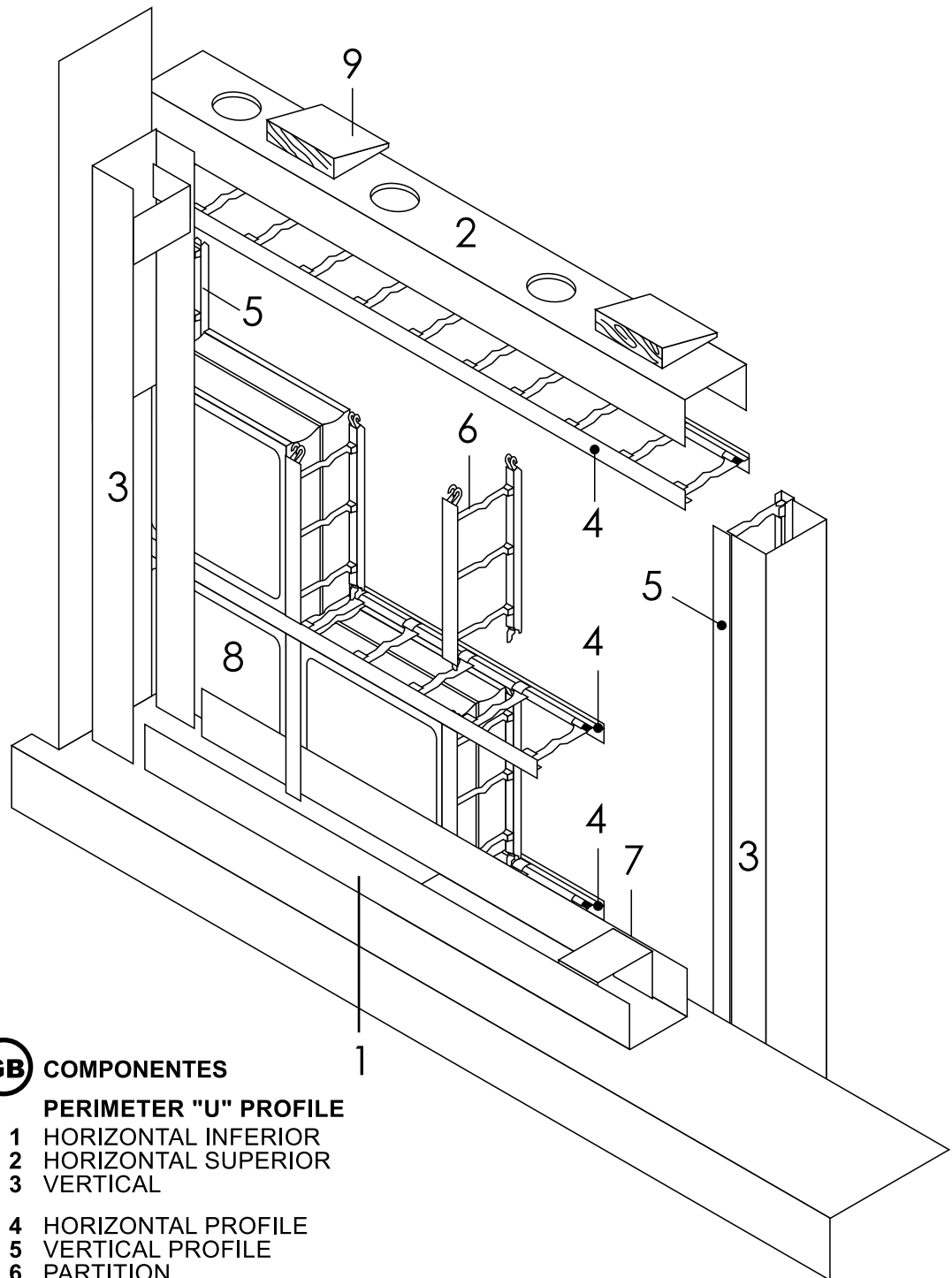
BINARIO[®]

MADE IN ITALY

**SISTEMA MODULARE PER VETROCEMENTO
MODULAR SYSTEM FOR GLASSBLOCK**

STRUTTURA / STRUCTURE > PVC

CERTIFICATO - PATENTED



I COMPONENTI

PROFILO PERIMETRALE A "U"

- 1 ORIZZONTALE INFERIORE
- 2 ORIZZONTALE SUPERIORE
- 3 VERTICALE
- 4 CORRENTE ORIZZONTALE
- 5 CORRENTE VERTICALE
- 6 TRAMEZZINA
- 7 CAVALLOTTI in lamiera zincata
- 8 VETROMATTONI
- 9 ZEPPE

