

TECHNICAL MANUAL

BRICK WALLS

- How to use this guide pages 1-3
- Wall layouts and installation material requirement pages 4-10
- Technical specification page 11
- Annex A and B - Installation instructions



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MANUAL - BRICK WALLS

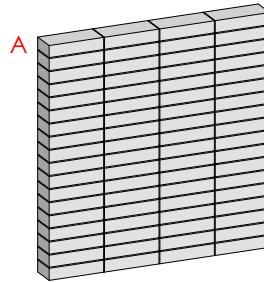
How to use this guide

Step 1

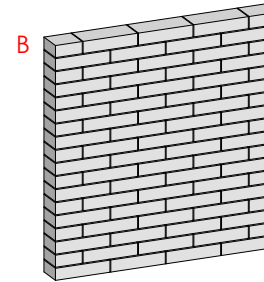
Choose the wall configuration:

The present manual is born to be a quick and simple design tool.
Complete the following steps and achieve the fundamental information
to create your project:

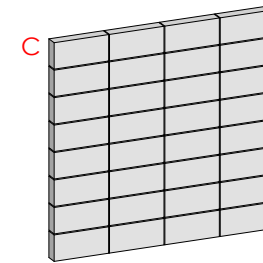
FLAT INSTALLATION
STACK BOND



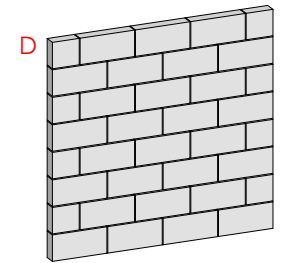
FLAT INSTALLATION
BRICK BOND



UP RIGHT INSTALLATION
STACK BOND



UP RIGHT INSTALLATION
BRICK BOND

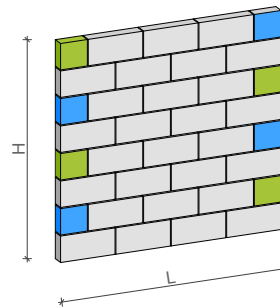


Step 2

Define the wall dimensions and
the number of bricks:

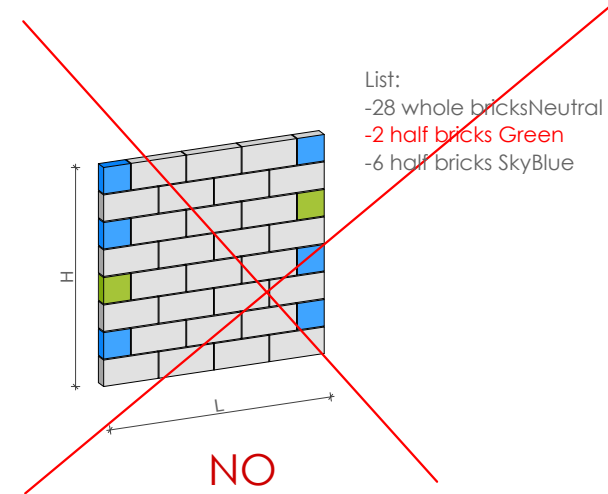
**Important: the bricks are sold in boxes of
4 pieces each of the same size and colour**

Note: items of the collection Classic/Cloud
can not be combined with items included
in Artiko collection



YES

- List:
-28 whole bricks Neutral
-4 half bricks Green
-4 half bricks SkyBlue



NO

- List:
-28 whole bricks Neutral
~~-2 half bricks Green~~
-6 half bricks SkyBlue

MANUAL - BRICK WALLS

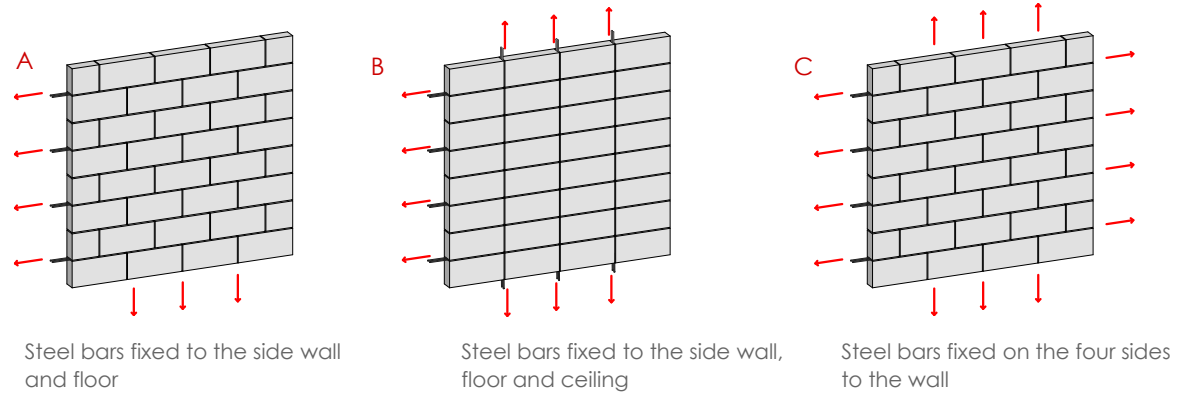
How to use this guide

Step 3

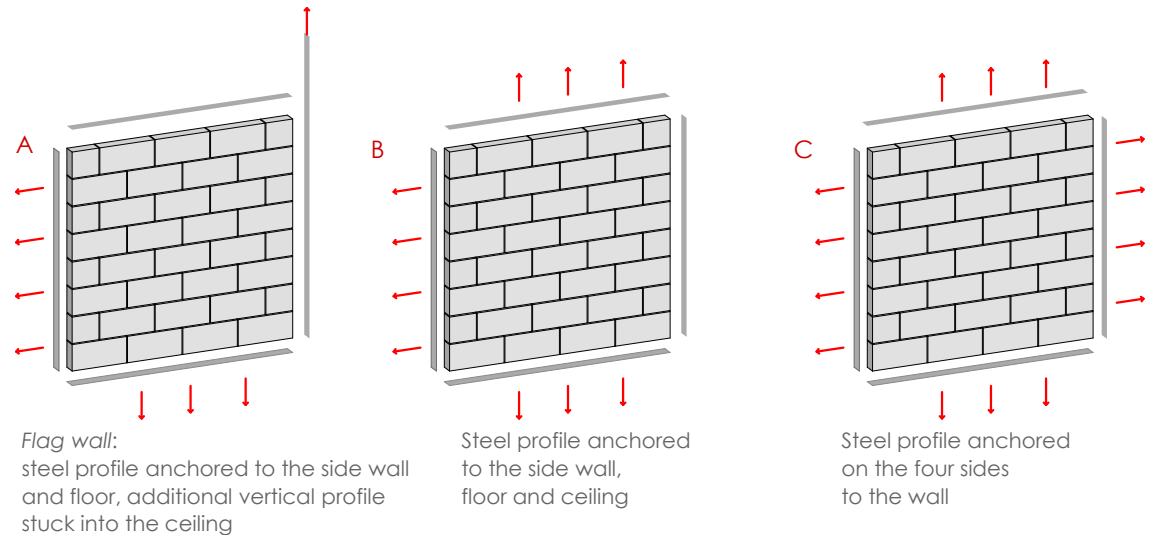
Define by arrows the anchoring sides of your wall

