SELECTING THE PANEL SIZE

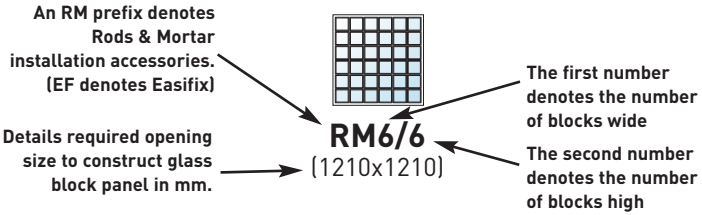
Extensive research into glass block sales have been analysed & the findings show that about 80 – 85% of glass block projects undertaken will be using 190 x 190 x 80 within straight glass block walls not exceeding 12 blocks wide x 12 blocks high.

Ordering glass blocks & installation accessories need not be complicated, Panel Kits offers a fast solution.
When requesting a quote or ordering, three vital items of information are required:
Block Type, Panel Size and Installation System.

Panel Kits has been developed to speed up the process of requesting a quotation. A unique simple way has been designed for ordering accessories for any straight panel from a single block to a wall 12 blocks wide x 12 high, for both loose build fitting systems, Rods & Mortar and Easifix.

Panels are identified by unique reference codes. Panel kits are available for either Rods & Mortar or Easifix, recognisable by a specific prefix.

Diagrams are arranged to represent the panels, the prefix denotes the fitting system for example RM for Rods & Mortar and EF for Easifix. The first numerical figure denotes the width, the second figure the height and the dimensions below state the required opening size in mm's.



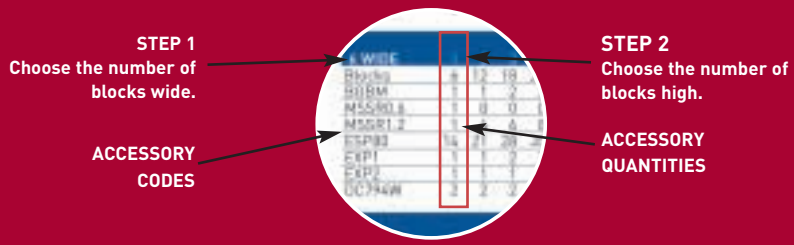
SALES ASSISTANCE FOR MERCHANTS & RETAILERS

If a multiple number of panels are required, detail the quantity of blocks, style, colour etc & add the number of accessory kits with relevant reference code.

Safewall end & corner posts need to be ordered as separate items similarly to the blocks.

Along with detailing any Panel Kits reference code (ie RM66), the block type required should be included (ie 6x6 = 36 Clear Flemish).

Should your company stock glass blocks & accessories, to identify the quantity of accessories included within the kits, refer to the relevant Instaquote matrix. These instant calculators list all components specific to constructing with either Rods & Mortar or Easifix, from one single block to a panel 12 blocks wide multiplied by 12 blocks high.



MERCHANT/RETAILER
A full list of accessories for each Panel Kit reference is detailed in Instaquote matrix's.
For more information visit www.glassblocks.co.uk/instaquote or contact your distributor.
Instaquote should be calculated in association with cost price per item pricelists.

rods&mortar INSTALLATION SYSTEM

Rods & Mortar is the traditional building method used for virtually any type of glass block panel, whether: internal, external, straight or curved to fire rated. It can be used in conjunction with all different block sizes & width dimensions from 80 or 100mm. Usually 10mm horizontal & vertical joints are used, the exception to this is curved walls where the vertical joint width on the outer face will vary dependant on the internal radii. Joints are a white finish created by grouting the panel in a slightly diluted mix of the glass block mortar.

GOLDEN RULES FOR RODS & MORTAR INSTALLATION

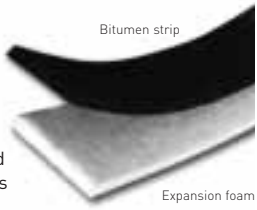
Golden Rules - essential guidelines that need to be considered prior to preparation of the opening and before beginning installation of glass blocks.