GB COMPONENTES

PERIMETER "U" PROFILE

- 1 HORIZONTAL INFERIOR
- 2 HORIZONTAL SUPERIOR
- 3 VERTICAL
- 4 HORIZONTAL PROFILE
- 5 VERTICAL PROFILE
- 6 PARTITION
- 7 U PIECE in galvanised zinc
- 8 GLASS BLOCK
- 9 WEDGES

GB INSTALLATION MANUAL

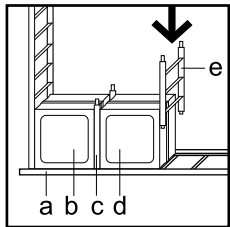
NOTICE CAREFULLY THE POSITION OF THE VARIOUS PARTS FORMING THE METAL ALUMINIUM STRUCTURE AND THE INTERSTICE WITH THE WEDGES. FOLLOW THE ASSEMBLY ORDER.

BINARIO®

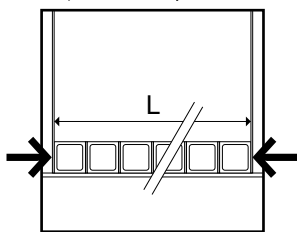
MADE IN ITALY

MODULAR SYSTEM FOR GLASSBLOCKS PVC STRUCTURE

1 Pre-assembly of first row of glass blocks



a PVC rail
b, d glass
c, e vertical partition



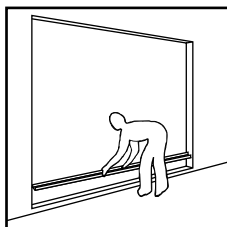
WHEN WALL IS CUT TO SIZE FOLLOW POINT 2

Place a PVC rail at the base. Install the first glass block on the PVC rail. Hook the vertical partition (arrow down) to the PVC rail. Place the second glass block next to the vertical partition and continue until the completion of the first row.

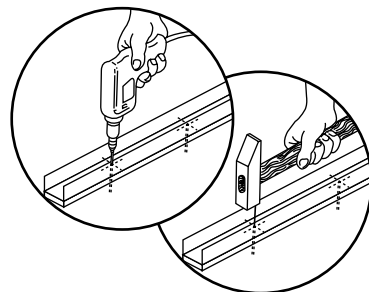
Position two PVC rails at both ends of the row of glass blocks and press together. Measure the internal length "L" between the horizontal PVC rails (excluding the side rails). Cut all the horizontal PVC rails to the "L" measurement (equal to the number of rows of glass blocks plus one) and two horizontal U profiles to "L" + 4 mm. Cut the two vertical U profiles and the two vertical rails 2-3 mm shorter than the wall opening.

2 Now you can start building the wall

Prepare and verify the measurements for the opening where the wall will be lodged. If necessary, apply some silicon or sealant between the U profile and the underlying base.



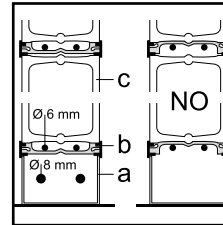
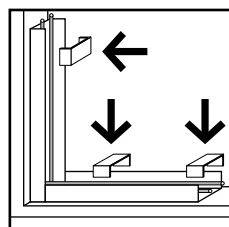
2.1 Position the horizontal U profile (centred in respect to the wall opening and in the desired position), then drill holes in the profile and the underlying base at 50/60 cm distance and 8-10 cm depth.



2.2 Press-insert reinforcing rods (Ø8-12 mm), allowing them to protrude inside the U profile about 4 cm.

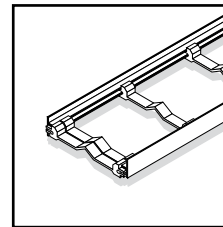
2.3 Position at both ends of the horizontal U profile the two vertical U profiles and secure them in place (see figures 2.1 and 2.2).

2.4 Insert a couple of reinforcing zinc rods (Ø 8 mm) in the vertical and horizontal U profiles at some distance from the profiles. Insert the U supports in the three U profiles (respectively one every 30-40 cm for the base and 50-80 cm for the vertical ones) Position the two vertical rails against the two vertical U profiles at both ends of the U profile base.

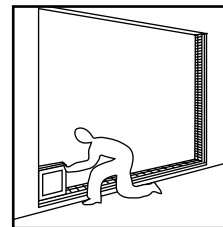
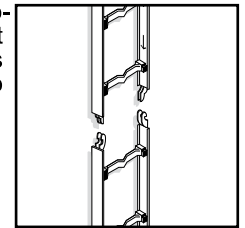


2.5 Place the first horizontal PVC rail on the horizontal U profile in the correct position as in drawing. The PVC rail in this position will keep the reinforcing zinc rods (not more than Ø 6 mm) away from the underlying glass blocks. Lay down the zinc rods.

