



AQUARIAN CLADDING SYSTEMS

Gebrik Insulating Brick Cladding
Component Guide



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Description

The Gebrik Insulating Brick Cladding System is a factory-produced external walling system consisting of panels, corners, fixings and associated components. Designed to create a lightweight, natural brick appearance, Gebrik insulates and protects a building from water penetration and is site-applied to buildings constructed of masonry, timber, steel frame or SIPs to clad new buildings or refurbish and protect existing buildings. The composite panels and corners comprise of 15-20mm thick frost-resistant, clay brick slips, cast in polyurethane insulation and are supplied in either Stretcher, Stack, Flemish or other bond formats. There is a range of approx 500no standard brick finishes in a variety of finishes and sizes; samples and details of which are available upon request. Alternatively, non-standard brick finishes can be developed subject to quantity and agreement with the manufacturer.

Gebrik's insulating properties will help to significantly improve a building's thermal performance (it is proven to reduce a building's U-value by up to 60%) and keep wall thickness to a minimum. The insulating material is polyurethane (PUR) and uses pentane as its blowing agent and therefore does not release CFC or HCFC agents during manufacture. The PUR has a BREEAM element number of 815320017 and Green Guide rating of A.

Testing & Accreditation

Gebrik has been widely used across Europe since 1982 and is certified for use in the United Kingdom in accordance with BBA certificate no 07/4403 for application to masonry substrates and timber, light gauge steel and SIPs framing systems. As a result of weathertightness testing in accordance with CWCT Standard Test Methods for building envelopes, 2005, Gebrik has been tested for:

- Air permeability
- Watertightness – static pressure, dynamic pressure and hose
- Wind resistance – serviceability & safety
- Impact resistance to BS8200

Testing proves the system will withstand water ingress, positive and negative serviceability windloads of 2400pa and $\geq 500\text{Nm}$ soft body & $\geq 22\text{Nm}$ hard body impact. Gebrik has an excellent fire performance and has successfully passed BR135:2013 Annex A & B to demonstrate that it does not spread fire when applied to either masonry or light gauge steel framed buildings. It also has a Class 'O' rating as determined by English Building Regulations and classified as B,s1,d0 in accordance with EN13501-1:2007+A1:2009.

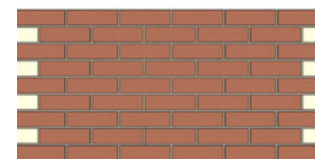
Design & Installation

It is simple to design and build with Gebrik and a standard set of technical details to suit various applications is available to download in .PDF format via our website or please contact us if .DWG files are required.

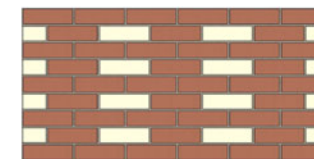
In accordance with the BBA certificate, all system components must be supplied by Isosystems and the application of Gebrik can only be carried out by approved installers, ie firms who either:

- Employ operatives who have been trained by the Certificate holder's representatives Aquarian Cladding Systems, to install the system and who have been issued with appropriate training cards by the Certificate holder.
- Has undertaken to comply with the Certificate holder's application procedure, which contains the requirement for each application team to include at least one member with a training card. Failure to comply with these instructions may result in the BBA certificate being invalid and consequently invalidating the systems product insurance.

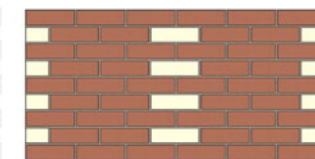
UK Format Panels



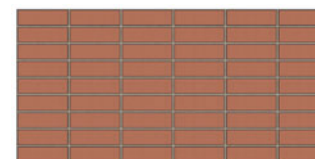
UK Type P



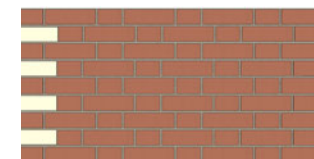
UK Type SP1*



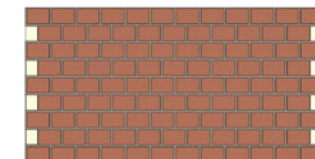
UK Type SP1.5*



UK Type RP



UK Type FP



UK Type KP

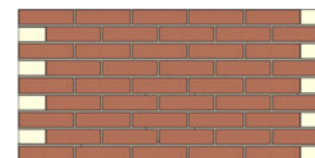
	UK	61	R6	WF	R5
Brick Slip Dimensions (mm)	215x65	240x65/66	440x65	215x50	440x50
Panel Size Dimensions (mm)	1350x675	1375x688	1350x675	1350x675	1350x675
Panel Weight (kg)	28-32	27-30	30	27-31	29

*SP1 & SP1.5 panels are designed to be cut on site and used as infill pieces between full components, eg piers. Additional slips & adhesive are automatically calculated and included within the system.

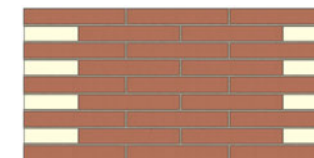
Fixing requirements are as follows:

- 9no fixings per panel up to 10m, in 3 rows of 3
- 12no fixings per panel between 10 and 18m, in 3 rows of 4 or 4 columns of 3
- 16no fixings above 18m, in 4 rows of 4