- Glass block walls are self supporting, but not load bearing. Therefore similar to doors & windows, support above should be provided in the form of a lintel.
- For best integral strength, glass blocks should ideally be installed into a four sided pre-prepared opening. This opening can be timber, brick, steel, concrete or block work.
- Glass blocks expand and contract with temperature change.
- Glass blocks should not be installed when the surrounding temperature is 5°C and falling or 30°C and rising.
- Expansion material must be incorporated to the perimeter opening & intermittently between vertical or horizontal joints if a panel exceeds 6m in any direction. Perimeter expansion should be weatherproofed by caulking with silicon and not grouted over with mortar. If grouted the joint is bridged, restricting expansion & contraction & may cause blocks to crack.
- Openings must be square and perpendicular and made to suit glass block modules. Glass blocks should not be cut like masonry bricks or tiles.
- Maximum panel size without intermediate support or slip joints is 25m² with no single dimension exceeding 6m in any direction.

RODS & MORTAR ACCESSORIES

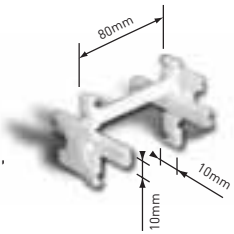
PERIMETER EXPANSION JOINTS

Expansion and contraction is one of the most critical aspects of any glass block construction. Expansion joints must be incorporated to the perimeter of all glass block panels.



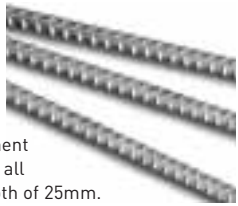
SPACER PEGS

10mm spacer pegs are available to assist with accuracy of construction and prevent mortar squeeze. When the spacer peg is fitted and the wall is finished, the tabs at the end twist off and this is then grouted over.



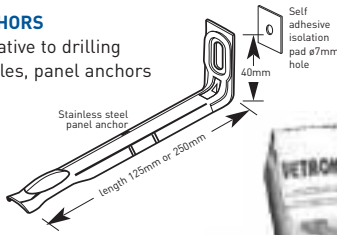
REINFORCEMENT

Stainless steel ribbed reinforcement rods are used to anchor glass block panels in place and increase integral strength. Reinforcement rods should be anchored into all substratas to a minimum depth of 25mm.



PANEL ANCHORS

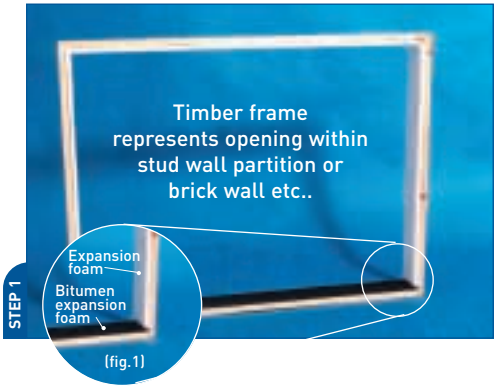
As an alternative to drilling oversized holes, panel anchors can be used.



GLASS BLOCK MORTAR

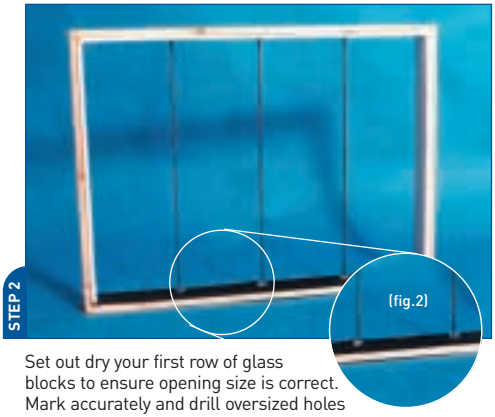
Colmef Vetromix glass block mortar when constructing brick by brick. Colmef Vetromix is used as a bedding mortar and then by slightly diluting the mix it can be used as a grout for finishing.