Complete the following steps and achieve the fundamental information to create your project:

FIXOGLASS+STEEL RODS



POLYMER+STEEL PROFILE



MANUAL - BRICK WALLS

How to use this guide

Step 4

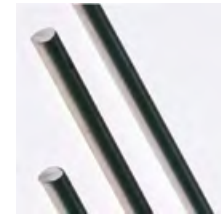
List the material needed for installation with transparent polymer or mortar

Complete the following steps and achieve the fundamental information to create your project:

A)



+



+



FIXOGLASS

Cement based mortar, 25 Kg bags
Performance =
up right laying > 100 bricks/joint 4mm wide
flat laying > 50 bricks/joint 4mm wide

STEEL RODS

Wall Length/ Height + 10 cm
N. 2 bars at steps of 25 cm max,
see the specific wall-layout

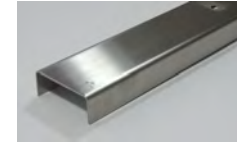
SPACERS

for 4 mm joint- 200pieces/box
N. 4 spacers each brick

B)



+



TRANSPARENT POLYMER, 290ml cartridge
Performance=
up right laying > 10 bricks, joint ± 1mm wide

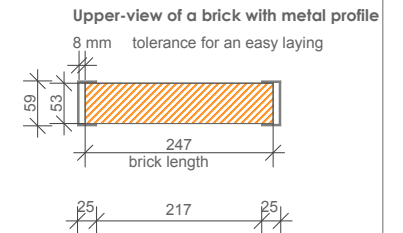
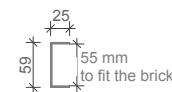
C STEEL PROFILE OR STEEL PLATE

The wall should be framed with a C steel profile or a steel plate, 2mm thick.

It is possible to get a local manufacturer to realize a custom profile, or to ask Poesia for a quotation.

Sizes expressed in mm:

C-profile and plate should be 2 mm thick and arranged with holes for countersunk head screws along the sides to be anchored



MANUAL - BRICK WALLS

Wall layout

Up right pose brick bond with cement mortar

GLUE

Fixoglass cement based mortar, 25 Kg bags

Performance:

1 bag = 100 bricks, joints 4mm wide

STEEL RODS

Wall Length / Height + 10 cm

Number of bars:

n. 2 bars every 2 horizontal rows

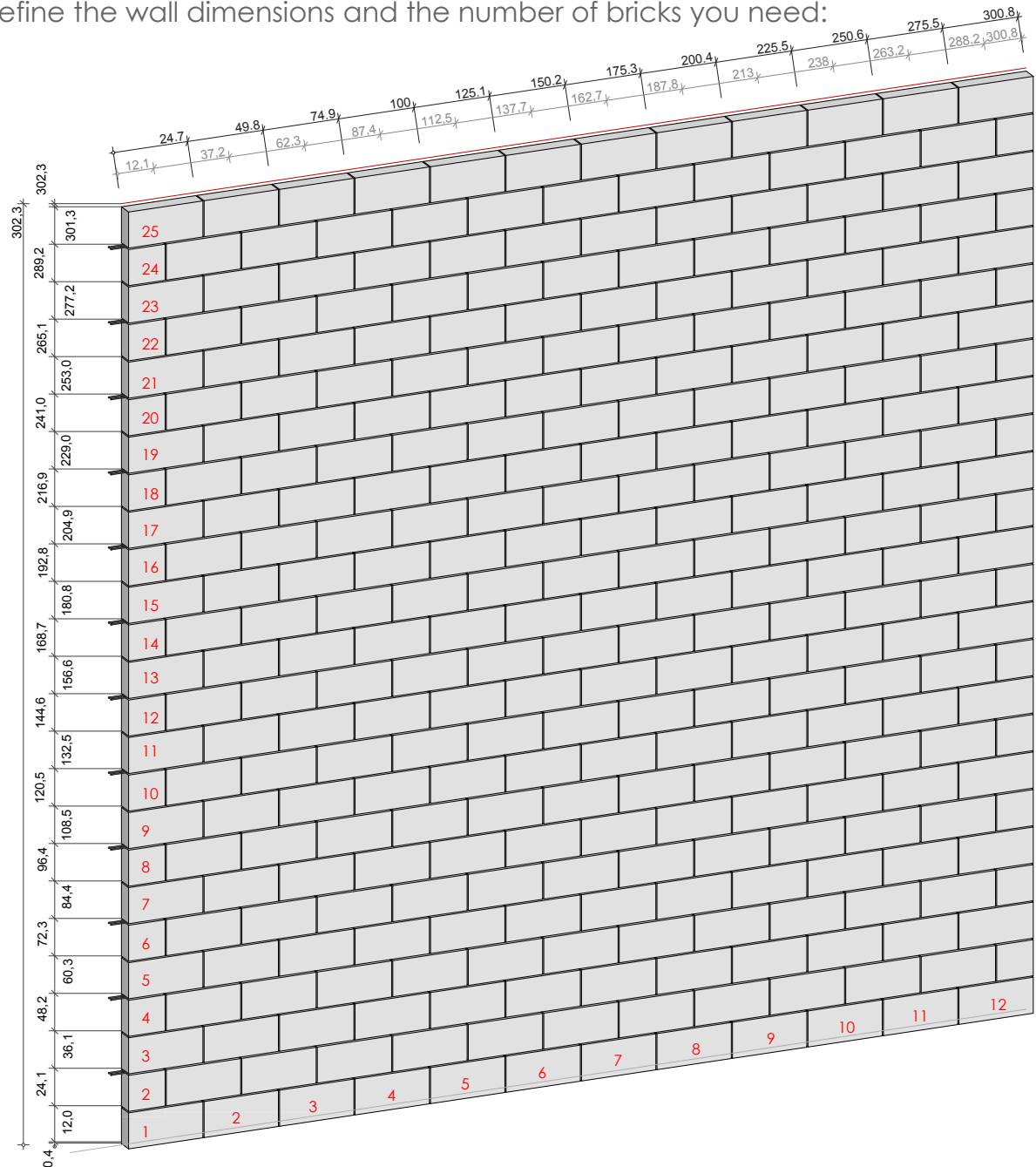
SPACERS for 4 mm joints- 200pieces/box

n. 4 spacers each brick

Attention Please: the wall anchoring points must be determined according to its global dimensions



Define the wall dimensions and the number of bricks you need:



MANUAL - BRICK WALLS

Wall layout

Up right pose brick bond with polymer

GLUE

MS transparent polymer cartridge

Performance:

1 cartridge = 10 bricks, joint \pm 1mm wide

* Suitable only for indoor partitions

STEEL PROFILE

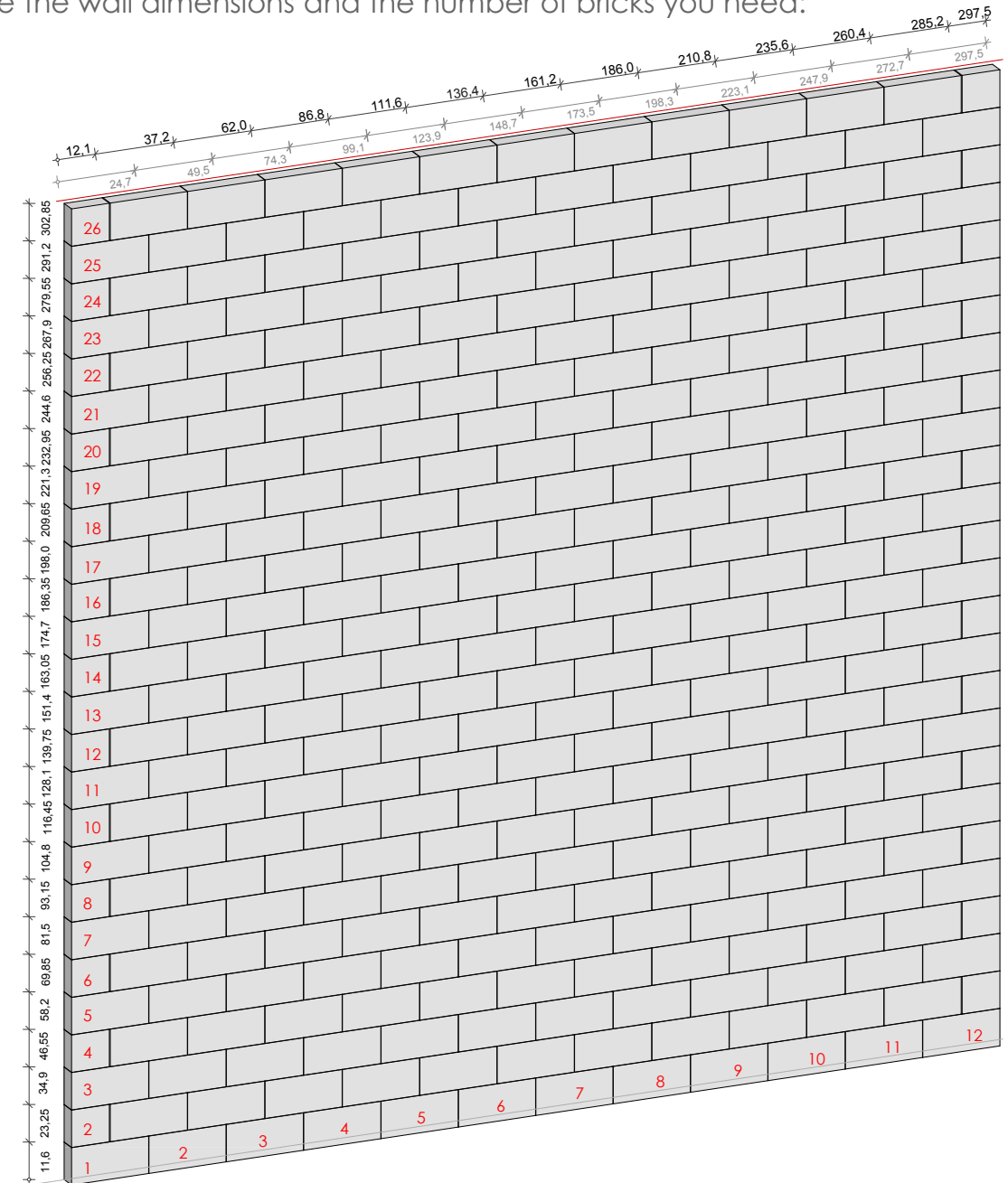
The wall should be framed with a C steel profile or a steel plate, 2mm thick.

(See page 3 of the present manual)

Attention Please: the wall anchoring points must be determined according to its global dimensions



Define the wall dimensions and the number of bricks you need:



MANUAL - BRICK WALLS

Wall layout

Up right pose
stack bond with cement mortar

GLUE

Fixoglass cement based mortar, 25 Kg bags

Performance:

1 bag = 100 bricks, joints 4mm wide

STEEL RODS

Wall Length / Height + 10 cm

Number of bars:

n.2 bars each vertical row

n. 2 bars every 2 horizontal rows

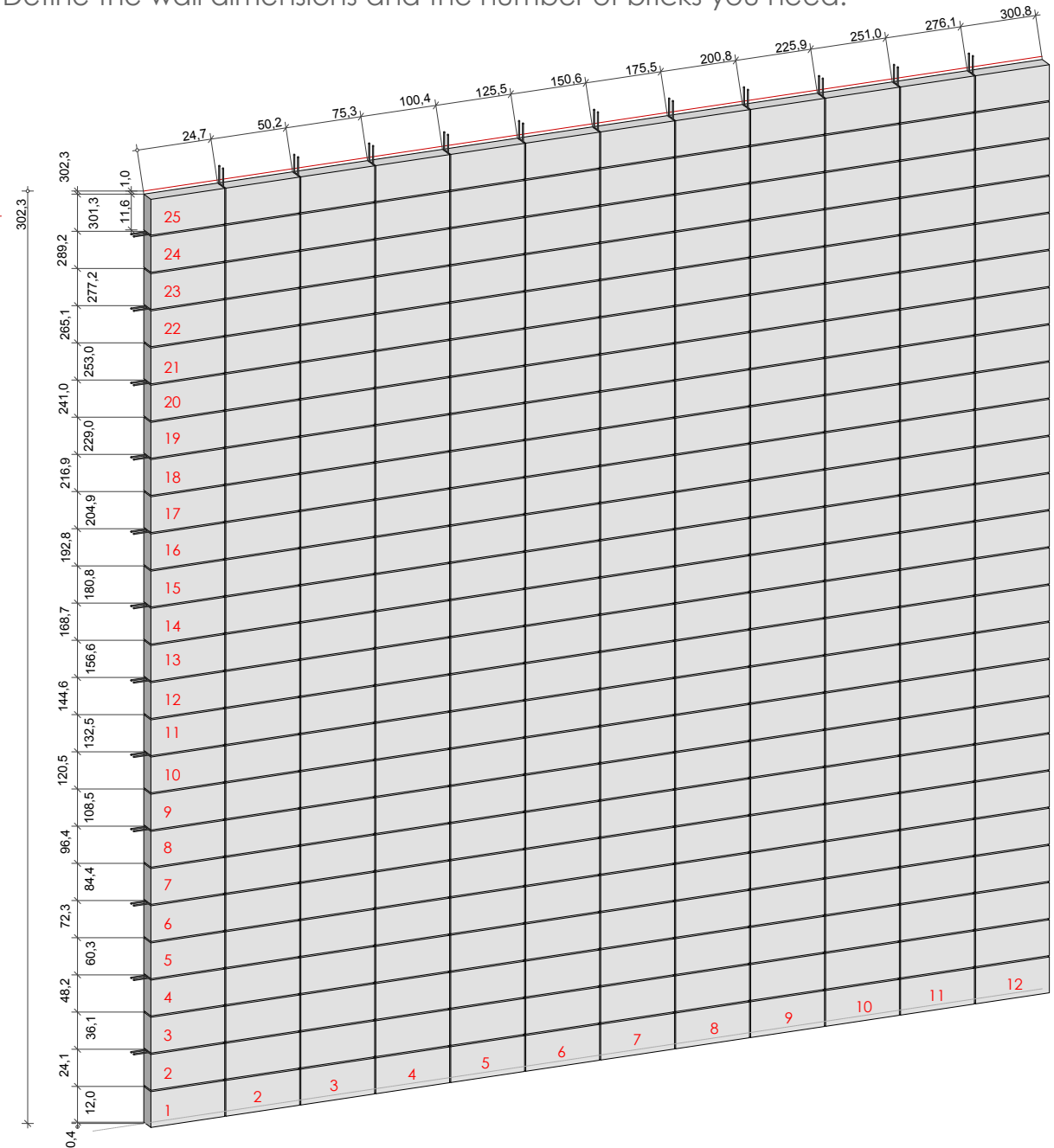
SPACERS for 4 mm joints- 200pieces/box

n. 4 spacers each brick

Attention Please: the wall anchoring points must be determined according to its global dimensions



Define the wall dimensions and the number of bricks you need:



MANUAL - BRICK WALLS

Wall layout

Up right pose
stack bond with polymer

GLUE

MS transparent polymer cartridge

Performance:

1 cartridge = 10 bricks, joint \pm 1mm wide

* Suitable only for indoor partitions

STEEL PROFILE

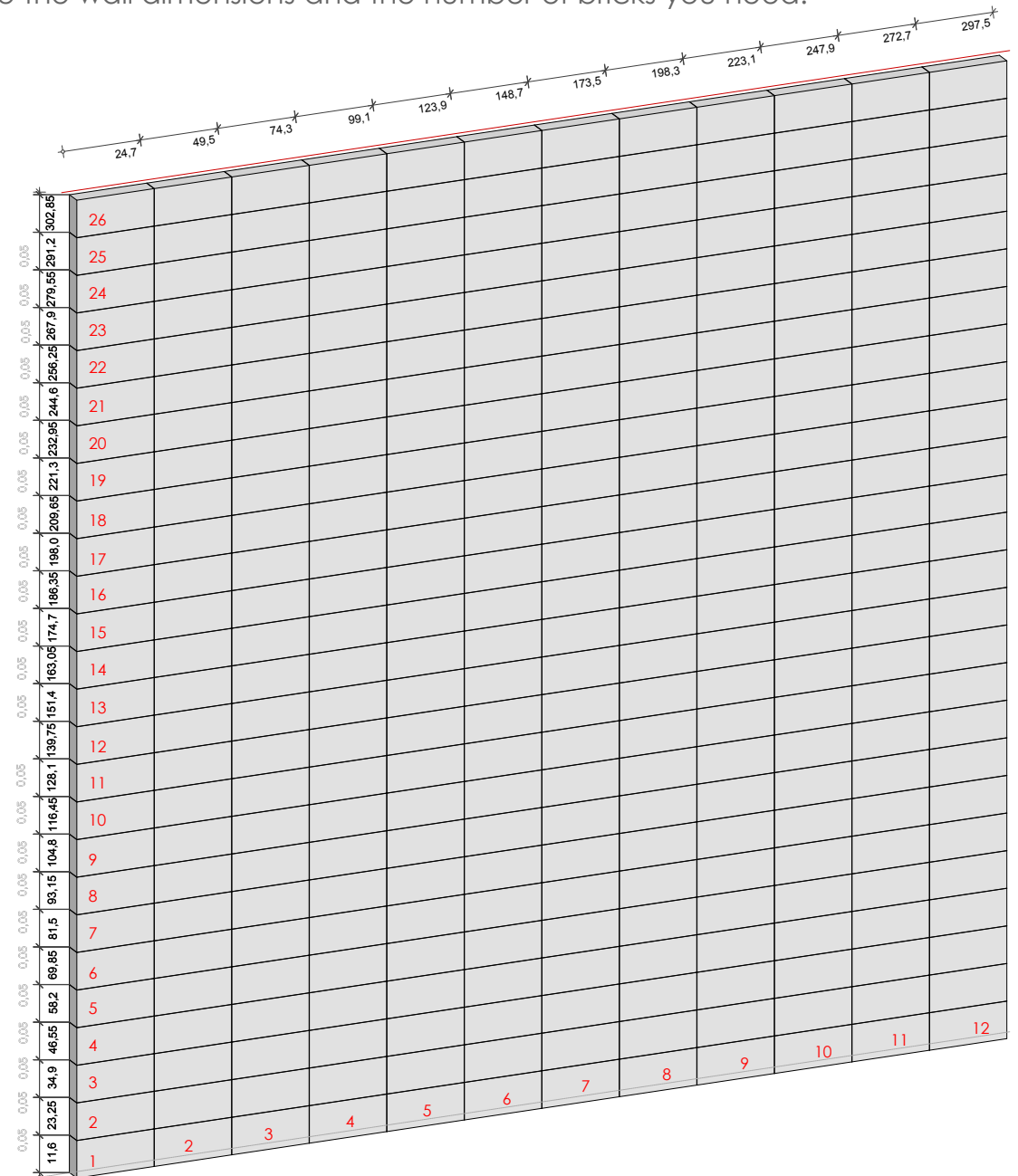
The wall should be framed with a C steel profile or a steel plate, 2mm thick.