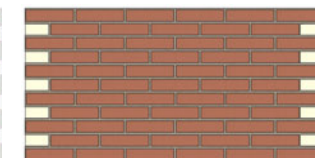
61, R6, WF, R5 Format Panels



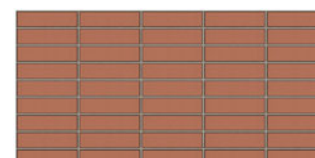
61 Type P



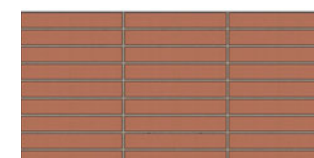
R6 Type P



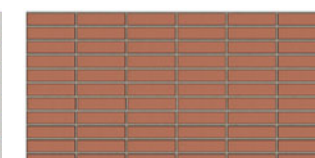
WF Type P



61 Type RP+

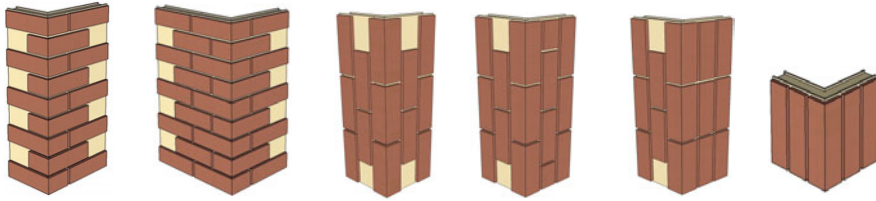


R6 Type RP

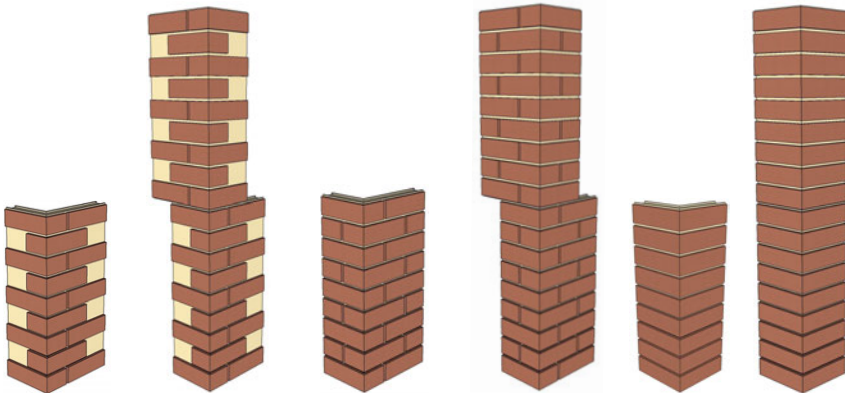


WF Type RP

External Corners (UK Format)



Type	HE1/1.5	HE2/1.5	HE3-3@3	HE3-3S@3	HE3-3R@3	RE3-3@1
Length (mm)	215x330	435x330	215x215	215x215	215x215	215x215
Height (mm)	675	675	675	675	675	215



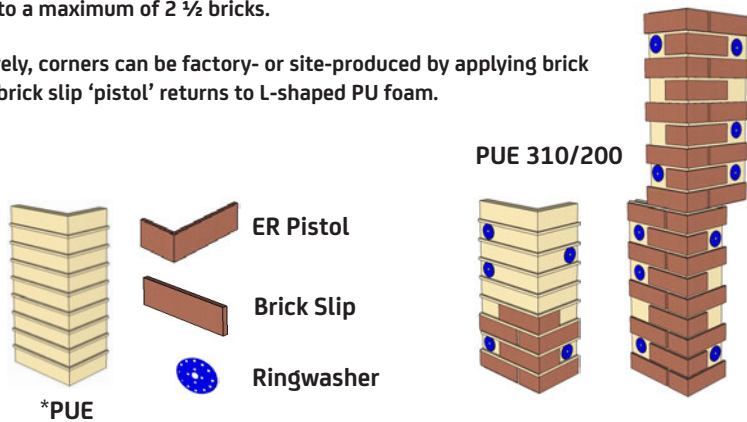
HE1/1.5

ST1/1.5

RE1/1

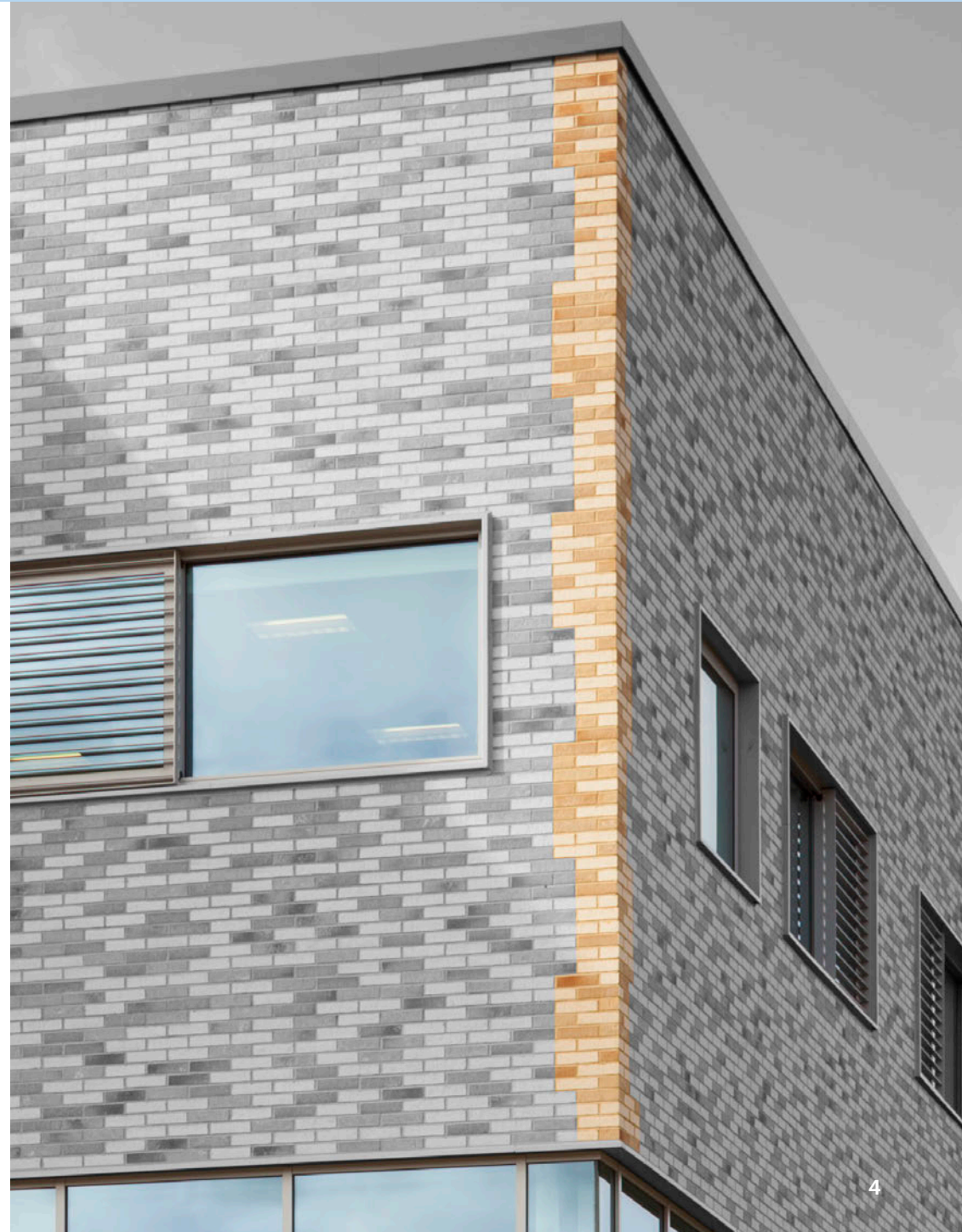
Corners are factory-produced by cutting and bonding flat panels with PU glue (coloured to tone with the brick face). Excess glue is removed mechanically at the factory and the corner when viewed from 3m is consistent in colour and flatness. The length of either side is a multiple of full and half bricks up to a maximum of 2 ½ bricks.