PREPARATION OF OPENING



Calculate the correct opening size. Make sure the opening is square and perpendicular. Lay bitumen expansion material along base of opening. Secure expansion foam to jambs and head. All four sides of the opening should now be covered in expansion material Bitumen is necessary on the base to take the weight of the glass block wall.

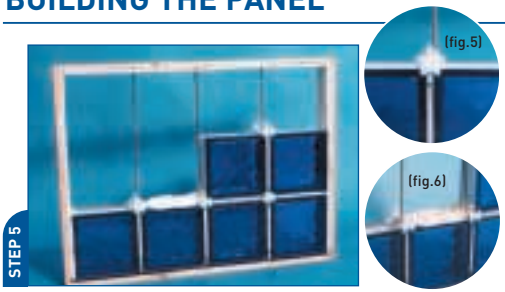
Timber frame on images represents a perimeter opening; this can be constructed alternatively out of masonry, brick, stud wall, steelwork.



Set out dry your first row of glass blocks to ensure opening size is correct. Mark accurately and drill oversized holes in between the blocks, vertically and horizontally where rods will be positioned. The holes need to be a depth of between 25 – 35mm. Fill holes with silicon and fit vertical bars in place (fig.2). When a horizontal or vertical joint dimension exceeds the length of a stainless steel re bar, overlap two by 150mm & tie loosely using stainless tie wire.

Panel anchors can be used as an alternative to drilling oversized holes and are an ideal alternative to drilling holes if the opening is a metal box section or steel I & H beam etc.

BUILDING THE PANEL



Repeat Step 4 until you have completed the first row. Insert spacer pegs in between blocks, this prevents steel rods from touching glass, assists with accuracy of vertical & horizontal joints whilst preventing mortar squeeze, enabling more courses to be constructed. (fig.5).

After the first course is complete, if left & allowed to set it will make building subsequent rows easier due to building off a firm bed. Lay half the quantity of mortar and fix the horizontal rod in position, not forgetting to put silicon in the holes, and then cover over the rod with remainder of mortar (fig.6). Rods have to be positioned every row vertically and horizontally.

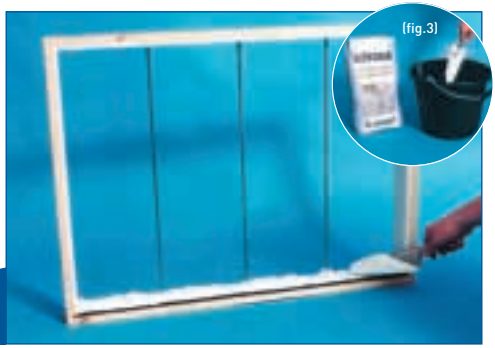
If using a 'U' channel, two stainless steel reinforcement rods are required around the perimeter.

Fit next row, checking vertical and horizontal alignment.

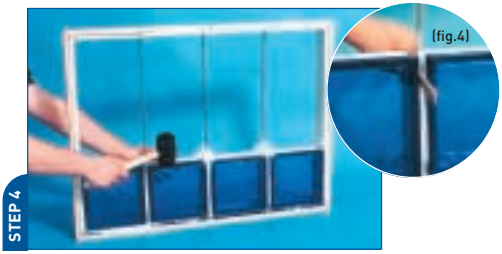
INITIAL CLEAN AND AFTER CARE MAINTENANCE

Do not clean with any acidic products, the best product for cleaning is water. Polish each block with a soft cloth using good old elbow unblemished condition. Requiring only periodical cleaning to maintain an excellent appearance. However, there may be a residue of proprietary cement stain remover. (BAL HD Tar Cleaner)

LAYING FIRST COURSE



Mix Colmef Vetromix glass block mortar following instructions on reverse of bag (fig.3). The mix should be a semi dry consistency (Slump 1 or less). Lay down a bed of mortar.