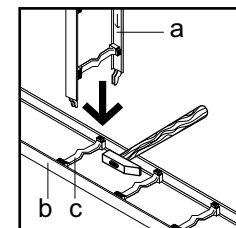
a "U" profile
b PVC rail
c glass block



2.6 Hook or shift a bridge (ensuring that it protrudes outwards 2-3 mm) at both ends of the horizontal rails so that it can be fastened to the vertical rail.

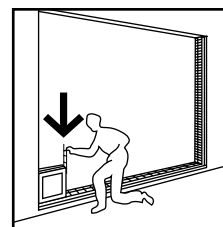


2.7 Install the first glass block.

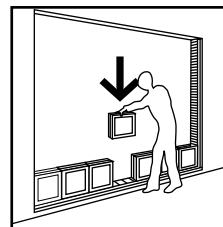


2.8 Hook the partition (a) to the PVC rail (b) below.

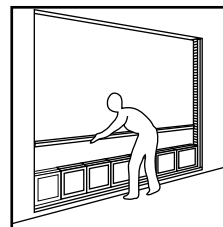
The arrow visible on the inside of the partition must point downward. Should one of the rail bridges impede the hooking of the partition to the PVC rail, shift it to desired clearance.



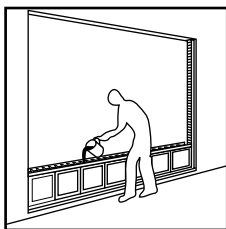
2.9 Install the other glass blocks and complete the first row introducing the last block in the centre of the row as shown in the picture.



2.10 Fix the top rail of the first row to the partitions below, hooking the end bridges to the vertical rails. Insert the wedges between the wall and the structure to apply the necessary pressure and ensure correct assembly of the various components. Insert wedges at each row of glass blocks.

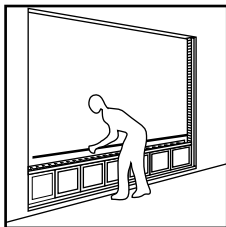


2.11 PREPARATION OF THE CEMENT (see notes).



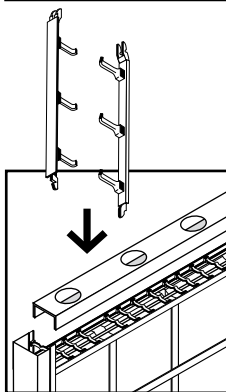
2.12 Proceed pouring cement at the corresponding vertical runouts. Make sure not to fill up the runout completely. Repeat this operation for each runout in the glass block row, stirring the cement so as to amalgamate it evenly.

For the first row, fill out only the U profile below, as the pressure of the cement poured could push the glass blocks upward.



2.13 After having poured the cement, position the two reinforcing zinc rods (\varnothing 6 mm) in place. Then proceed to laying the subsequent row of glass blocks.

2.14 For the installation of the subsequent rows of glass blocks, repeat the operations from point 2.7 onward.

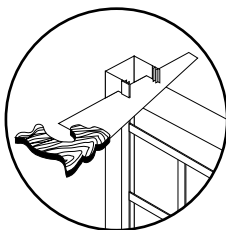


2.15 LAYING OF THE LAST GLASS BLOCK
Saw a partition vertically in two halves as shown in the picture. Introduce the first half on the outer side, then the glass block and finally the other half. Fix the last horizontal rail, which will keep the two halves of the partition in place. Pour the cement and insert the two \varnothing 8 mm zinc rods, keeping them raised.

2.16 INSERTING THE HORIZONTAL UPPER U PROFILE

Drill \varnothing 60 mm holes on the back of the U profile every 30-50 cm as shown in the picture.

Install the profile between the two vertical rails, insert the upper wedges and complete pouring the cement through the holes.



2.17 After the cement has dried, cut protruding parts of the U profiles as shown in figure.

3 To clean the wall

When building the wall, wipe out exceeding cement from the structure with a wet sponge.

Once the cement is dried, gently clean surfaces with steel wool and rinse them with water and glass detergent.

4 Useful information

To join or recuperate parts of rails insert a bridge at centre of the junction.

To match or recuperate parts of U profiles, insert a joint part (art. RP-125), applying previously some gluing paste for PVC.

5 Extra information

INSTALLATION of the glass blocks must be carried out after complete disassembly and drying of the supporting beams and lofts on which they are going to be placed.

INDEPENDENCE OF THE GLASS BLOCK STRUCTURE FROM THE BUILDING

The PVC RAIL system acts as a footing form for the reinforced concrete. A glass-block wall built in such manner is self-supporting, **but it must not be used to support structures or parts of the building.** All around the glass block wall there must be some space to provide for the thermal excursion. Design and installation of glass block walls must comply with the current laws and regulations.