(See page 3 of the present manual)

Attention Please: the wall anchoring points must be determined according to its global dimensions



Define the wall dimensions and the number of bricks you need:



MANUAL - BRICK WALLS

Wall layout

Up right pose of mixed sizes brick bond with cement mortar

GLUE

Fixoglass cement based mortar, 25 Kg bags

Performance:

1 bag = 100 bricks, joints 4mm wide

To calculate the mortar requirement, please, consider that:

1 whole brick = 1 soldier brick =
= 2 half bricks = 2 half soldier bricks

STEEL RODS

Wall Length / Height + 10 cm

Number of bars:

n. 2 bars at steps of 12 cm

SPACERS for 4 mm joints- 200pieces/box

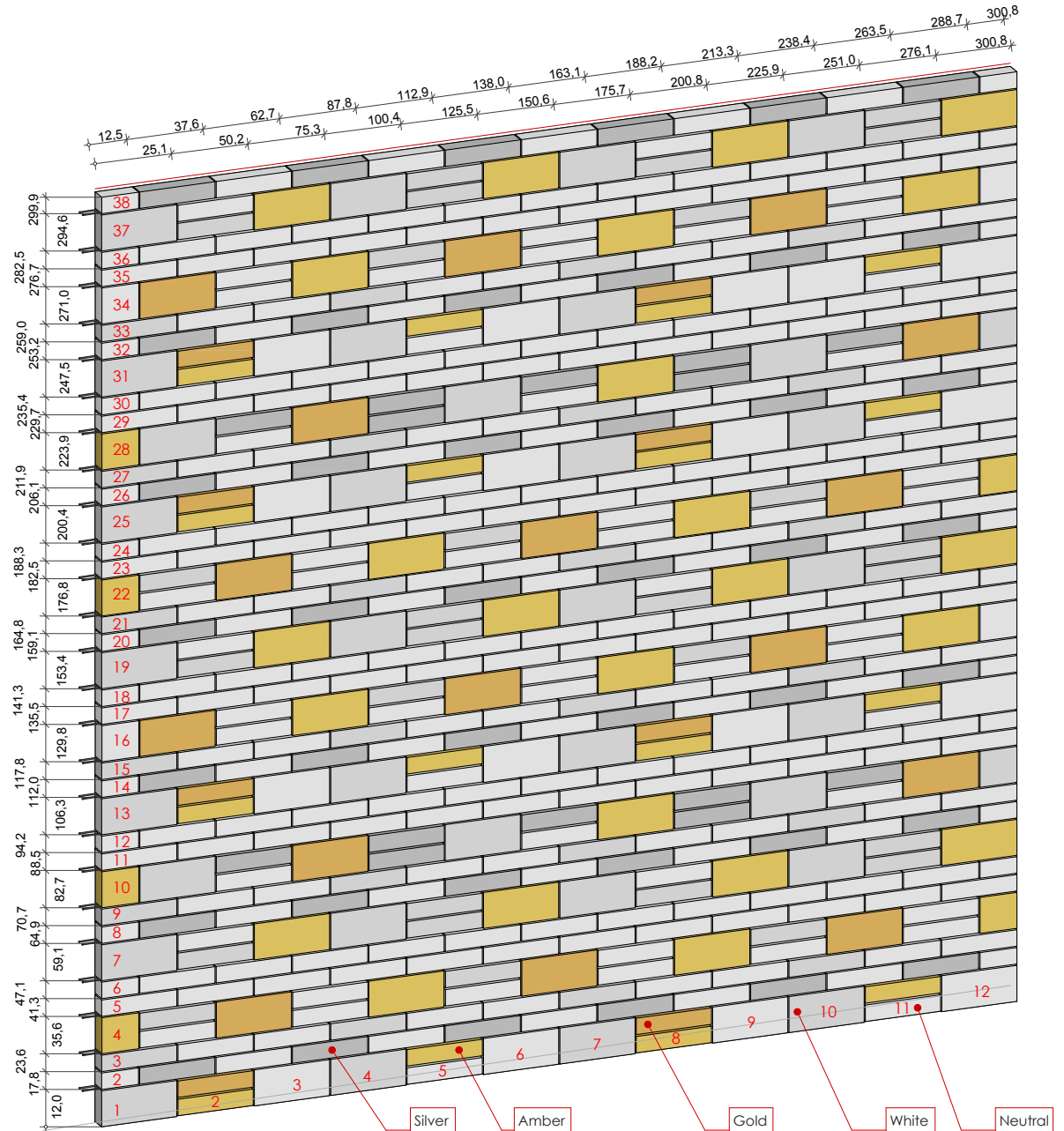
n. 4 spacers each brick

Attention Please: notice that the central joint between two soldier bricks laying next to whole bricks, will be about 1 cm wide.