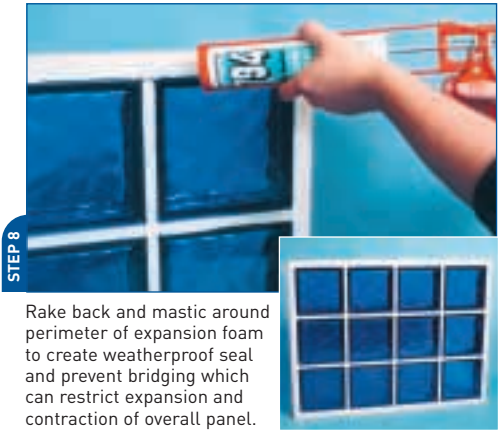
Fit first block and tamp down gently, fit second block and repeat. Ensure there is enough mortar between the blocks and the base to create sufficient adhesion, compact the vertical mortar joint using a wooden instrument. (fig.4) Note: Spacer pegs are not necessarily required between base and first row of blocks. When using spacers at the base or up the side jambs cut the legs of the cross spacer pegs to form at shape.

- ✓ It is advised to construct the first course and allow this to initially cure so that on returning to build consecutive courses it becomes easier building a firm bed. In ideal circumstances around 6-8 courses before the panel will wobble to much, dependent on the panel width. Spacer pegs assist with stability, but back shuttering could be considered for additional support. At this point it is advised to stop building and allow the panel to set prior to completing construction.
- ✓ For loose build of glass blocks ensure enough time is set aside to fully build.

FINISHING THE GLASS BLOCK PANEL

When the wall has set, snap off spacer tabs and grout all joints with diluted Colmef mortar.

SEALING AND WEATHERPROOFING THE PANEL



Rake back and mastic around perimeter of expansion foam to create weatherproof seal and prevent bridging which can restrict expansion and contraction of overall panel.

- ! Restriction can result in block cracking.

grease .**Note :** Clean face of block as work proceeds.The glass block installer should have left the glass block wall in a clean, cement on the glass surface left from mortar/tiling grout identified by whiteish bloom when dry. This may be removed by use of

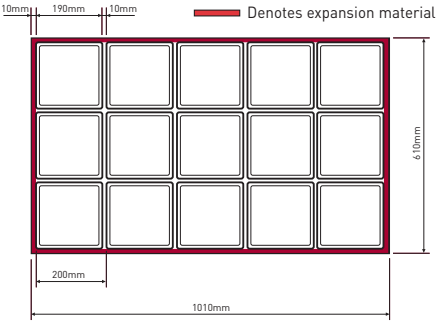
CALCULATING OPENING SIZES

Calculating the opening size accurately is essential because glass blocks should not be cut like masonry bricks or tiles. The diagram demonstrates the principle of how to calculate an opening size based on using 190x190x80mm glass blocks and 10mm joints.

Calculating opening sizes

- Take the width of the block (eg. 190mm)
- Add the width of the vertical/horizontal joint (10mm)
- Multiply by the number of blocks in the horizontal/vertical course (eg 5 No.) 5 x 200 = 1000mm
- Add one more joint width (10mm) as for 5 blocks you will have 6 joints resulting in 1010mm.

190mm glass block :	**190**
10mm joint :	**+ 10**
	200
Number of blocks :	**x 5**
	1000
Add sixth joint of 10mm:	**10**
Minimum opening size :	**1010mm**

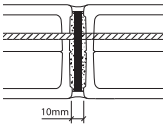


EXAMPLE :
Using 10mm joints

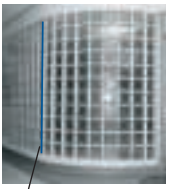
*The expansion material is incorporated into this measurement.