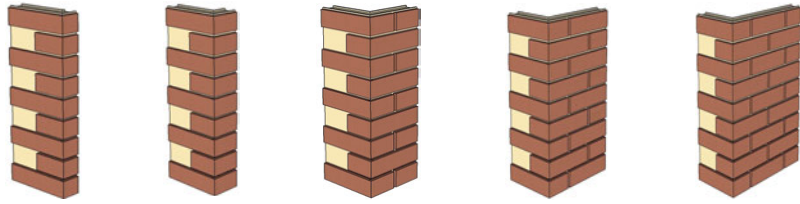
Alternatively, corners can be factory- or site-produced by applying brick slips and brick slip 'pistol' returns to L-shaped PU foam.



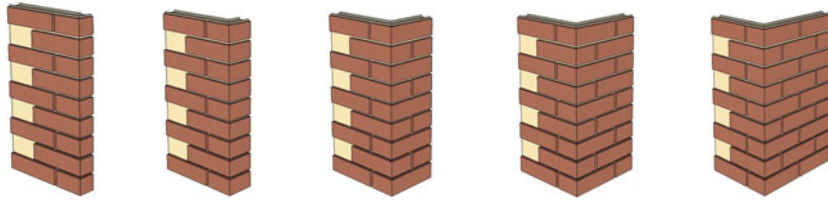
*PUE

*PUE is available in a variety of lengths to suit brick dimensions

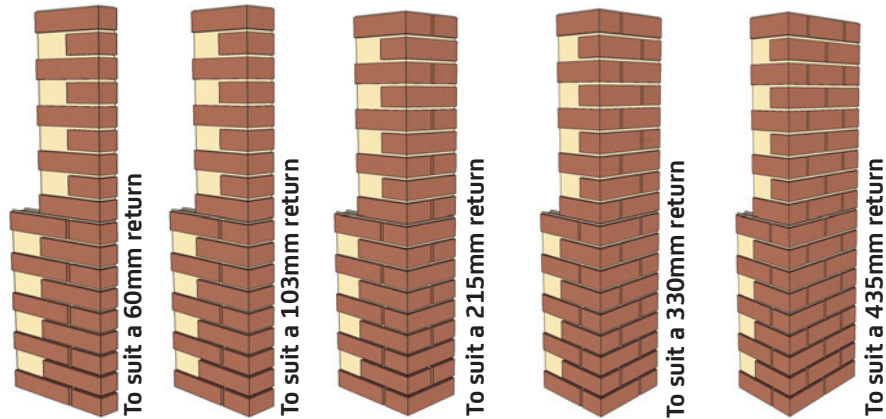




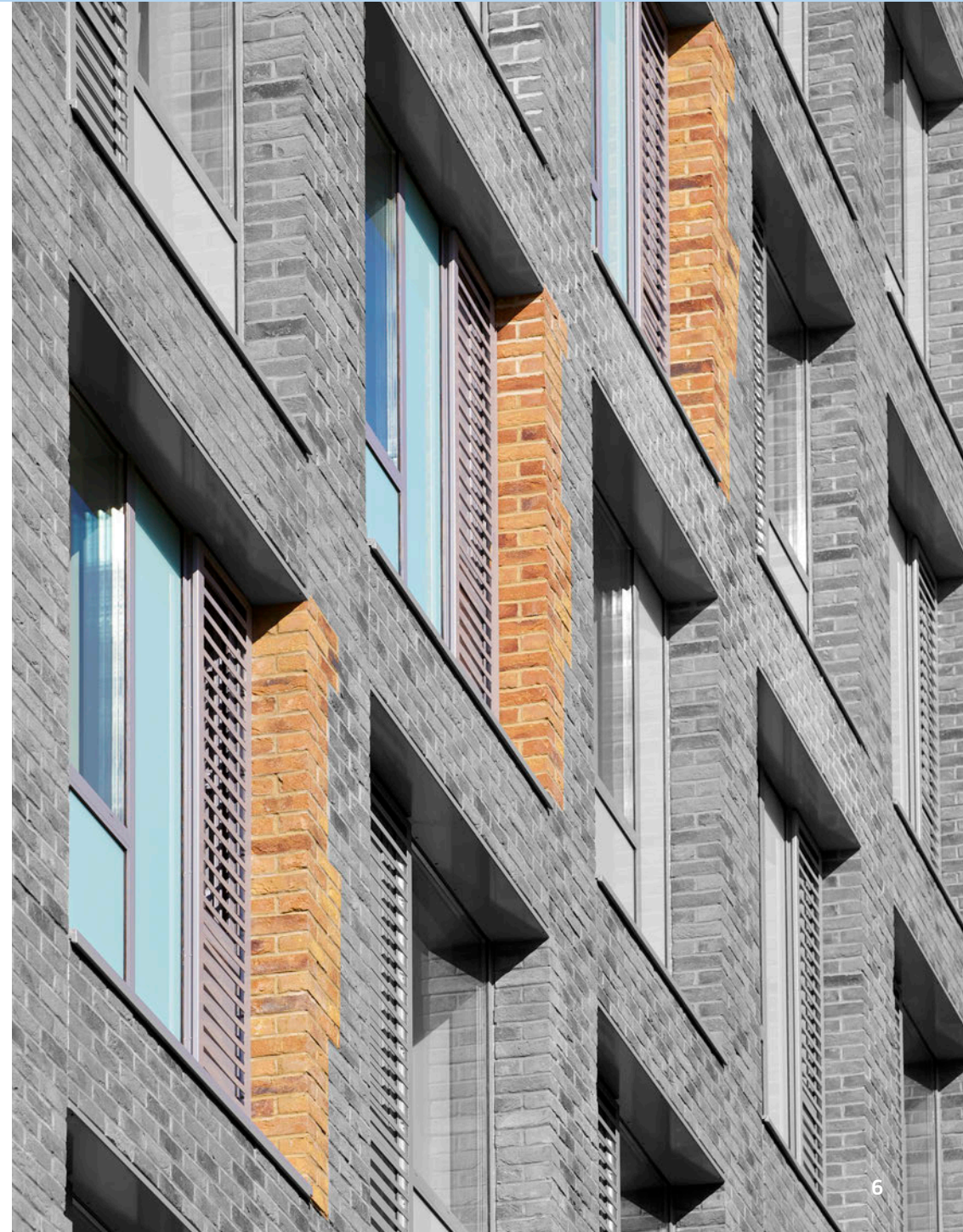
Type	FE1/06	FE1/0.5	FE1/1	FE1/1.5	FE1/2
Length (mm)	215x60	215x103	215x215	215x330	215x435
Height (mm)	675	675	675	675	675

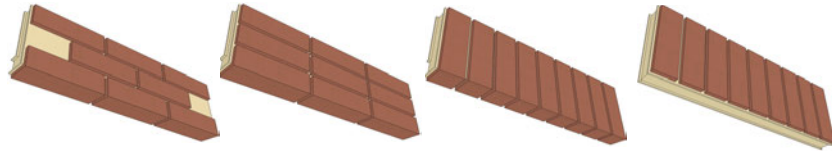


Type	FE1.5/06	FE1.5/0.5	FE1.5/1	FE1.5/1.5	FE1.5/2
Length (mm)	330x60	330x103	330x215	330x330	330x435
Height (mm)	675	675	675	675	675

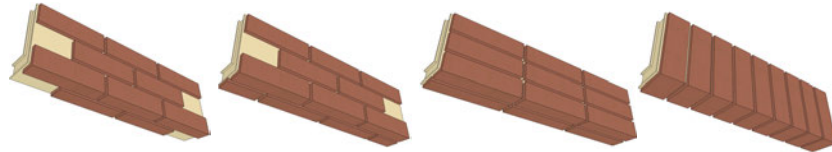


Type FE & RE Jams are produced in the same way as other corners, with leg dimensions typically in multiples of full or half bricks up to