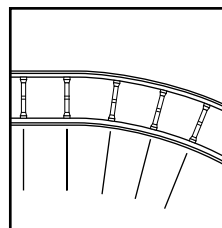
CONCRETE

One m³ of sand –washed and riddled, with \varnothing not above 3-4 mm – must be mixed with clean water and 350/450 kg of concrete (Portland 350) at low pressure and no additives. The mixture must be even and soft when stirred, but not watery.

REINFORCING RODS must be in zinc.

6 Curved walls: preliminary operations

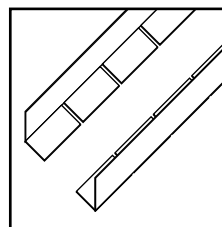
It is necessary to install an external containing structure to the glass-block wall under construction.



6.1 Mark out the radius of curvature of the wall to be built.

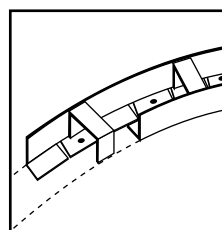
6.2 Curve a rail to the same radius of curvature by shifting the inner bridges toward the centre as shown in the picture.

6.3 Do a pre-assembly of the first row of glass blocks to find out the exact measurement of the wall to be built. Modify the radius of curvature to adapt the glass block structure to the wall opening.



6.4 Mark out the final curve.

6.5 Saw the top and bottom horizontal U profiles in two halves - length wise. Make cuts on the sawed parts of the U profile every 8-10 cm, as shown in picture 1.



6.6 Position the external profile along the final curve and fix it by means of dowels or pieces of reinforcing zinc rods as in fig. 2.

6.7 Fix the other half of the U profile in place, inserting a zinc U Piece every 20-30 cm to obtain the correct distance, as shown in picture.

6.8 Proceed as per installation manual.

6.9 INSERTION OF THE UPPER U PROFILE (see point 2.16)
On the next to the last row and on the PVC rail, position the two halves of the previously cut U profile, joining them internally by means of pieces of zinc rod 2-3 cm long, art. RP-125.