CURVED WALLS

Curved walls
Curved glass block walls can only be constructed using Rods & Mortar installation system. The principle of a curved panel follows the same guidelines as straight glass block walls, except the front vertical joint is opened to form a curve.

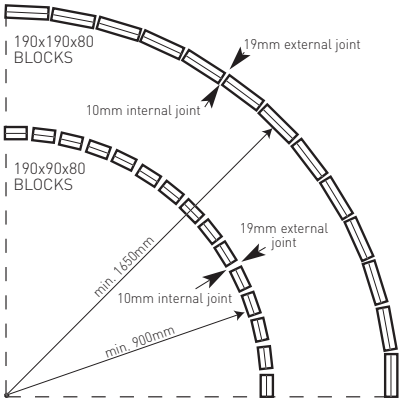


Expansion joints
Perimeter expansion should be allowed for around all four sides of the panel, ensure caulking with silicon weatherproofs this joint and not grouted over with mortar. Where a curve changes plane, a vertical slip joint must be inserted.



Denotes position of vertical slip joint.

Joint sizes and minimum radii
When constructing curved glass block panels, Glass Block Technology recommend the use of a 10mm internal vertical joint. Using 190x190x80mm glass blocks, the minimum internal radius of 1650mm will result in the external vertical joint being 18-19mm. Note importance of minimum radius and expansion joints.



TERMS

- All kits and opening sizes are calculated using 10mm joints. For alternative spacer peg sizes contact local glass block outlet or visit www.glassblocks.co.uk
- If you require Rods & Mortar for fire rating, please consult fire rated section (pages 28 & 29), prior to ordering.
- All kits are based only on 190x190x80 blocks.
- All kits are based on straight panels. Do not use for curved applications.
- All kits do not include panel anchors, if required contact local glass block outlet.
- Accessory fact sheets referring to fitting instructions are available in this A5 'Complete guide to glass blocks' or can be downloaded from www.glassblocks.co.uk/rods&mortar