a maximum 2 ½ bricks long. One leg should produce a castellation with the adjoining (upper/lower) leg to maintain the bond pattern and the other leg to suit the depth of reveal.

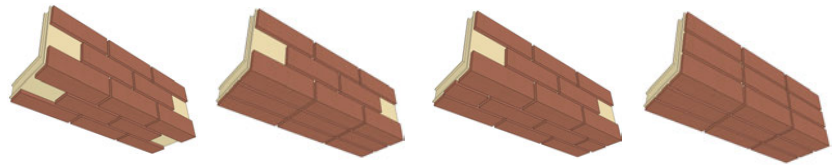




Type	HE3-1@3	RE3-1@3	RE1/06	RE1/00
Height/Depth (mm)	215x60	215x60	215x60	215x60
Width (mm)	675	675	675	675



Type	HE3-2@3	HE3-2R@3	RE3-2@3	RE1/0.5
Height/Depth (mm)	215x100	215x100	215x100	215x100
Width (mm)	675	675	675	675



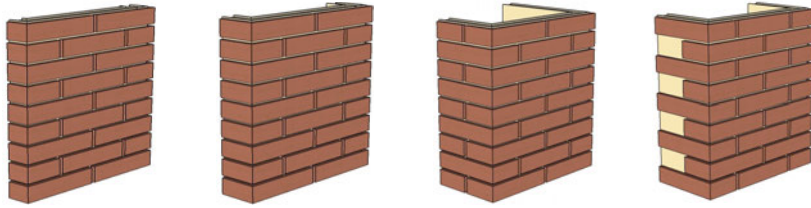
Type	HE3-3@3	HE3-3R@3	HE3-3S@3	RE3-3@3
Height/Depth (mm)	215x215	215x215	215x215	215x215
Width (mm)	675	675	675	675

Type HE & RE Heads are produced in the same way as other corners and typically to suit brick coursing. It should be noted that the underside is produced from a multiple of 65mm coursing and the mortar joint is positioned centrally unless requested.