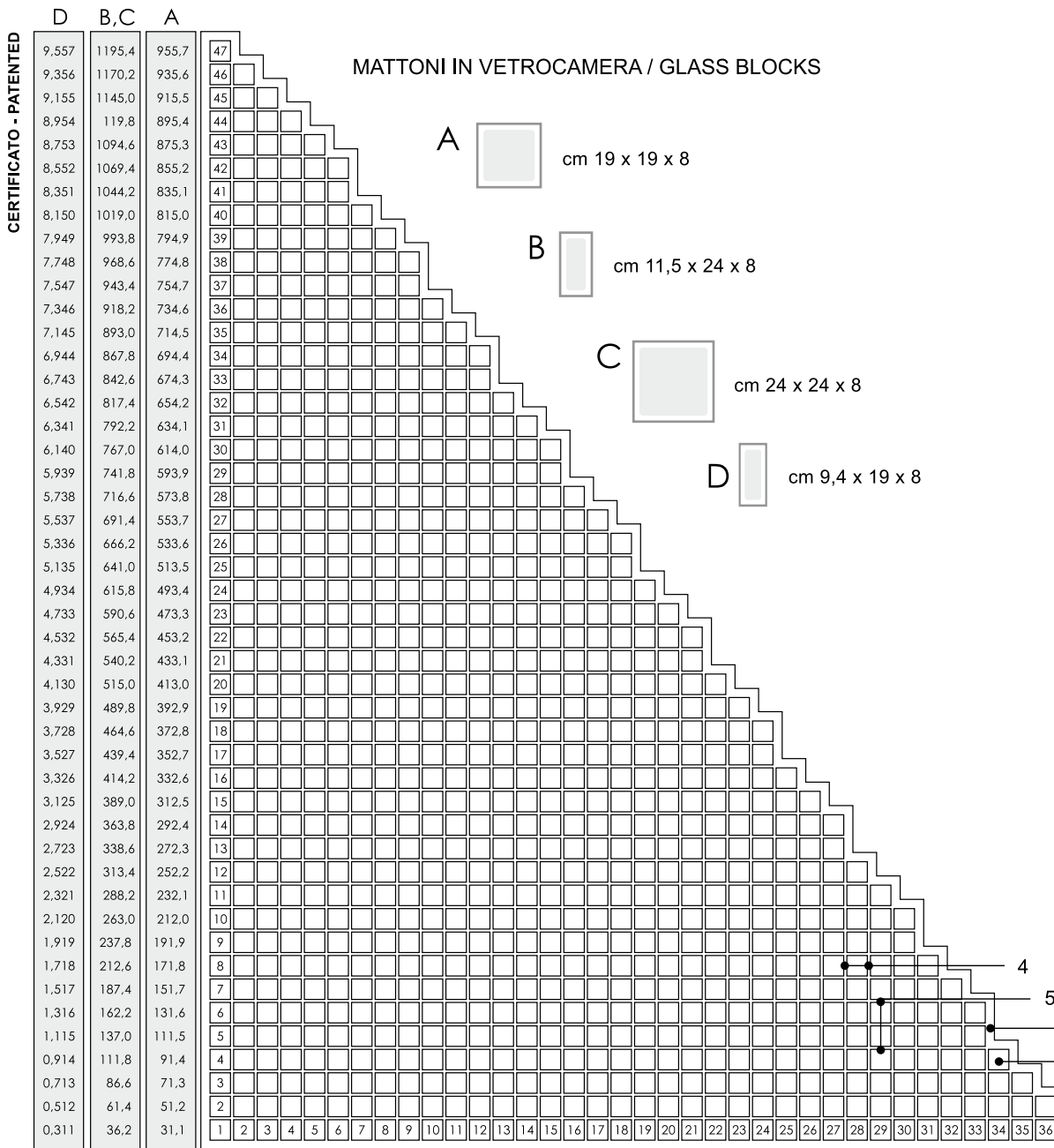


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- READ CAREFULLY THE INSTRUCTIONS.
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- USE ALL THE SYSTEM COMPONENTS CONTAINED IN THE PACKING.

BINARIO®

MADE IN ITALY

MODULAR SYSTEM FOR GLASSBLOCKS PVC STRUCTURE



4 = MODULO ORIZZONTALE
HORIZONTAL DISTANCE

5 = MODULO VERTICALE
VERTICAL DISTANCE

1/2/3 = PROFILO PERIMETRALE
PERIMETER PROFILE

8 = VETROMATTONONE
GLASS BLOCK

A	31,0	51,0	71,0	91,0	111,0	131,0	151,0	171,0	191,0	211,0	231,0	251,0	271,0	291,0	311,0	331,0	351,0	371,0	391,0	411,0	431,0	451,0	471,0	491,0	511,0	531,0	551,0	571,0	591,0	611,0	631,0	651,0	671,0	691,0	711,0	731,0
B	23,6	36,2	48,6	61,4	74,0	86,6	99,2	111,8	124,4	137,0	149,8	162,2	174,8	187,4	200,0	212,6	225,2	237,8	250,4	263,0	275,6	288,2	300,8	313,4	326,0	338,6	351,2	363,8	376,4	389,0	401,6	414,2	426,8	439,4	452,0	464,6
C	36,2	61,4	86,6	111,8	137,0	162,2	187,4	212,6	237,8	263,0	288,2	313,4	338,6	363,8	389,0	414,2	439,4	464,6	489,8	515,0	540,2	565,4	590,6	615,8	641,0	666,2	691,4	716,6	741,8	767,0	792,2	817,4	842,6	867,8	893,0	918,2
D	0,214	0,319	0,423	0,528	0,632	0,736	0,841	0,945	1,050	1,154	1,258	1,363	1,467	1,572	1,676	1,780	1,885	1,989	2,094	2,198	2,302	2,407	2,511	2,616	2,720	2,824	2,929	3,033	3,138	3,242	3,346	3,451	3,555	3,660	3,764	3,868

I SCHEMA DIMENSIONALE INDICATIVO

LE MISURE INDICATIVE DEL GRAFICO, ESPRESSO IN CM, SONO RIFERITE AL PERIMETRO ESTERNO DELLA PARETE IN VETROMATTONI, COMPRESA LA CORNICE PERIMETRALE DI 11CM (= 5,5 + 5,5 CM). LE DIMENSIONI DELLA PARETE IN VETROMATTONI VENGONO COSÌ CALCOLATE (IN BASE AL VETRO SCELTO):

- BASE = N. VETRI X INTERASSE ORIZZONTALE + 11 CM

- ALTEZZA = N. VETRI X INTERASSE VERTICALE + 11 CM

DETTE DIMENSIONI SI DEVONO AUMENTARE NELL'APERTURA DEL FORO DI ALMENO 1 CM IN ORIZZONTALE E DI 2 CM IN VERTICALE, PER CREARE L'INTERCAPEDINE PER L'ESECUZIONE TERMICA.

GB DIMENSIONAL SCHEME

THE APPROXIMATE MEASURES OF THE SCHEME – EXPRESSED IN CM – REFER TO THE EXTERNAL PERIMETER OF THE WALL, INCLUDING 11 CM FOR THE PERIMETER PROFILE (5,5 + 5,5, CM).

