

Gebrik Frequently Asked Questions

- What makes Gebrik unique?

Gebrik is currently the most widely tested and certified off-site manufactured brick cladding system available in the UK. With a range of approx 700no different natural, clay brick finishes in most common bond patterns it is possible to cost-effectively clad masonry and framed buildings of any height, whether for new build or refurbishment, provided guidance is sought to ensure the build-up has been tested to meet the requirements of Building Regulations, the warranty provider and designer.

- Does Gebrik have BBA certification?

Yes. The certificate number is 07/4403 and there are two Product Sheets – Product Sheet 1 is for application to masonry buildings without a cavity and Product Sheet 2 is for application to light gauge steel, timber and SIP framed buildings with a cavity.

- Is Gebrik accepted for use by warranty providers, eg NHBC, Zurich, Premier?

Yes. It is confirmed in the BBA certificate that the system is accepted by NHBC and has been accepted for use by many other warranty providers. Reference should be made by the designer to the certificate and test data and if in doubt, advice should be sought from Aquarian Cladding for project-specific detailing.

- What is the maximum height Gebrik can be installed?

There is no specific height limit for the use of Gebrik and it is recommended that the designer refers to the relevant test data for further guidance on windload resistance for exposed locations and fire performance for use above 18 metres.

The system has successfully been tested in accordance with the CWCT Standard Test Methods for building envelopes, 2005, for wind resistance (amongst other test criteria) to withstand ± 2400 pa positive and negative pressure for serviceability and ± 3600 pa positive and negative pressure for safety with minimal residual deflection.

The system has been successfully tested for fire performance over 18m and further information is available within these FAQs.

- Has Gebrik been fire tested?

We are often asked to clarify the fire rating of Gebrik and can confirm that the system has been tested to BS8414 (Parts 1 & 2), which is a test to demonstrate how it reacts in fire, via the spread of flame and its resistance against collapse when typically used on a multi-storey building over 18m; and EN13501-1:2007+A1:2009, which demonstrates its reaction to fire. As a result of the BS8414 Part 2 tests, a BR135 report has been produced by the BRE, which confirms as a result of the relative tests that the system can be used on sfs substrates of buildings >18m; and the EN13501-1:2007+A1:2009 classification confirms a classification of B-s1,d0.

We do not sell the system to provide fire resistance per se therefore it is not typically required to be tested to BS476:Part 21: 1987 Clause 8. However light gauge steel framing systems, lined with calcium cement sheathing boards, such as those used in our fire test (ie Y-Wall), can be proven to provide 2 hrs resistance when tested to the BS476 test so when combined with our BR135 report it can be taken that as Gebrik will not contribute to fire, a minimum 2hr resistance should be expected.

Gebrik has been accepted by warranty providers, building control and clients for use on numerous buildings >18m and of course, you could have the entire project-specific build-up tested if required (and we would be pleased to supply you with materials should you think it necessary).

For buildings over 18m, the BBA certificate 07/4403 states that it is imperative that the build-up tested is adhered to for the BBA certificate to be valid (and accepted by warranty providers).

- **Does the substrate require a cavity when using Gebrik?**

The oldest building that Gebrik has been used on (in Belgium) is built using timber frame without a cavity and after more than 30 years there is still no evidence of water ingress or interstitial condensation. There are also numerous projects in the UK where Gebrik has been accepted and warranted for use without a cavity.

The current BBA certification is based on application to masonry without a cavity and to framed structures with a cavity. As part of our continuous product development programme the intention is to obtain an additional product sheet within our existing BBA certification for application without a cavity on the basis that the CWCT weathertightness test successfully demonstrates that Gebrik will withstand water ingress and a cavity is not necessarily required. However certain warranty providers, eg NHBC and Premier currently insist on the inclusion of a cavity to allow drainage in the event of water ingress from poor detailing/installation at interfaces or in the event of interstitial condensation. The designer should therefore satisfy themselves that the system and preferred method of wall construction is acceptable to the project-specific warranty provider.

- **What is the durability of Gebrik?**

Gebrik has been successfully tested for accelerated aging up to 30 years (the longest accelerated age testing possible) and as confirmed in the BBA certificate 07/4403 has an expected minimum design life of 30 years.

A separate independent study has also been carried out and states that with good design practice of attention to the details, good site workmanship and reasonable levels of maintenance a durability of 60 years should be achieved.

- **Is Gebrik supplied inclusive of a warranty/ guarantee?**

Yes. Gebrik is supplied with a 10 year insurance-backed Product Warranty

- **Is Gebrik mechanically fixed?**

Gebrik panels and corners are supplied with pre-located fixing positions and tested & certified fixings (with collars or plugs as appropriate). The fixings are used to screw panels and corners to a solid substrate, eg clay/concrete masonry or exterior grade sheathing board with a minimum of 9no fixings per panel and 5no per corner. The quantity of fixings should increase subject to pull-out resistance of the substrate and anticipated applied windloads.