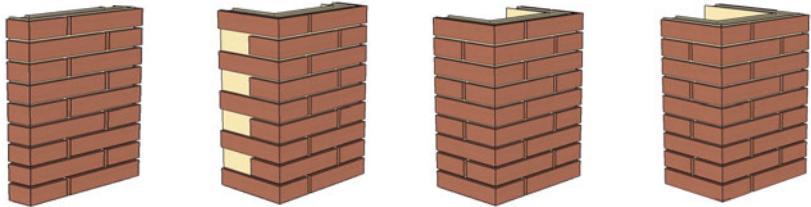
Care should be taken when applying slips to the underside and should be firmly anchored with temporary fixings & washers whilst the adhesive cures. Alternatively, consideration should be given to only using cast slips, eg HE3-3R@3 or HE3-3S@3



U Elements (UK Format)

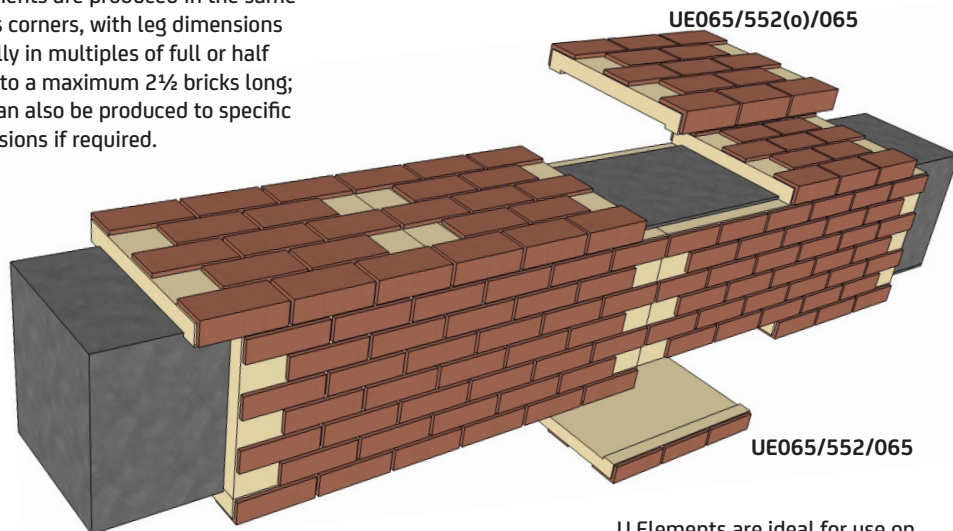


Type	UE06/2/06	UE0.5/2/0.5	UE1/2/1.5	UE(o)1/2/1(o)
Length (mm)	60/435/60	100/435/100	215/435/330	215/435/215
Height (mm)	675	675	675	675



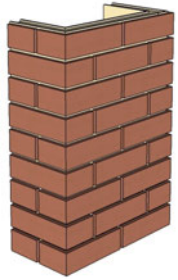
Type	UE06/1.5/06	UE(o)1/1.5/0.5	UE1/1.5/1	UE1/1.5/2.5
Length (mm)	330/435/330	215/330/100	215/330/215	215/330/545
Height (mm)	675	675	675	675

U Elements are produced in the same way as corners, with leg dimensions typically in multiples of full or half bricks to a maximum 2½ bricks long; they can also be produced to specific dimensions if required.

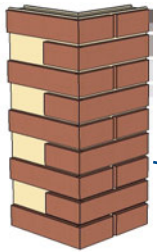


U Elements are ideal for use on soffits and beams. (Please note all finishes are not available in the illustrated U Elements).

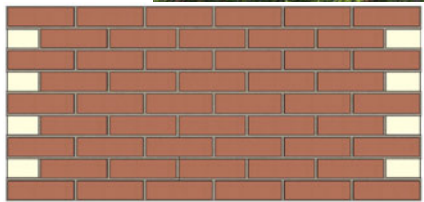




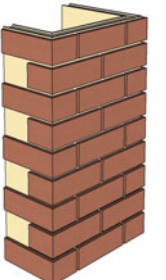
UE1/2/1



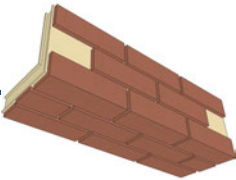
FE1/1



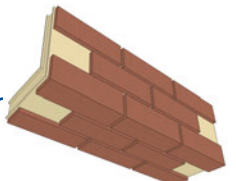
UK TYPE P



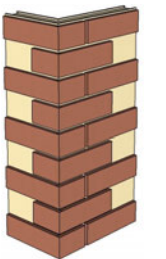
UE1(o)/2/1.5(o)



HE3-3S@3



HE3-3@3



HE1/1.5

Fixings for:

Sheathing



HS
70mm to
260mm

Metal



MS
60mm to
200mm

Masonry



SDF-S
100mm to
300mm

Aircrete



SDP-S
140mm to
220mm

Fixings increase in 20mm increments for lengths over 100mm

Accessories



Collars for HS & MS Fixings



60mm Ringwashers



Iso Fixings (pre-applied in the panels) & EPS Plugs



PU Foam
Coverage 1 Can = approx 8m²



PU Foam Applicator



PU Plugs



PU Cleaner



PU Cutter

Aluminium Starter Rail



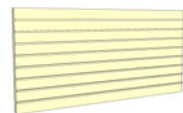
2mm Thickness x 3000mm Length
ALU6 - 40mm x 55mm
ALU8 - 40mm x 70mm
ALU10 - 40mm x 90mm
ALU12 - 40mm x 110mm
ALU14 - 40mm x 130mm

Adhesive

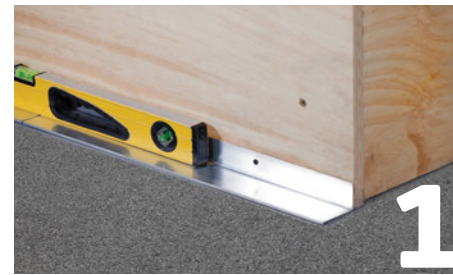


Iso Col - 25kg Bag

Ribbed PU Panel

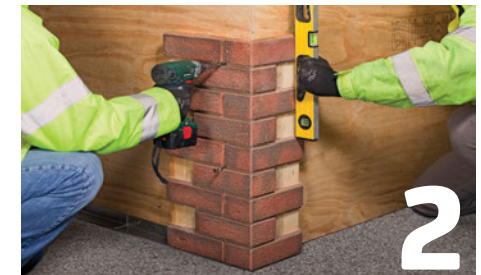


1250mm x
675mm x 40mm



Starter Rail

The non-loadbearing starter rail acts as a starting level, so great care must be taken when fixing. The datum is determined and the rail typically fixed at 600mm centres using appropriate fixings.