THE DIMENSIONS OF THE WALL ARE CALCULATED AS FOLLOWS ACCORDING TO THE TYPE OF GLASS BLOCKS EMPLOYED:

- WALL BASE = N. OF BLOCKS X HORIZONTAL DISTANCE + 11 CM.

- WALL HEIGHT = N. OF BLOCKS X VERTICAL DISTANCE + 11 CM.

AS FOR THE OPENING, TO PROVIDE FOR THE THERMAL EXCURSION SAID DIMENSIONS MUST BE INCREASED AT LEAST 1 CM HORIZONTALLY AND 2 CM VERTICALLY.

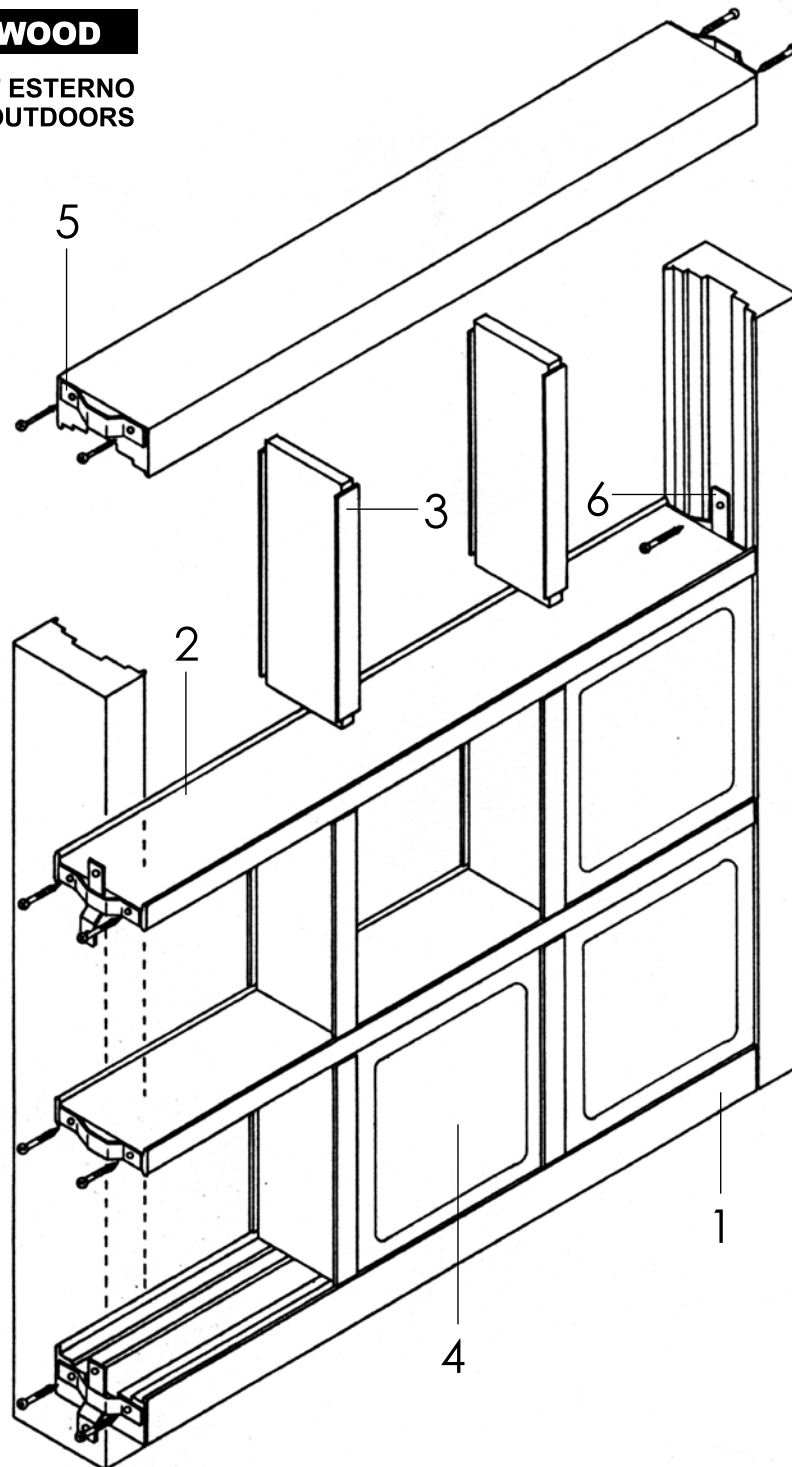
WALLKIT®

MADE IN ITALY

SISTEMA MODULARE PER VETROCEMENTO MODULAR SYSTEM FOR GLASSBLOCK

STRUTTURA / STRUCTURE > LEGNO / WOOD

SOLO USO INTERNO, NON UTILIZZARE ALL' ESTERNO
FOR INDOOR USE ONLY, NOT TO BE USED OUTDOORS



I COMPONENTI

- 1 PROFILO PERIMETRALE
- 2 CORRENTE
- 3 TRAMEZZINA
- 4 VETROMATSTONE
- 5 ACL-80
- 6 APL-60

GB COMPONENTS

- 1 PERIMETER PROFILE
- 2 RAIL
- 3 PARTITION
- 4 GLASS BLOCK
- 5 ACL-80
- 6 APL-60

GB INSTALLATION MANUAL

MODULAR SYSTEM EASY TO ASSEMBLE SCREW-ONLY ASSEMBLY.
FOLLOW THE ASSEMBLY ORDER.

WALLKIT®

MADE IN ITALY

SISTEMA MODULARE PER VETROCEMENTO
STRUTTURA IN LEGNO

1 Preliminary operations

Lay down a rail on the floor and position the first row of glass blocks and partitions on it.

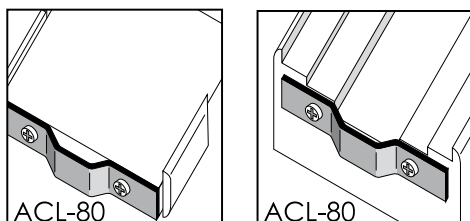
Press-fit the assembled structure and measure its length (L), excluding the two partitions at both ends.

Saw the "L" measurement the two horizontal perimeter profiles and all the rails (equal to the number of glass block rows less one).

Cut the two vertical profiles slightly shorter than the wall opening and reduce them once the wall is completed.

2 Building the wall

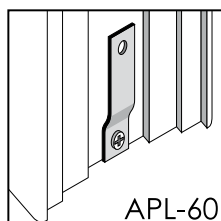
2.1 Prepare the wall opening verifying the measurements in the dimensional scheme.



2.2 FIXING THE ACL-80

Fix the ACL-80 hooks with screws as shown in the pictures:

- centred at the ends of the rails
- and centred at the ends of the bottom horizontal profile, in line with the second cut.



2.3 FIXING THE APL-60

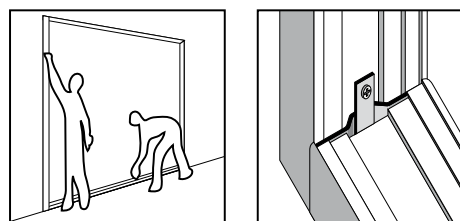
