

THE INSULATING BRICK CLADDING SYSTEM



- > Waterproof insulation system with natural brick façade
- Lightweight & dry-fix to ensure speed of installation
- ➢ Will help to reduce U values by up to 50%
- Factory controlled production of composite panels and corners
- MMC compliant
- BBA certified

REDUCTION IN HEATING COSTS

UP TO

60%



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Introduction

GEBRIK is an Insulating Brick Cladding System, invented and patented in Belgium in 1982. Over the past 25 years it has been used throughout Europe to clad in excess of 40,000 different buildings, whether for refurbishment or new-build.

The system consists of over 40 different natural clay brick finishes, in a range of sizes, cast in polyurethane under factory controlled conditions. Stretcher or stack-bond panels are produced to create approx 1m² 'sheets' which are screwed directly to your masonry, timber or steel frame substrate on site. A variety of corners are also factory-produced to suit external corners, surrounds to window or door openings and any other abutments.

The insulating properties of the system will help to significantly improve the thermal performance of your building and where components abut, foam is injected to ensure your façade remains impervious to water, yet still allows the wall to breathe.

GEBRIK is an excellent solution for over-cladding existing buildings to improve appearance, thermal performance and durability. It is also considered a Modern Method of Construction and the factory-produced system will improve your build quality and programme, reduce the facade loadings on your foundations and frame, minimise your storage and delivery requirements, and reduce your dependency on good weather conditions.

System Approval and Certification

GEBRIK has been approved by British Board of Agrément, Certificate No. 07/4403 and Etag (certificate) certification is pending. The system meets the requirements for Class 'O' certification for External Fire Spread in accordance with The Building Regulations 2000 (as amended) (England and Wales). Gebrik also has third party accreditation in Germany, Belgium, France, Ireland, Poland and the Czech Republic.







List of the main $\text{GEBRIK}_{\scriptscriptstyle{\scriptscriptstyle \otimes}}\text{components}$

- 1. Standard panel
- Corner element (Eg: window corner = FE 1/1)
- 3. Fixing screws and wall plugs
- 4. Pressurised polyurethane canister (to be injected between each GEBRIK_® panel)
- 5. Joining brick-slips
- 6. Starter rail
- 7. Factory-batched 3-component adhesive for the application of slips between panels
- 8. Pointing mortar





Range of Finishes





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UCCLE SR32-00	BRUXELLES SR40-00	ETTERBEEK SR10-10	CREAM VS70-10	SULLY BA60-10
GENET BA20-20	AMBOISE BA71-20	YELLOW SILVERSAND VS70-20	YELLOW SANDFACED CE70-20	FLERON SR41-20
AUTUMN MULTI CE71-26	CHAMBORD BA70-40	NEO MAGNOLIA VS70-40	HASSELT SR10-40	ZAVENTEM SR41-40
CHENONCEAUX BA71-50	FLINES BA61-60	ST-GILLIS SR10-60	RED SANDFACED CE70-60	TERRA RED VS70-60
RED MULTI RUSTIC CE71-60	KOEKELBERG SR41-60	BAROK VS71-60	VENDOME BA71-60	ANDERLECHT SR10-91
	1			

These images are an indication of appearance and should only be used as a guide.



Presentation of the $GEBRIK_{e}$ -system



XXXXXXX

Soffit cladding

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External corner with return (UE1/1/06)



External corner without reveal (FE1/06)





GEBRIK® lintel corner, Type ST 1/1

Supporting wall

Flexible joint Window frame

The Use of GEBRIK_® Components

The principle of the *GEBRIK* system is to directly fix panels and corners to a solid substrate to create a natural brick appearance which insulates and protects the building from water penetration. The system can be applied to buildings constructed of masonry, timber or steel frame and used as a lightweight cladding system on new buildings or to refurbish and protect existing buildings.

GEBRIK



Project NUI Maynooth/ Student accomodation realised by Michael McNamara & Company/ Ireland

Presentation of the $GEBRIK_{e}$ -system



Summary of Components "GEBRIK UK"





Presentation of the $GEBRIK_{\ensuremath{\scriptscriptstyle \mathbb{R}}}$ -system

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AQUARIAN

Summary of Components "GEBRIK 6/ 61/ 61plus"







Presentation of the $GEBRIK_{e}$ -system

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An Insulating System for Construction in the 21st Century

Over 20 years ago, the basic principle in the development of GEBRIK® was to create a natural and traditional facade with a recognised insulating material to improve the durability and aesthetic performance of an existing or new building, and to improve that building's energy efficiency. The solution that GEBRIK® provided then has therefore never been more relevant now.