First Corner

A corner piece is typically the first element to be installed which, when combined with the starter rail sets a right angle for installation of the first row of elements.



First Panel

The first panel is positioned on the starter rail, tightly abutting the corner element. The panel is drilled through and fixed to the substrate (using pre-located fixing positions).



Foaming Chamber

Expandable PU Foam is injected into an abutment chamber using a system-designed pistol-applicator. Special PU-cutters and plugs (supplied as part of the system) will help to maintain a watertight facade.



Application of Brick Slips

Where elements abut, brick slips are applied on alternate courses to 'stitch' them together and maintain the stretcher bond.



Pointing

The system must be pointed to conceal all fixings and element abutments. A lime-based Class II mortar is recommended to maintain a traditional brick appearance.

Starter Rail

Purpose: To set datum and to provide a point at which to seal the base of the system, preventing rising moisture ingress

- 1. Check the rail is set out in accordance with the datum prior to application of any Gebrik
- 2. Ensure a bead of PU foam is injected along the top edge of the secured rail to prevent water ingress up and behind the system
- 3. Ensure a bead of PU foam is injected along the internal corner of the secured rail to prevent water ingress between the system and rail
- 4. Ensure the 5mm joint is removed from the first course of panels so the brick edge sits on the rail
- 5. Ensure the foam is notched at the back of the first course to the depth of the rail to avoid a 'bell' effect at the base

Securing Components

Purpose: To ensure panels are securely fixed to the substrate with no potential for vibration or pull-over of panels over fixing heads in extreme conditions

- 1. Ensure fixings are positioned within the pre-located fixing positions
- 2. Ensure fixings are not over-tightened (visible cracking in the joint). If so, secure panel using another fixing position
- 3. Ensure fixings are not under-tightened (fixing head sits proud). If so, tighten fixing
- 4. Ensure perp joints align as traditional brickwork and are typically positioned half way between the brick immediately above and below

Sealing system

Purpose: To ensure watertightness, prevent heat loss and minimise air leakage. This also avoids movement between panels, which creates cracks in the subsequent mortar joints

- 1. Ensure chambers are created on site to cut components
- 2. Ensure chambers are fully filled at every vertical and horizontal abutment (foam will expand to (or out of) the pre-located openings across the top of the panels)
- 3. Check panels and corners for flatness and tighten fixings if necessary
- 4. Ensure brick face is free of PU staining

Brick slip application. Using cement-based adhesive

Purpose: To maintain traditional brickwork appearance and prevent brick slip delamination

- 1. Mix sufficient dry mix to appropriate volume of water (typically 9.25l to 25kg dry mix at pro-rata)
- 2. Ensure smooth paste, leave a few minutes and mix again
- 3. Work time is approx 3 hours and additional water should not be added once mixed
- 4. Do not use too much adhesive as the slips will sit proud of the panels and cast shadows in different angles of sunlight
- 5. Check applied slips for flatness with adjoining Gebrik panels and corners
- 6. Ensure brick face is free of excess adhesive

Pointing

Purpose: To maintain traditional brickwork appearance and final protection from water ingress

- 1. Ensure mortar is batched
- 2. Ensure mortar is protected from subsequent inclement weather and direct sunlight until cured to avoid efflorescence and cracking
- 3. Ensure joints are fully filled to avoid lime staining
- 4. Ensure brick face is free of mortar staining



BBA

Gebrik has been certified in accordance with BBA certificate number 07/4403. The certificate confirms:

- application to concrete or clay masonry*, lightweight steel*, structurally insulated panels and timber framing substrates
 - a minimum design life of 30 years
 - resistant to the passage of moisture
 - capable of withstanding minimum wind loads of 2.4kNm-2
 - Class 0 fire spread
 - an additional layer of ≤120mm insulation can be used behind the system
- * Can be used on buildings ≥18m in accordance with BR135 fire tests



CWCT

Gebrik has been successfully tested in accordance with the CWCT Standard Test Methods for building envelopes 2005 for application to lightweight steel frame structures and structurally insulated panels to prove:

- air permeability
- watertightness – static pressure, dynamic pressure and hose
- wind resistance – serviceability and safety
- impact resistance to BS8200

Fire Performance

Gebrik has been tested in accordance with BS8414-1&2:2002 and when classified in accordance with Annex A & B of BRE Report (BR135:2003) *Fire Performance of External Insulation for Walls of Multi-Storey Buildings* has been shown to have met the performance criteria.