Fix the APL-60 hooks with screws as shown:

- at the centre of the vertical pro-files, but only on the lower part.

2.4 POSITIONING THE PROFILES IN THE WALL OPENING

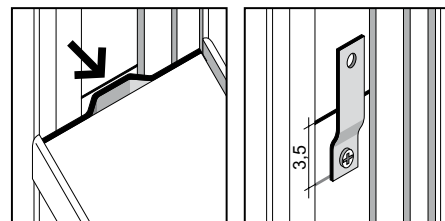
Insert the horizontal profile between the two vertical profiles, hooking them up without screwing them in place. Plumb-line the two vertical profiles and fix them to the wall with screw anchors, leaving them loose (screw them in as you proceed building the wall). Position, drill and fix the horizontal perimeter profile to the floor. Fix the upper part of the APL-60s with a screw.

building the wall). Position, drill and fix the horizontal perimeter profile to the floor. Fix the upper part of the APL-60s with a screw.



2.5 ASSEMBLY OF ROW

Install the first row of glass blocks – placing a partition between blocks. Once the first row has been completed, position a rail on top of it and repeat the operation row by row to completion of the entire wall.



2.6 FIXING THE RAILS TO THE PROFILES

Position two glass blocks at the end of the glass block row, place a rail on it and mark a line on the centre inside of the vertical profiles in correspondence with the upper edge of the rail (see picture on the left). Position the APL-60 with its lower part 3.5 cm from the marked line and secure it with a screw as shown in the picture on the right.

2.7 INSERTION OF THE LAST GLASS BLOCK

Saw the partition in two halves length wise. Insert the first half, then the glass block and then the second half.

2.8 INSERTION OF THE TOP PROFILE

WITH GAP OVER 12 mm

Fix the ACL-80 in line with the upper edge of the horizontal profile. Insert the profile and lower it, fixing it to the glass blocks and the partitions.

WITH GAP LESS THAN 12 mm

As above without screwing the ACL-80 hooks.

2.9 FIXING AND SEALING THE PROFILE

between the wall and the ceiling, then seal or finish with a wooden strip.