Attention Please: the wall anchoring points must be determined according to its global dimensions



Define the wall dimensions and the number of bricks you need:



MANUAL - BRICK WALLS

Wall layout

Traditional pose brick bond with cement mortar

GLUE

Fixoglass cement based mortar, 25 Kg bags

Performance:

1 bag = 50 bricks, joints 4mm wide

STEEL RODS

Wall Length / Height + 10 cm

Number of bars:

n. 2 bars every 4 horizontal rows

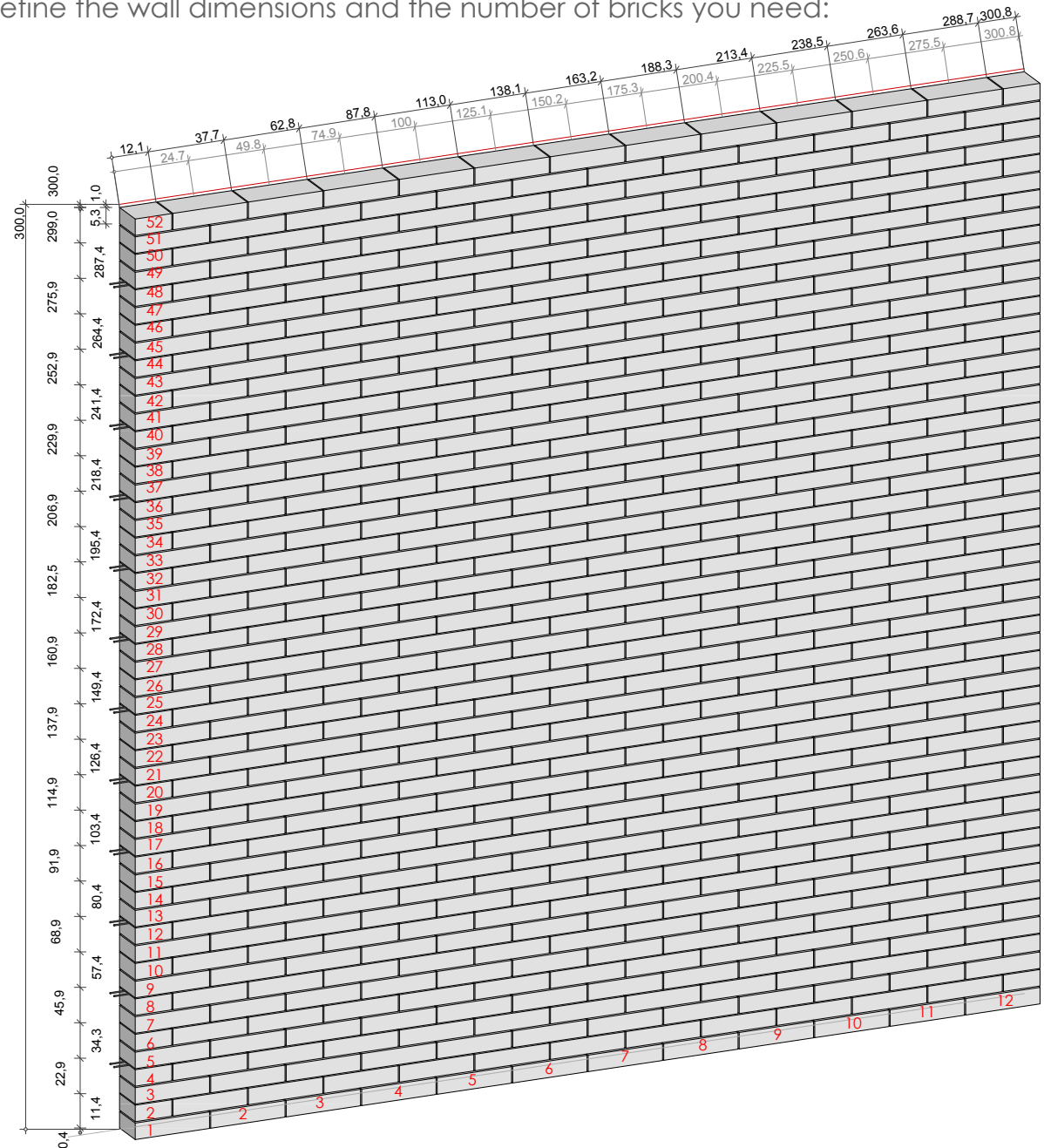
SPACERS for 4 mm joints- 200pieces/box

n. 4 spacers each brick

Attention Please: the wall anchoring points must be determined according to its global dimensions



Define the wall dimensions and the number of bricks you need:



MANUAL - BRICK WALLS

Wall layout

Traditional pose stack bond with cement mortar

GLUE

Fixoglass cement based mortar, 25 Kg bags

Performance:

1 bag = 50 bricks, joints 4mm wide

STEEL RODS

Wall Length / Height + 10 cm

Number of bars:

n. 2 bars each vertical row

n. 2 bars every 4 horizontal rows

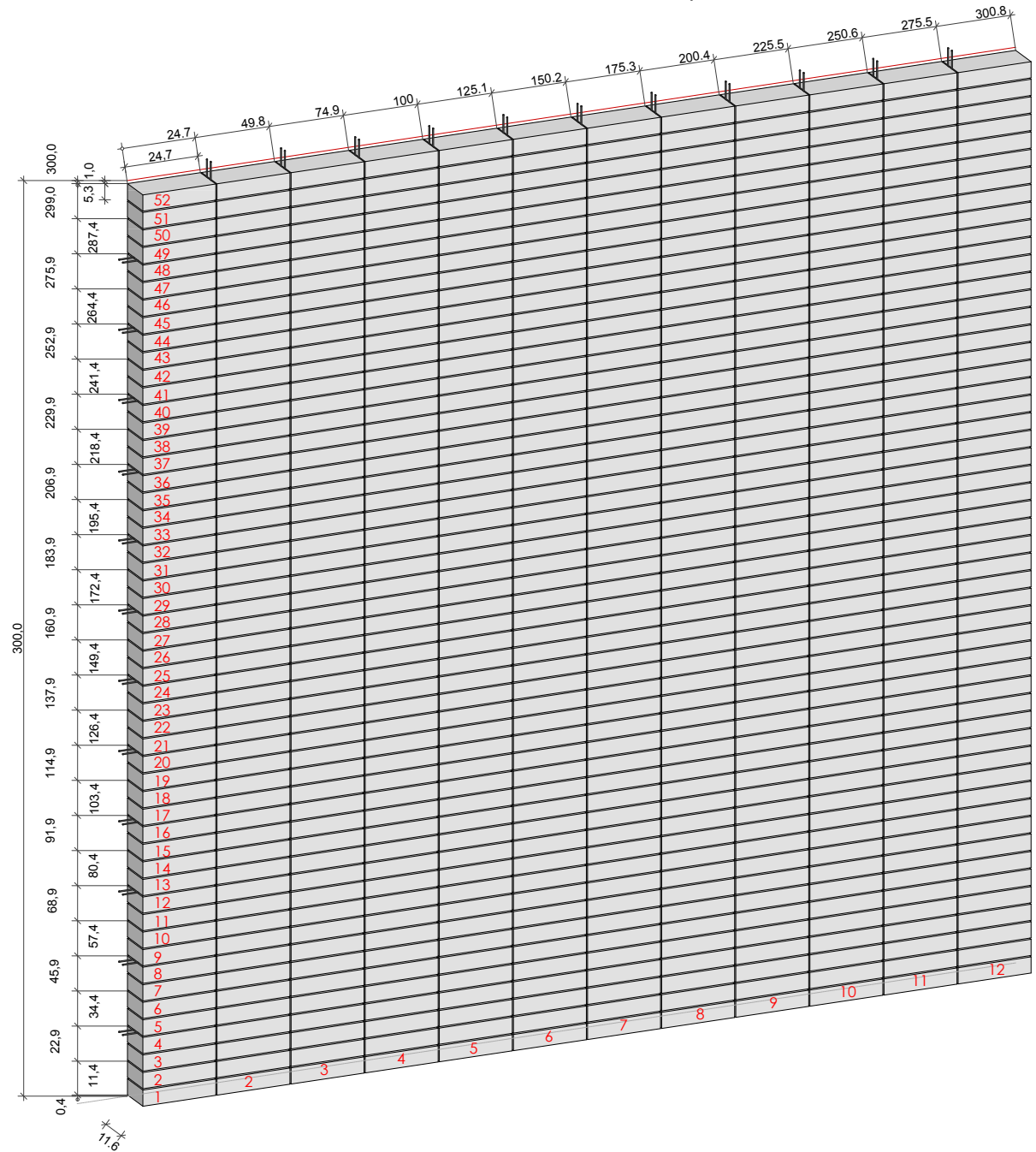
SPACERS for 4 mm joints- 200pieces/box

n. 4 spacers each brick

Attention Please: the wall anchoring points must be determined according to its global dimensions



Define the wall dimensions and the number of bricks you need:



MANUAL - BRICK WALLS

Technical Specification

BRICKS		
Characteristic	Standard	Result
Average compression resistance	UNI EN 772-1	397 N / mm ²
Thermal conductivity	UNI 10077-1	0,974± 0,036 W (m K)
Linear thermal dilatation coefficient (10 ⁻⁶ °C ⁻¹)	UNI EN ISO 10545 -8	10,2 – 10,6
Mohs hardness (Artiko Colour excepted)	UNI EN 101 (92)	3
Vickers hardness (Artiko Colour excepted)		520 Hv _{0,5}
Armored bullet proof	UNI EN 1063 (2001)	cal. 357 Magnum armored bullet
Fire resistance	Circular letter n° 91 - 14/09/1961 of the Italian Department of the Interior	REI 60 by standard pose with cement mortar
Thermal shock resistance	UNI EN ISO 10545 – 9 (2000)	no deterioration after 12 cycles

ARTIKO COLOUR BRICKS		
Characteristic	Standard	Result
Colour light resistance	DIN 51094	unaltered surface

TECHNICAL MANUAL

Adhesives for joints

Cement based mortar Fixoglass

25 Kilos bags

Professional product for the grouting and sealing of the joints, present high strength and a low water absorption.

This cement based mortar gives a detailed smooth finish to the installation and the result is totally white.

It is advised for glass-walls in very close contact with water; an additional grouting product is not needed.

Estimated timing for superficial drying is about 12 hours, on the basis of a temperature between 5°C and 35°C; it reaches complete drying in 24-36 hours.

Maximum resistance is achieved after one month according to temperature and humidity conditions, as for concrete.

Operating temperature between $-20^{\circ}\text{C} < t > + 80^{\circ}\text{C}$.

The glass brick has a higher weight if compared to clay-brick, this brings high pressure on the mortar while performing installation.

In such situation, FIXOGLASS adhesive might come out from its proper place (grout joints), so the use of suitable spacers is very important.

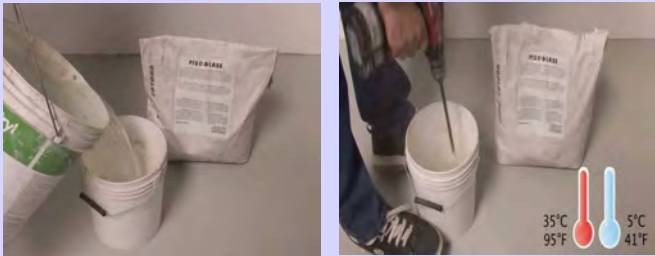
Dimensions and weights: brick 24,7x11,6x5,3 cm - about 3,8 Kg
half brick 12,1x11,6x5,3 cm - about 1,9 Kg
soldier bricks 24,7x5,3x5,3 cm - about 1,9 Kg
half soldier brick 12,1x5,3x5,3 cm - about 1 Kg

Due to the handmade nature of the product, dimensions may have slightly difference from piece-to-piece, around $\pm 2\%$.