- **Will the brick slips fall off?**

Due to numerous instances throughout the UK of adhesive failure of site-applied brick slips, there is understandable concern that brick slips within the Gebrik system will delaminate. To produce Gebrik panels and corners, slips are cast in polyurethane (and sand) at the factory so that what is supplied to site is produced in a controlled environment under strict quality control. Therefore less than 10% of slips are site-applied with a cement-based adhesive that simply requires water to be added. The adhesive and site-applied aspect is included within the testing and is therefore also certified within the BBA Product Sheets 1 and 2. With good site control and application in accordance with the Installation Manual there is no more risk of slips delaminating than of brickwork failing due to poor workmanship.

- **What is 'PU foam'?**

Rigid polyurethane (PUR) foams are widely used as an insulation material in a variety of building applications. Since the first oil crisis in the seventies and the resulting increase in energy cost, insulation materials have been gradually applied more and more in buildings. Since then, regulatory requirements and recommendations to achieve a certain U value have come into force in several countries. Consequently, the majority of new buildings have, to varying levels of extent, insulation installed. The insulation capacity of PUR is exemplary and extremely competitive. It has excellent physical properties, eg mechanical strength, dimensional stability, water resistance, etc. Furthermore, it is light-weight, quick to install and

its ability to be used to create composite panels and sandwich panels in a factory offers several advantages in comparison to site-assembled constructions.

The raw constituents vary between suppliers and intended uses but for the production of Gebrik they are polyol, isocyanurate and pentane. It is Freon free, ie no CFCs, HCFCs or HFCs are produced during the manufacture of Gebrik; the ODP=0 and GWP of < 0.001.

- **What U-value does Gebrik achieve on its own?**

A U- value is calculated as a reciprocal of the thermal conductivity of all of the layers within a structure and unit of measurement is W/m^2K . Aquarian Cladding will provide U values but we will need to know the other layers to be used within the entire wall or if you have a target to achieve we can advise on how best to achieve it given your constant and variable options. When producing your own U value calculations you should use λ value for the brick slips of $0.77W/mK$ and λ value $0.029W/mK$ for the PU.

- **Is Gebrik environmentally friendly?**

The system incorporates max 20mm thick brick slips therefore in theory there is a reduction of 80% use of materials and embodied energy when compared to firing 100mm thick bricks. The method of polyurethane production is Freon free with ODP=0 and GWP of <0.001. Deliveries to site (though from Belgium) include on average $650m^2$ of materials, hence approx. 70% fewer vehicular movements when compared to brick deliveries. When on site, there is approx. 85% less cement and water required than when laying bricks as the system simply needs pointing to maximum depth of 15mm. (It is calculated that 25kg of cement produces 20kg of CO_2 in its production).

- **Is Gebrik an air and water tight solution?**

Gebrik is a sealed system therefore air leakage is negligible and independent testing proves that the system will resist water ingress.

- **What air permeability rates can be achieved through Gebrik?**

It depends on the entire build-up and if there is a cavity. As an example, 150mm light gauge steel framing clad with a 12mm exterior grade sheathing board, 60mm layer of phenolic insulation and 60mm layer of Gebrik has achieved an air tightness value of $1.7m^3/(h.m^2)$ @ 50Pa.

- **What is the acoustic value of Gebrik?**

Reducing sound transmission is a complicated science that should be left to acoustician experts. The density of our brick slips varies from supplier to supplier but to enable the specialist to carry out their calculations, the average density of our brick slips can be taken as approx. $2000kg/m^3$ but please contact us for specific data if more accurate information is required. The density of the PU foam can be taken as approx. $35kg/m^3$.

- **Can Gebrik be utilised on both residential and commercial buildings?**

Yes. Over the past 10 years, Gebrik has been used on a wide range of new-build and refurbished buildings throughout the UK. It has been mainly used in the housing and education sector but there are also examples of its use on offices, hospitals, leisure and supermarket buildings.

- **How many finishes are there available to choose from?**

The list is growing all the time but more than 400no extruded (eg smooth, dragwire, sandfaced, creased, textured), handmade, clamp-fired, engobed and glazed finishes are available in a variety of colours from black to white and in a range of sizes including up to 440mm long and down to 50mm high. Subject to quantity, bespoke finishes can also be developed.

- **What bond patterns can Gebrik be supplied in?**

There are currently three main bond patterns, ie stretcher bond, stack bond and Flemish bond. There are also slight variations including use of headers only or including projecting/recessed

slips within a panel to create a textured façade. Components can be installed in any orientation, eg 'portrait' or 'landscape' at typically no extra cost.

- **Do I need to set out my design to suit Gebrik panel dimensions**

Quite simply, design the façade as if you are designing with brickwork, ie use brick dimensions when setting out. In section, think of the system as a 60mm thick insulated render system – but with a brick finish!