There is overwhelming scientific evidence to prove that climate change warrants urgent and serious attention. With over 25% of the UK's carbon dioxide emissions coming from the energy we use to heat, light and run our homes it is vital that the energy efficiency of existing dwellings is improved and new dwellings are better insulated than ever before, to improve their thermal performance.

With the introduction in April 2006 of Approved Document L1B (ADL1B) 'Conservation of Fuel & Power: Existing Dwellings' and in April 2007 of The Code for Sustainable Homes the UK Government has set very clear guidelines on





without GEBRIK with GEBRIK

The infra-red picture clearly shows :

yellow & red shading indicates high loss of heat

green & blue shading indicates minimal loss of heat

how the industry can contribute to the reduction in global warming. With up to 50% of heating energy lost through walls and ceilings, GEBRIK® is already being used as a solution to a very common problem, ie how do you improve the aesthetic, thermal and durability performance of a façade?

To demonstrate the advantage of hardened polyurethane foam as an insulant, approx 70 litres of oil are used as a raw material to produce one cubic metre. However, the energy saving effect due to heat insulation is equivalent to 5.500 litres of oil over 50 years and carbon dioxide emissions reduced by 1.900kg a significant contribution towards reducing global warming. And in the case of GEBRIK®, the blowing agent used is the hydrocarbon Pentane so unlike fluorochlorohydrocarbons, it does not damage the ozone layer. Finally, polyurethane waste can be recycled without any problem by turning it into pressed panels, with examples of insulating material waste from old buildings supplying energy to power stations, to ensure perfect recycling!

In most cases the Architect, Builder and Client require the façade of their building to be attractive, watertight, thermally efficient, and yet have minimal lifetime costs. Thanks to the unique and proven special combination of foam and natural clay bricks to produce GEBRIK®, it is possible to achieve a building with a traditional, durable brick appearance that contributes to a reduction in global warming. GEBRIK® is factory-produced, lightweight and can be installed in wet weather so its speed of application will offer many other benefits to the construction programme.





An illustration to demonstrate the difference between an uninsulated wall (on the left) and an insulated wall (on the right).

GEBRIK® is a perfect solution

This example highlights the insulation benefit of using GEBRIK®:

A 240 mm thick wall using 800kg/m³ blocks finished with 20mm external and 15mm internal plaster has a U-Value of 1.2 W/m2K. With a GEBRIK® facade of 80 mm overall thickness, the U-Value of the same wall is only 0.34 W/m2K. The heat insulation effect is therefore increased threefold.

(NB If additional insulation is required, the GEBRIK® system can also be ordered with extra insulation or up to 60mm of additional insulation can be applied to the wall prior to application of the 60mm GEBRIK® façade).







without GEBRIK



with GEBRIK

> without GEBRIK



-values of the GEBRIK-system

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min.40mm PUR	= 0.029 W/mK
max.20mm Brick	= 0.050 W/mK
0	

&

Additional insulation = 0.030 W/mK

Masonry - Refurbishment

wall build-up

N°	Internal Finish	Internal Wall	Cavity	External Finish
1	13mm Lightweight Plaster (0,36 W/mK)	100mm Med Dens. Blocks (0,51 W/mK)	50mm Clear & 40 Insulation Class 030	102,5 mm Brick (0,84 W/mK)
2	13mm Lightweight Plaster (0,36 W/mK)	100mm Med Dens. Blocks (0,51 W/mK)	50mm Blown Insulation Class 040	102,5 mm Brick (0,84 W/mK) & 20 mm Render (0,87 W/mK)
3	13mm Lightweight Plaster (0,36 W/mK)	140mm Aircrete (0,15 W/mK)	50mm Clear	102,5 mm Brick (0,84 W/mK)
4	13mm Lightweight Plaster (0,36 W/mK)	100mm Aircrete (0,15 W/mK)	50mm Clear & 25 mm Jablite (0,037 W/m	102,5 mm Brick (0,84 W/mK)
5	13mm Lightweight Plaster (0,36 W/mK)	100mm Aircrete (0,15 W/mK)	50mm Blown Insulation Class 040	102,5 mm Brick (0,84 W/mK)