TECHNICAL MANUAL

Installation

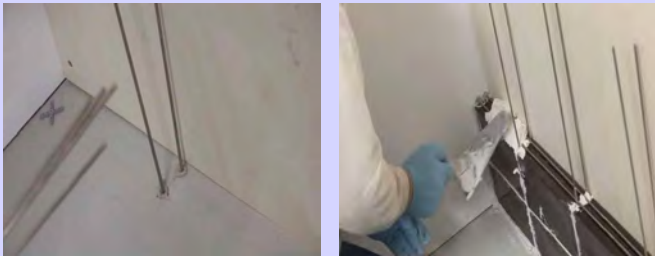
Cement based mortar Fixoglass



step 1

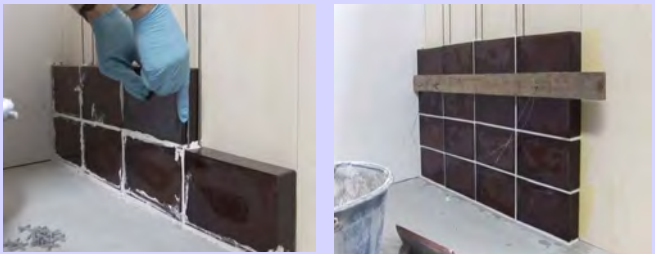
Prepare the mortar pouring 4,5-5 liters of clean water in a bucket, then add a bag of FIXOGLASS (25 kilos) and stir with a mechanical mixer. Keep mixing till the mixture becomes homogenous and lumpless. Let the mortar rest for a few minutes, then quickly blend it before starting installation.

step 2



Set a vertical jig, that will help you installing the glass-wall properly vertical. Take into consideration that the handmade products can differ from piece to piece for about $\pm 2\%$. Such differences should be balanced during installation. Then make drill-holes in correspondence of the placement of steel rods (sidewalls, ceiling or flooring) and fill them with mortar, then down the bars into the holes.

step 3



Apply FIXOGLASS with a putty knife and set the glassbricks checking their alignment using proper spacers. Build the wall till the 3rd/4th row, then place a provisional beam fixed to the back-jig, on which the glasswall rest.

TECHNICAL MANUAL

Installation

Cement based mortar Fixoglass



step 4

Start grouting applying the mortar with a smooth rubber putty knife. Remove all surplus of mortar before it hardens with a wet sponge trowel, taking care of rinse it out repeatedly.

step 5

Wait about 24 hours, until the mortar has sufficiently hardened, then complete the installation. Comply with the hardening time given (24/36 hours), then remove the temporary beam and start cleaning operations with a rubber putty knife and a sponge trowel. In the end gently wipe with a dry cloth, to remove possible dust.

ATTENZIONE!

FIXOGLASS is a cement based product, so recommended hardening time should be observed, to allow the mortar to cure properly. If applied outdoor, protect the installation from rain, accidental washing or beating sun, till the mortar has completely dried.

TECHNICAL MANUAL

Adhesives for joints

MS Transparent Polymer

290 ml cartridges

Elastic adhesive monocomponent, completely transparent.
Suitable for elastic bonding of structural joints exposed to dynamic stress.

This adhesive already offers good resistance in 24 hours, on the basis of a temperature between +5°C and +35°C ; it will take one week to properly bond, reaching definitive bonding and ensuring the optimal stability of the wall in 1-2 months, according to the joints' depth.

We advise against outdoor use, as it shows sensitivity to heat and its operating temperature rates between -40°C < t > + 80°C.

It can be used in humid spaces in very closed contact with water; in this specific case it is advisable to apply also an epoxy grouting on the side of the wall exposed to water.

Poesia recommends Litokoll Starlike or Kerakol Fugalite.

Dimensions and weights: brick 24,7x11,6x5,3 cm - about 3,8 Kg
half brick 12,1x11,6x5,3 cm - about 1,9 Kg
soldier bricks 24,7x5,3x5,3 cm - about 1,9 Kg
half soldier brick 12,1x5,3x5,3 cm - about 1 Kg

Due to the handmade nature of the product, dimensions may have slightly difference from piece-to-piece, around ± 2% .

TECHNICAL MANUAL

Installation

MS Transparent Polymer



Surfaces must be well cleaned from dust, oils and grease.
For this purpose, gently wipe the bricks' surface with a soft cloth; if needed, moisten the cloth with nitro-based-diluent.

ATTENTION PLEASE!

The following instructions refer to a sample-wall built with transparent polymer. Perimetral steel profiles should be previously installed, if required by the total dimension and anchoring points of the glasswall.

step 1

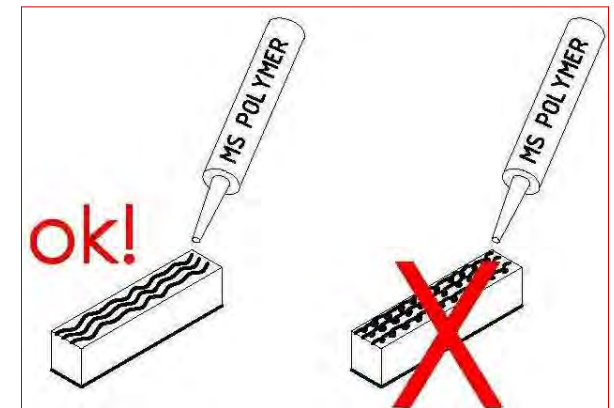
Set a vertical jig, that will help you installing the glass-wall properly vertical. Take into consideration that the handmade products can differ from piece to piece for about $\pm 2\%$. Such differences should be balanced during installation. All brick sizes are rectified, apart from circle segments; as a consequence the two items can be combined but we advise against installation with transparent polymer.

When it is required to proceed with polymer anyway, it should be considered that circle segments differ from piece to piece for about $\pm 5/10$ mm, and should be layed matching the flaring edges, spacing out front and reverse sides.

step 2

Apply the polymer on the sides to be joined, keeping a distance of 1-1,5 cm from the brick's edge. Set the polymer with a weavy line, not making circle that would include air-bubble between one row of bricks and the other.

Place the brick on the polymer rubbing gently.



TECHNICAL MANUAL

Installation

MS Transparent Polymer



step 3

Possible residuals of silicone should be immediately removed, while performing installation, as the transparent glue hardens in a very short time. Do not use cutter or any metal aids that could damage the glass surface. Moreover, do not cut the hardened polymer as it loses its transparency in correspondence of the cutted areas.



step 4

Wait for about 48 hours to apply epoxy grouting. Use a rubber putty knife to execute the grouting and then start cleaning operations with a sponge trowel, taking care of rinse it out repeatedly.



step 5

Proceed in the same way to grout also the backside of the wall. For the usual cleansing of the glass, do not use alcohol or soda based products.