- KEEP AWAY FROM THE REACH OF CHILDREN.
- DO NOT SWALLOW.
- READ CAREFULLY THE INSTRUCTIONS.
- DO NOT DISPOSE IN THE ENVIRONMENT AFTER USE.
- USE ALL THE SYSTEM COMPONENTS CONTAINED IN THE PACKING.

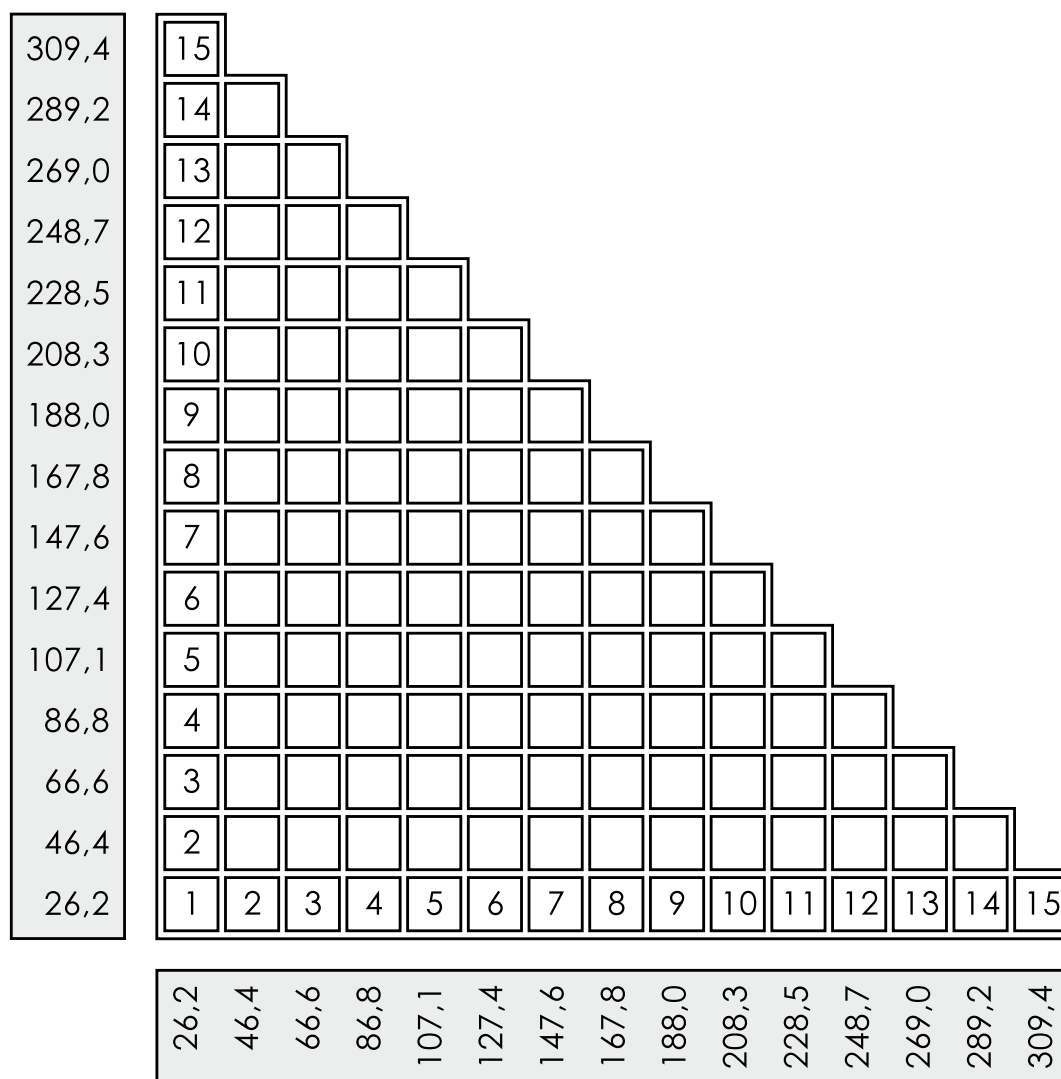
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I SCHEMA DIMENSIONALE INDICATIVO

COMPRESO LA CORNICE VETROMATTONI 19X19X8 CM
Valido solo per vetri di produzione tedesca.
Lasciare tra la parete da realizzare ed il foro almeno 1 cm (cm 0,5+0,5) di spazio lateralmente ed 1 cm di spazio sopra.
Le misure possono variare di ± 2 mm/m.

GB APPROXIMATE DIMENSIONAL SCHEME

INCLUDING THE FRAME GLASS BLOCK 19X19X8 CM
Leave at least 1 cm gap (0.5+0.5 cm) for the sides and 1 cm gap for the top in the opening where the wall will be positioned.
Measures may vary ± 2 mm per meter.