Gebrik has also been tested in accordance with EN13501-1:2007 + A1:2009 and classified as follows:

- B – in relation to its reaction to fire behaviour
- S1 – in relation to smoke production
- d0 – in relation to flaming droplets/particles

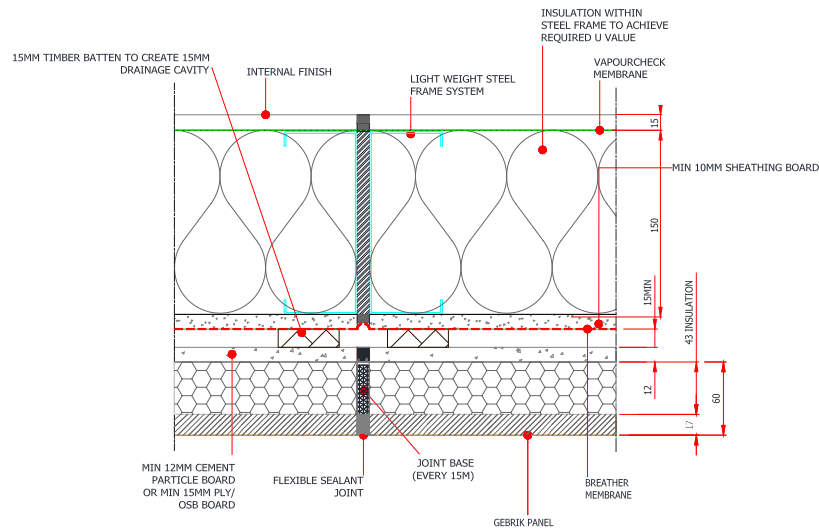


Durability

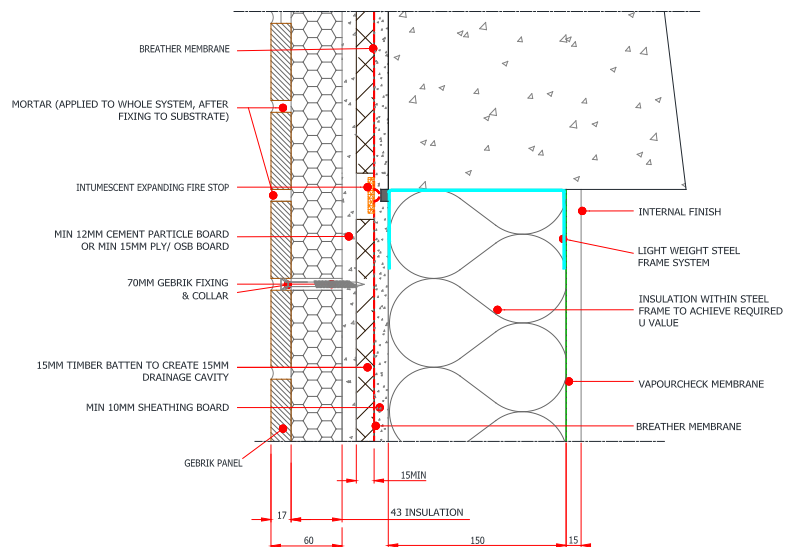
A third party assessment has been made with regards long term durability of Gebrik and the conclusion is that with good design practice with attention to the details, good site workmanship and reasonable levels of maintenance, the durability of 60 years should be achieved.