wall build-up

N°	initial wallthickness	without GEBRIK	GEBRIK 60mm	GEBRIK 70mm	GEBRIK 80mm	GEBRIK 90mm	GEBRIK 100mm	GEBRIK 110mm	GEBRIK 120mm
4	005 5	0,50 W/m²K	0,29 W/m²K	0,27 W/m ² K	0,25 W/m²K	0,23 W/m ² K	0,21 W/m²K	0,20 W/m²K	0,18 W/m ² K
	305.5 mm	1,86 m²K/W	3,28 m²K/W	3,61 m ² K/W	3,94 m²K/W	4,28 m²K/W	4,61 m ² K/W	4,94 m²K/W	5,28 m²K/W
2	295 5 mm	0,56 W/m²K	0,31 W/m²K	0,28 W/m ² K	0,26 W/m²K	0,24 W/m ² K	0,22 W/m²K	0,21 W/m²K	0,19 W/m ² K
2	205.5 1111	1,63 m²K/W	3,05 m²K/W	3,38 m ² K/W	3,71 m²K/W	4,05 m²K/W	4,38 m ² K/W	4,71 m²K/W	5,05 m²K/W
2	305.5 mm	0,70 W/m²K	0,35 W/m²K	0,31 W/m ² K	0,28 W/m ² K	0,26 W/m ² K	0,24 W/m²K	0,22 W/m²K	0,21 W/m ² K
3		1,26 m²K/W	2,68 m²K/W	3,00 m ² K/W	3,35 m²K/W	3,68 m ² K/W	4,01 m ² K/W	4,35 m²K/W	4,68 m ² K/W
4	290.5 mm	0,54 W/m²K	0,31 W/m²K	0,28 W/m ² K	0,26 W/m ² K	0,24 W/m ² K	0,22 W/m ² K	0,20 W/m²K	0,19 W/m ² K
4		1,67 m²K/W	3,09 m²K/W	3,42 m ² K/W	3,76 m²K/W	4,09 m ² K/W	4,42 m ² K/W	4,76 m²K/W	5,09 m ² K/W
5	265 5 mm	0,45 W/m²K	0,27 W/m²K	0,25 W/m ² K	0,23 W/m²K	0,21 W/m ² K	0,20 W/m²K	0,19 W/m ² K	0,18 W/m ² K
5	265.5 mm	2,07 m ² K/W	3,49 m ² K/W	3,83 m ² K/W	4,16 m ² K/W	4,49 m ² K/W	4,83 m ² K/W	5,16 m ² K/W	5,49 m ² K/W

Masonry - New Build

wall build-up									
N°	Internal Finish	Internal Wall							
6	12,5mm Dry-lining (0,21 W/mK)	190mm Aircrete Thin-Joint (0,14 W/mK)							
7	13mm Lightw. Plaster (0,36 W/mK)	215mm Aircrete Thin-Joint (0,14 W/mK)							
8	13mm Lightw. Plaster (0,36 W/mK)	250mm Aircrete Thin-Joint (0,14 W/mK)							
9	Paint	150mm PrecastConcrete Panels (1,0 W/mK)							

wall build-up

N°	initial wallthickness	without GEBRIK	GEBRIK 60mm	GEBRIK 70mm	GEBRIK 80mm	GEBRIK 90mm	GEBRIK 100mm	GEBRIK 110mm	GEBRIK 120mm
6	202.5 mm	0,63 W/m²K	0,33 W/m²K	0,30 W/m ² K	0,27 W/m ² K	0,25 W/m ² K	0,23 W/m²K	0,21 W/m²K	0,20 W/m ² K
Ů		1,42 m²K/W	2,84 m ² K/W	3,17 m ² K/W	3,50 m ² K/W	3,84 m ² K/W	4,17 m ² K/W	4,50 m ² K/W	4,84 m²K/W
7	228 mm	0,58 W/m²K	0,32 W/m ² K	0,29 W/m ² K	0,26 W/m ² K	0,24 W/m ² K	0,22 W/m ² K	0,21 W/m ² K	0,19 W/m ² K
'		1,57 m²K/W	2,99 m ² K/W	3,32 m ² K/W	3,66 m ² K/W	3,99 m ² K/W	4,32 m ² K/W	4,66 m ² K/W	4,99 m ² K/W
	263 mm	0,50 W/m²K	0,29 W/m ² K	0,27 W/m ² K	0,25 W/m ² K	0,23 W/m ² K	0,21 W/m ² K	0,20 W/m ² K	0,19 W/m ² K
0		1,82 m²K/W	3,24 m ² K/W	3,57 m²K/W	3,91 m ² K/W	4,24 m²K/W	4,57 m²K/W	4,91 m ² K/W	5,24 m ² K/W
•	150 mm	3,13 W/m²K	0,58 W/m ² K	0,48 W/m ² K	0,42 W/m ² K	0,37 W/m ² K	0,33 W/m²K	0,29 W/m ² K	0,27 W/m ² K
9		0,15 m²K/W	1,57 m²K/W	1,90 m²K/W	2,24 m ² K/W	2,57 m ² K/W	2,90 m ² K/W	3,24 m ² K/W	3,57 m²K/W