- **Where is Gebrik produced?**

Gebrik is manufactured in the south east of Belgium, near the German border.

How is Gebrik supplied to site?

Gebrik is typically supplied on non-returnable pallets on articulated vehicles for site off-load. The greatest care is taken with the packaging of Gebrik panels and corners, which are palletised on pallets measuring 1400mm x 700mm. Corners of each unit are protected by cardboard angles and each pallet of panels and corners is covered in black, shrink-wrapping, which provides protection against UV (fixings and accessories are shrink-wrapped with a transparent cover).

- **Is Gebrik supplied pre-pointed?**

No. The entire system should be pointed on site using a lime based mortar. The suggested mix is 9 parts sand : 2 parts cement : 1 part lime. It is often pointed with pre-batched mortar supplied by specialist mortar companies, eg Parex.

- **How much does Gebrik cost?**

We recommend that accurate installed costs should be obtained from specialist cladding contractors with experience of installing Gebrik.

The unit rates will vary subject to brick finish as there are currently 8 no price groups with Group 1 finishes being the least expensive and there is approx. a 5% increase from one price group to the next.

The supply rate per m² will vary subject to the ratio of panels to external corners/reveals for openings, transport requirements and wastage.

The installed rate per m² will depend on many things but mainly optimisation of the system; quantity and design of openings and external corners (eg brick reveals or flashings?); type and quality of substrate (eg new build or refurbishment?); access equipment; and adaptations due to poor interface application.

- **When evaluating Gebrik what should I consider?**

Gebrik provides an insulated natural clay brick façade that will look like, and weather like, conventional brickwork.

When compared to brickwork,

- i. Are there internal floor savings as a result of reducing the overall wall thickness?*
- ii. What are the benefits to the programme, reductions in prelims and consequences of quicker delivery to the client as a result of taking the brick façade off the critical path, reducing the dependence on good weather and improving the installation rates?*
- iii. What added flexibility can be achieved in the build programme by replacing scaffold with mechanical access?*
- iv. Can the specification of the foundations and/or structural frame be reduced as a result of reduced loadings?*
- v. What are the cost and programme benefits of eliminating brick support angles and wind posts?*
- vi. Is there a benefit of reducing vehicular movement and the materials storage area?*
- vii. What can I incorporate in my design using Gebrik that would otherwise be impractical using bricks?*

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- **What is the average installation coverage per day/ per man of Gebrik?**
It depends on many things but the biggest influencers are the ratio of openings to flat areas, detail around the openings (eg brick reveals or flashings?), type and quality of substrate (eg new build or refurbishment?), access equipment and adaptations due to poor interface application. As a general guide, most experienced installers aim to apply approx. 20m² per man per day but this should be discussed and agreed with the specialist cladding contractor prior to contract.
- **Are panels cut to a cutting schedule off-site?**
No. Panels can be cut on site using a masonry cutting disc so it is not necessary to specifically design with Gebrik in mind. To minimise wastage, fenestration should be designed to suit 215mm modules vertically so that 9-course high panels can be cut into multiples of 3 and avoid wasted off-cuts. Panels can also be supplied with slips missing to allow them to be cut into either half or thirds with minimal effort across the 1350mm width, which will also minimise labour cost on site.
- **Is there a recommended access solution for installing Gebrik; eg scaffold, mast climbers, etc?**
Gebrik can be applied from most forms of access equipment therefore the most site-specific option may be selected to suit location and programme. There are benefits to using scaffold where there are unbroken, horizontal 'ribbons' of Gebrik however mechanical access is considered more flexible for the main contractor and many installers.
- **Do I need any special tools to fit Gebrik?**
Gebrik is installed by specialist cladding contractors and most tools and equipment are all standard and would typically be used for application of other cladding systems. There are a few, relatively inexpensive specially designed Gebrik tools that will help make installation simple, eg PU foam applicator, PU plugs, PU-cutter and should be ordered to be supplied on the first delivery to site. A full list of tools is available upon request.
- **How do I become an installer of Gebrik?**
Gebrik is quite simple to install but should only be applied by specialist cladding contractors who are either sufficiently experienced to install Gebrik or have been trained to install the system in accordance with the Installation Manual.
- **What if I have any more questions?**
*Aquarian Cladding Systems is the exclusive UK distributor of the Gebrik system with over ten years' experience of working with architects, façade engineers, building contractors, specialist cladding contractors, warranty providers and test laboratories. We provide guidance on how Gebrik is designed and installed in accordance with the manufacturer's instructions and ensure materials are supplied fit for purpose.
If you have any more questions our contact details are as follows:*

*Aquarian Cladding Systems Ltd
Eversea Business Centre
13 Gardens Road
Clevedon
North Somerset
BS21 7QQ
Tel: 0844 334 0077
Email: info@aquariancladding.co.uk
www.aquariancladding.co.uk*