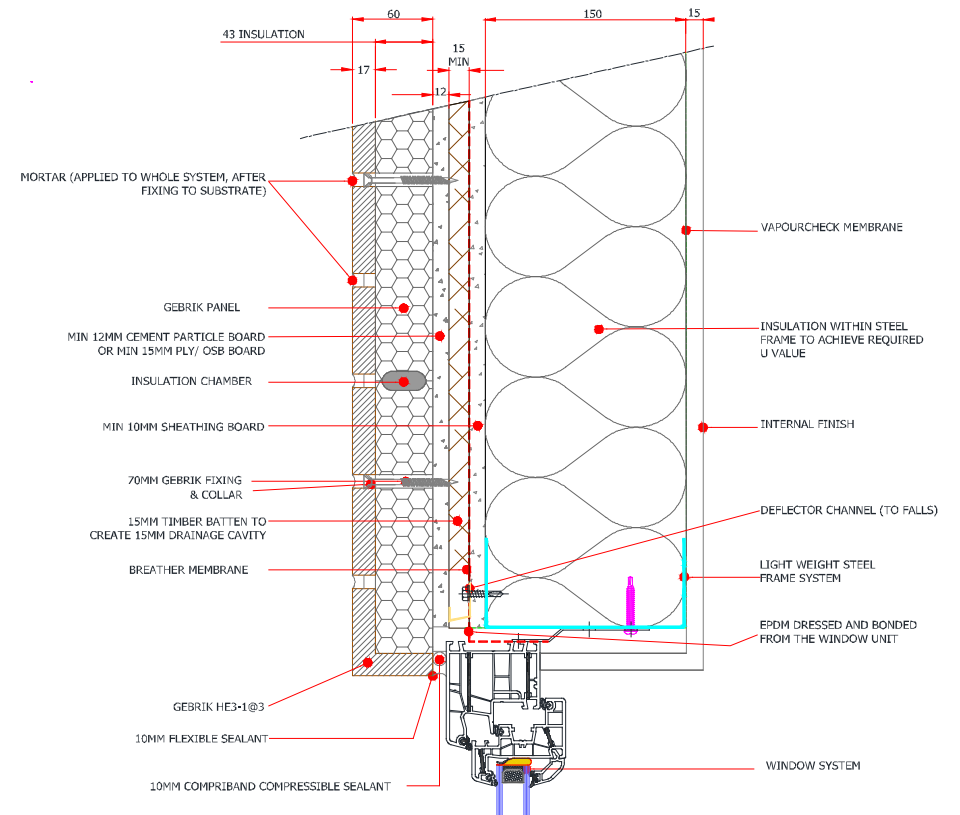
Movement Joint



Fire Break



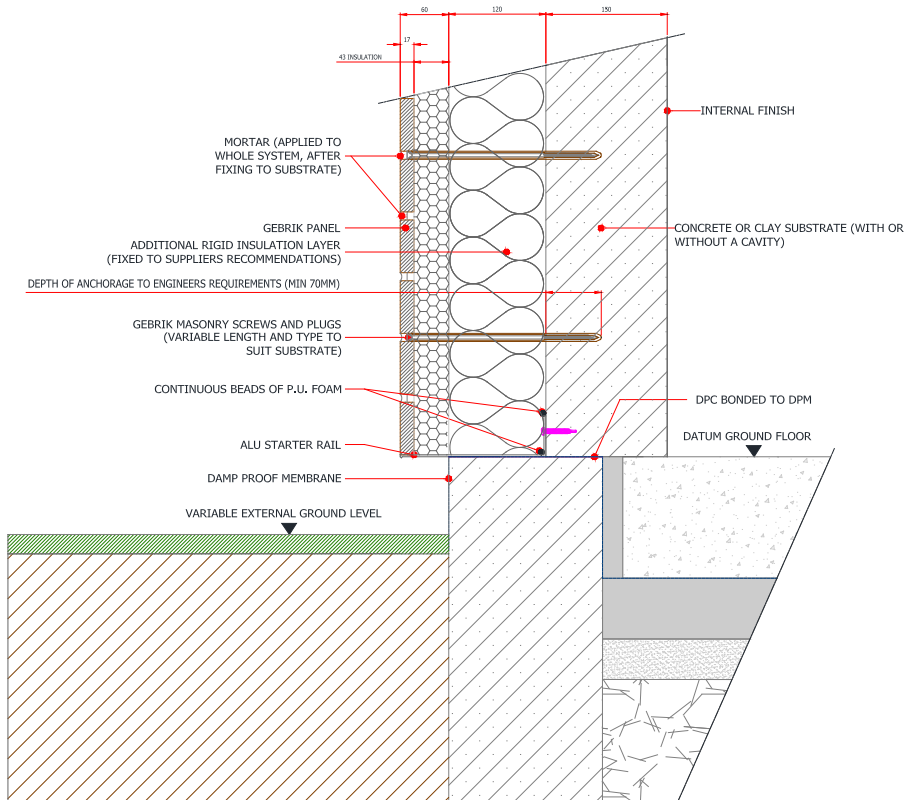
Window Head



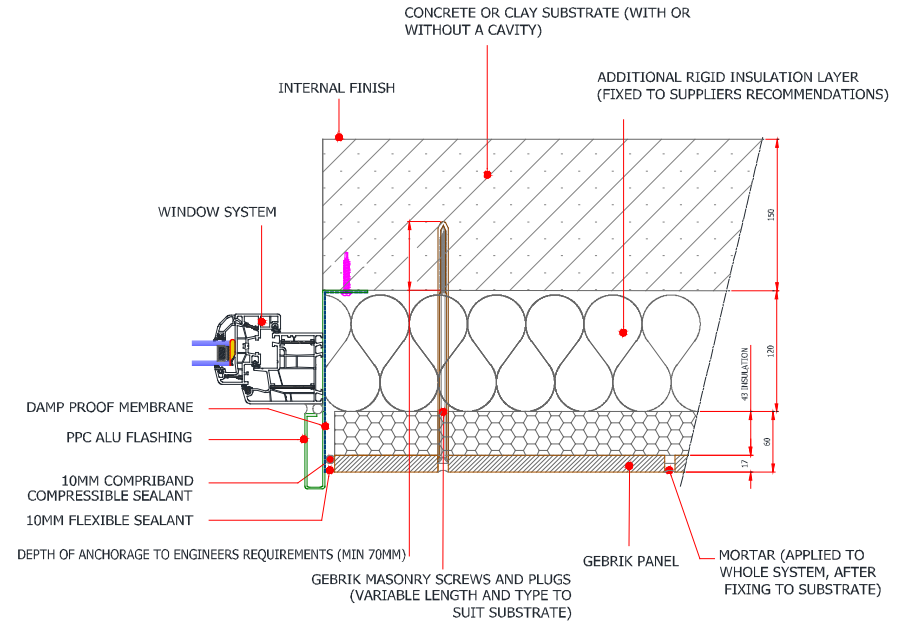
The principle of these details may also be applied to timber frame and SIPs substrates, in accordance with BBA Cert 07/4403.

All drawn elements other than those elements directly relating to the Gebrik Panel and/or fixings (including dimensions) are shown as indicative and are not to be used for construction detailing purposes.

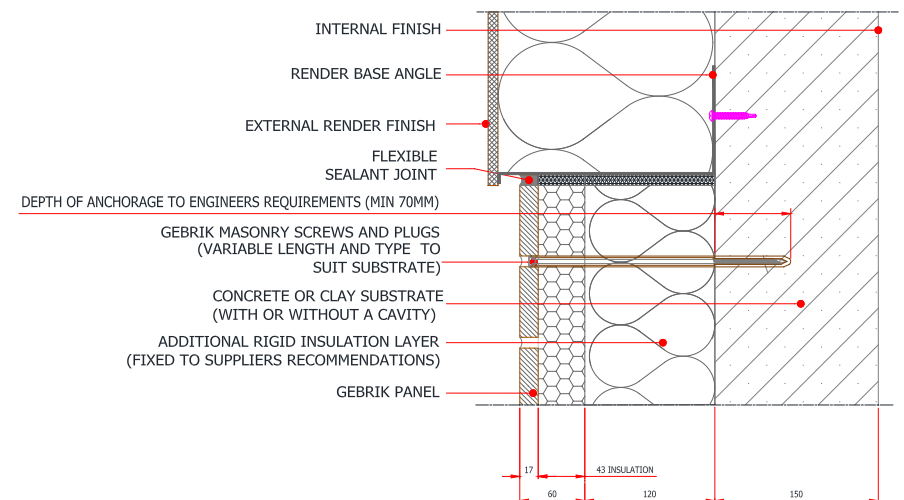
Ground



Window Jamb - Flashing



Render Abutment



Finishes and Formats

From rich reds, warm buffs and contemporary blues, whites and blacks in natural finishes, the Gebrik range is available in stretcher, stack and Flemish bond.

A selection of the wide range of finishes and formats is represented here – please visit our website at www.aquariancladding.co.uk to see the full range, or contact us for a copy of the comprehensive Gebrik Finishes and Formats brochure.