Framed Buildings - New Build

wall build-up

I	N°	Internal Finish	Internal wall	External Finish
Γ	10	2x12.5mm Fireline Board & Vapour Membrane	100mm SteelFrame & 100mm Rockwool & 15mm Ext Grade CP Board/Plywood	15mm Bitroc Board & Tyvek Membrane
Γ	11	2x12.5mm Fireline Board & Vapour Membrane	150mm SteelFrame & 100mm Rockwool & 15mm Ext Grade CP Board/Plywood	15mm Bitroc Board & Tyvek Membrane
	12	15mm Fire Res. Plasterb. on 18mm battens	86mm Panablok	Tyvek Membrane
Γ	13	15mm Fire Res. Plasterboard	100mm SteelFrame & 100mm Rockwool & 12mm Ext Grade CP Board/Plywood	45x15mm Battens & 15mm cavity & 15mm Ext. Board
	14	12.5mm GyprocDuplex (0,36 W/mK)	89x38mm TimberFrame & 90mm Rockwool & 9mm Board & Membrane	45x15mm Battens & 15mm cavity & 15mm Ext. Board
Γ	15	12.5mm Gyproc Duplex (0,36 W/mK)	140x38mm TimberFrame & 90mm Rockwool & 9mm Board & Membrane	45x15mm Battens & 15mm cavity & 15mm Ext. Board

wall build-up

N°	initial wallthickness	without GEBRIK	GEBRIK 60mm	GEBRIK 70mm	GEBRIK 80mm	GEBRIK 90mm	GEBRIK 100mm	GEBRIK 110mm	GEBRIK 120mm
10	455	0,35 W/m²K	0,23 W/m ² K	0,22 W/m ² K	0,20 W/m ² K	0,19 W/m ² K	0,18 W/m²K	0,17 W/m²K	0,16 W/m ² K
10	155 1111	2,70 m²K/W	4,12 m ² K/W	4,46 m²K/W	4,79 m²K/W	5,12 m ² K/W	5,46 m²K/W	5,79 m²K/W	6,12 m ² K/W
11	205 mm	0,33 W/m²K	0,22 W/m²K	0,21 W/m ² K	0,20 W/m ² K	0,18 W/m ² K	0,17 W/m ² K	0,16 W/m ² K	0,15 W/m ² K
	203 1111	2,87 m²K/W	4,29 m²K/W	4,63 m²K/W	4,96 m ² K/W	5,29 m²K/W	5,63 m²K/W	5,96 m ² K/W	6,29 m ² K/W
10	119 mm	0,41 W/m²K	0,26 W/m²K	0,24 W/m ² K	0,22 W/m ² K	0,21 W/m ² K	0,19 W/m ² K	0,18 W/m ² K	0,17 W/m ² K
12		2,28 m²K/W	3,70 m²K/W	4,04 m²K/W	4,37 m²K/W	4,70 m²K/W	5,04 m²K/W	5,37 m²K/W	5,70 m²K/W
12	170 mm	0,32 W/m²K	0,22 W/m ² K	0,20 W/m ² K	0,19 W/m ² K	0,18 W/m ² K	0,17 W/m ² K	0,16 W/m ² K	0,15 W/m ² K
13	17211111	2,98 m²K/W	4,38 m²K/W	4,71 m²K/W	5,05 m²K/W	5,38 m²K/W	5,71 m²K/W	6,05 m²K/W	6,38 m ² K/W
14	155 5 mm	0,42 W/m²K	0,26 W/m²K	0,24 W/m ² K	0,22 W/m ² K	0,20 W/m ² K	0,19 W/m ² K	0,18 W/m ² K	0,17 W/m ² K
14	155.5 mm	2,40 m²K/W	3,82 m²K/W	4,15 m²K/W	4,49 m ² K/W	4,82 m ² K/W	5,15 m²K/W	5,49 m ² K/W	5,82 m²K/W
15	206 5 mm	0,37 W/m²K	0,24 W/m ² K	0,22 W/m ² K	0,21 W/m ² K	0,19 W/m ² K	0,18 W/m ² K	0,17 W/m ² K	0,16 W/m ² K
13	200.5 mm	2,62 m²K/W	4,04 m²K/W	4,37 m²K/W	4,71 m²K/W	5,04 m²K/W	5,37 m²K/W	5,71 m ² K/W	6,04 m ² K/W