rods&mortar INSTALLATION SYSTEM PANEL Kits MATRIX

RM1/1 (210x210)	RM2/1 (410x210)	RM3/1 (610x210)	RM4/1 (810x210)	RM5/1 (1010x210)	RM6/1 (1210x210)	RM7/1 (1410x210)	RM8/1 (1610x210)	RM9/1 (1810x210)	RM10/1 (2010x210)	RM11/1 (2210x210)	RM12/1 (2410x210)
RM1/2 (210x410)	RM2/2 (410x410)	RM3/2 (610x410)	RM4/2 (810x410)	RM5/2 (1010x410)	RM6/2 (1210x410)	RM7/2 (1410x410)	RM8/2 (1610x410)	RM9/2 (1810x410)	RM10/2 (2010x410)	RM11/2 (2210x410)	RM12/2 (2410x410)
RM1/3 (210x610)	RM2/3 (410x610)	RM3/3 (610x610)	RM4/3 (810x610)	RM5/3 (1010x610)	RM6/3 (1210x610)	RM7/3 (1410x610)	RM8/3 (1610x610)	RM9/3 (1810x610)	RM10/3 (2010x610)	RM11/3 (2210x610)	RM12/3 (2410x610)
RM1/4 (210x810)	RM2/4 (410x810)	RM3/4 (610x810)	RM4/4 (810x810)	RM5/4 (1010x810)	RM6/4 (1210x810)	RM7/4 (1410x810)	RM8/4 (1610x810)	RM9/4 (1810x810)	RM10/4 (2010x810)	RM11/4 (2210x810)	RM12/4 (2410x810)
RM1/5 (210x1010)	RM2/5 (410x1010)	RM3/5 (610x1010)	RM4/5 (810x1010)	RM5/5 (1010x1010)	RM6/5 (1210x1010)	RM7/5 (1410x1010)	RM8/5 (1610x1010)	RM9/5 (1810x1010)	RM10/5 (2010x1010)	RM11/5 (2210x1010)	RM12/5 (2410x1010)
RM1/6 (210x1210)	RM2/6 (410x1210)	RM3/6 (610x1210)	RM4/6 (810x1210)	RM5/6 (1010x1210)	RM6/6 (1210x1210)	RM7/6 (1410x1210)	RM8/6 (1610x1210)	RM9/6 (1810x1210)	RM10/6 (2010x1210)	RM11/6 (2210x1210)	RM12/6 (2410x1210)
RM1/7 (210x1410)	RM2/7 (410x1410)	RM3/7 (610x1410)	RM4/7 (810x1410)	RM5/7 (1010x1410)	RM6/7 (1210x1410)	RM7/7 (1410x1410)	RM8/7 (1610x1410)	RM9/7 (1810x1410)	RM10/7 (2010x1410)	RM11/7 (2210x1410)	RM12/7 (2410x1410)
RM1/8 (210x1610)	RM2/8 (410x1610)	RM3/8 (610x1610)	RM4/8 (810x1610)	RM5/8 (1010x1610)	RM6/8 (1210x1610)	RM7/8 (1410x1610)	RM8/8 (1610x1610)	RM9/8 (1810x1610)	RM10/8 (2010x1610)	RM11/8 (2210x1610)	RM12/8 (2410x1610)
RM1/9 (210x1810)	RM2/9 (410x1810)	RM3/9 (610x1810)	RM4/9 (810x1810)	RM5/9 (1010x1810)	RM6/9 (1210x1810)	RM7/9 (1410x1810)	RM8/9 (1610x1810)	RM9/9 (1810x1810)	RM10/9 (2010x1810)	RM11/9 (2210x1810)	RM12/9 (2410x1810)
RM1/10 (210x2010)	RM2/10 (410x2010)	RM3/10 (610x2010)	RM4/10 (810x2010)	RM5/10 (1010x2010)	RM6/10 (1210x2010)	RM7/10 (1410x2010)	RM8/10 (1610x2010)	RM9/10 (1810x2010)	RM10/10 (2010x2010)	RM11/10 (2210x2010)	RM12/10 (2410x2010)
RM1/11 (210x2210)	RM2/11 (410x2210)	RM3/11 (610x2210)	RM4/11 (810x2210)	RM5/11 (1010x2210)	RM6/11 (1210x2210)	RM7/11 (1410x2210)	RM8/11 (1610x2210)	RM9/11 (1810x2210)	RM10/11 (2010x2210)	RM11/11 (2210x2210)	RM12/11 (2410x2210)
RM1/12 (210x2410)	RM2/12 (410x2410)	RM3/12 (610x2410)	RM4/12 (810x2410)	RM5/12 (1010x2410)	RM6/12 (1210x2410)	RM7/12 (1410x2410)	RM8/12 (1610x2410)	RM9/12 (1810x2410)	RM10/12 (2010x2410)	RM11/12 (2210x2410)	RM12/12 (2410x2410)

KITS INCLUDE:

GBT CODE	DESCRIPTION
BGBM	10kg Glass Block Mortar
MSSR0.6	0.6m stainless steel reinforcement bar
MSSR1.2	1.2m stainless steel reinforcement bar
ESP80	10mm spacer peg

GBT CODE	DESCRIPTION
EXP1	Expansion foam - 2m
EXP2	Bitumen expansion material - 2m
DC794(W)	Dow Corning silicone (white)*

*If your glass block outlet does not stock Dow Corning, a high quality, low odour silicon should be used. (Glass Block Technology only endorses Dow Corning.)

EASIFIX

INSTALLATION SYSTEM

Easifix is an installation method recommended for internal use only. It is ideal for shower screens, panels within partition walls and many interior features within the home. It can only be used for straight walls. Interior designers, property developers and shop fitters are all realising the benefits of the simplicity of construction using the Easifix system.