Installation conditions

The installation of the panels with screws and wall plugs does not require any particular temperature conditions. By contrast, the pressurised polyurethane products, i.e. adhesive mortar and brick jointing mortar, must be used at temperatures between + 5° C and + 35° C.

Inspection of substrate condition in order to detect any surfaces that are out of plumb.

- A section less than or equal to 1 cm out of plumb on a length of 2 m is considered negligible.
- A section of 1 to 4 cm out of plumb on a length of 2 m must be compensated.
- Small convex areas must be thorougly scoured and small concave areas must be levelled by • applying a coating (e.g. Render) or by installing additional insulation layers.

Starter rail

The starter rail is not a load bearing support for the system. It is used to act as a starting level so great care must be taken whan fixing the rail, as all the future levels will be determined from it. It also acts to protect the system from damage by either direct or indirect UV rays and rodent attack. After determination of the level, the rail will be fixed at 600mm centres using 6mm diameter plugs and screws

Where the cladding starts below ground it is not necessary to use a starter rail, the system can be "buried" by up to 140mm (i.e. two brick courses).

First element

Before installing GEBRIK, elements, a sealing strip must be applied on the alignment rail with the aid of polyurethane foam or butyl, this prevents water being drawn up and behind the system. The first element to be fixed is usually a house corner. This will set a vertical measurement so that combined with the horizontal starter rail a right angle is created for the first full panel.



The first GEBRIK, panel

The first panel must be placed on the starter rail in juxtaposition to the house corner. Drilling through the panel into the substrate using the pre-located fixing positions. Apply an appropriate number of fixings in accordance to the certifications and to the support.



(A minimum of nine fixings are required for each standard panel)

Further panels and corners will be installed one row after the other.



Foaming chamber

This procedure is one of the unique features of GEBRIK_®. The system is generally sold as an insulating and impervious cladding solution so it is imperative to apply foam correctly, which will avoid water penetration or warm air leakage.

The chamber allows the injected foam to escape to the back of the system, this acts as a supplementary binder and packer.



Installing the joining brick-slips

When stretcher bond is required, the system has been designed to "stitch" panels together by gluing a brick-slip on alternate courses where panels abut. The glue is a factory-batched three-component polyurethane glue. The glue will be applied to the entire surface of the base of the brick-slip, the glued

slip has then to be pressed against the PU-foam and moved around to ensure there is a total surface contact.

Pointing

Final pointing can be done in 2 ways, depending on the choice of the brick-slip: Traditional sand cement joint mortar with additional waterproofing In the case of smooth bricks, a ceramic mortar applied off a float





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GEBRIK_® Projects in the UK











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Installation Company: Clancast Ltd

Construction Year: 2003 Location: Ravensbury Street, Manchester

Brayford Quay Student Quarter for Keyhaven Developments

Installation Company: ECL Contracts Ltd

Construction Year: 2005 Location: Brayford Quays, Lincoln

Housing refurbishment for Portsmouth Housing Association

Installation Company: Connaught Property Services Ltd

Construction Year: 2002/2003

Location: Rowner Court, Gosport

Supermarket Extension for Waitrose

Installation Company: LSC Ltd Construction Year: 2007

Location: Moorbridge Road, Maidenhead

Housing for Berkeley First Ltd

Installation Company: Deepdale Solutions Ltd

Construction Year: 2006/2007

Location: London Road, Isleworth, London

