



## Novabrik Ireland Limited

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**Agrément  
Certificate  
No 04/4148**

Designated by Government  
to issue  
European Technical  
Approvals

## NOVABRIK

Parement extérieur  
Verkleidung Bedachung

## Product



• THIS CERTIFICATE RELATES TO NOVABRIK, A NON-STRUCTURAL RAINSCREEN CLADDING SYSTEM FOR EXTERNAL USE.

• The product comprises interlocking concrete-based profiled bricks, screw fixed to timber battens or galvanized steel framework. They are suitable for new or existing timber-frame, or steel-frame buildings or buildings of conventional masonry construction.

• Application and maintenance must be carried out strictly in accordance with the Design Data and Installation parts of this Certificate and the marketing company's instructions by operatives trained and approved by Novabrik Ireland Limited.

## Regulations

### 1 The Building Regulations 2000 (as amended) (England and Wales)



The Secretary of State has agreed with the British Board of Agrément the aspects of performance to be used by the BBA in assessing the compliance of cladding systems with the Building Regulations. In the opinion of the BBA, Novabrik, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement: A1	Loading
Comment:	The product is acceptable for use when installed in accordance with this Certificate. See sections 7.3 to 7.5 and 8.1 to 8.5 of this Certificate.
Requirement: B3(3)(4)	Internal fire spread (structure)
Requirement: B4(1)	External fire spread
Comment:	The product is non-combustible and therefore can meet these Requirements. See section 9 of this Certificate.
Requirement: C4	Resistance to weather and ground moisture
Comment:	Walls clad with the system can meet this Requirement. See section 11 of this Certificate.
Requirement: Regulation 7	Materials and workmanship
Comment:	The product is acceptable. See section 14 of this Certificate.

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## 2 The Building Standards (Scotland) Regulations 1990 (as amended)



In the opinion of the BBA, Novabrik, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Technical Standards as listed below.

Regulation:	10	Fitness of materials and workmanship
Standard:	B2.1	Selection and use of materials, fittings, and components, and workmanship
Comment:		The product can contribute to a construction meeting this Standard. See the <i>Installation</i> part of this Certificate.
Standard:	B2.2	Selection and use of materials, fittings, and components, and workmanship
Comment:		The product is an acceptable material. See section 14 of this Certificate.
Regulation:	11	Structure
Standard:	C2.1	Stability
Comment:		The product is acceptable for use when installed in accordance with this Certificate. See sections 7.3 to 7.5 and 8.1 to 8.5 of this Certificate.
Regulation:	12	Structural fire precautions
Standard:	D8.2	Fire spread to adjoining buildings — Non-combustible materials
Comment:		The product is unrestricted for walls that are more than one metre from a relevant boundary.
Standards:	D6.1 and D6.2	Concealed spaces — Principles
Standard:	D10.1	Fire spread on an external wall
Comment:		The product is non-combustible as defined in Table 3 of the <i>Provisions deemed to satisfy</i> Standard D1.3, and is unrestricted by these Standards. See section 9 of this Certificate.
Regulation:	17	Resistance to moisture
Standard:	G3.1	Resistance to precipitation — Resistance to precipitation
Comment:		Walls clad with the system can satisfy this Standard. See section 11 of this Certificate.

## 3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, Novabrik, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 14 of this Certificate.
Regulation:	C4	Resistance to ground moisture and weather
Comment:		Walls clad with the product can satisfy this Regulation. See section 11 of this Certificate.
Regulation:	D1	Stability
Comment:		The product is acceptable for use when installed in accordance with this Certificate. See sections 7.3 to 7.5 and 8.1 to 8.5 of this Certificate.
Regulation:	E4	Internal fire spread — Structure
Regulation:	E5	External fire spread
Comment:		The product is non-combustible and can satisfy these Regulations. See section 9 of this Certificate.

## 4 Construction (Design and Management) Regulations 1994 (as amended)

### Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See sections: *5 Description (5.3) and 6 Delivery and site storage (6.1).*

## Technical Specification

### 5 Description

5.1 Novabrik provides non-structural rainscreen cladding for external walls.

5.2 The product consists of interlocking concrete-based profiled bricks, fixed to preservative-treated timber battens or galvanized steel framework (see Figure 1).

5.3 The nominal dimensions of the standard Novabrik units are 200 mm length by 150 mm height by 65 mm deep. Each brick weighs approximately 2.1 kg and has a minimum 28-day compressive strength of 25 Nmm<sup>-2</sup>.

5.4 In addition to the Novabrik units, inside and outside corner blocks and other accessories are also available (see Figure 1).

5.5 The product is available in colours of:

- Basalt
- Country Cream
- Francesco
- Glenvale
- Olde Cottage
- Olde Innish
- Sahara

5.6 Ancillary materials used during installation include:

- galvanized steel framework in either minimum DX51D + Z275 or DX54D + Z275 to BS EN 10327 : 2004 or S350GD + Z275 to BS EN 10326 : 2004
- Novabrik Construction Adhesive — a one-part polyurethane adhesive for fixing cut Novabrik slips around details and for bonding horizontal faces of successive corner units
- fixings (see section 5.7)<sup>(1)</sup>

(1) The fixing of battens/framework to the substrate is outside the scope of this Certificate.

5.7 The product is installed using corrosion-resistant fixings. Galvanized steel products are normally used, but stainless steel should be specified for coastal locations (less than 5 km from the sea). The Certificate holder should be consulted to determine suitable fixings.

5.8 Quality control is exercised over the raw materials used, during the manufacturing process and on the final products.

### 6 Delivery and site handling

6.1 The product is delivered on pallets measuring 1100 mm by 960 mm. Each pallet includes 640 bricks and weighs approximately 1300 kg. The product is baled and covered with polythene sheeting.

6.2 Pallets should be stored on a flat, accessible space and protected from impact damage.

6.3 Each pallet bears the Certificate holder's, manufacturer's and product name, the product colour and the date of production.


## Design Data

### 7 General

7.1 Novabrik is an external cladding suitable for fixing to timber-frame or steel-frame buildings<sup>(1)</sup> via timber battens, and to masonry or concrete walls, via timber or galvanized steel sub-frames.

(1) With studs at 400 mm centres.

7.2 The wall or sub-frame to which the cladding is fixed should be structurally sound and constructed in accordance with the requirements of the relevant national Building Regulations and Standards (see sections 7.3 to 7.5).

 7.3 Masonry or concrete to which the support work and cladding are fixed should be structurally sound and have been constructed in the conventional manner in accordance with one or more of the following technical specifications:

- BS 5628-1 : 1992 and BS 5628-3 : 2001
- BS 8110-1 : 1997 and BS 8110-2 : 1985
- the national Building Regulations:

#### *England and Wales*

Approved Document A1/2, Section 1C

#### *Scotland*

Technical Standard (C2.1)

#### *Northern Ireland*


Technical Booklet D.

7.4 Timber stud walls and timber support work should be structurally sound and have been designed and constructed in accordance with BS 5268-2 : 2002 and preservative treated in accordance with BS 5268-5 : 1989, BS 5589 : 1989, BS EN 351-1 : 1996 and Zurich Building Guarantees Solid Foundation Technical Manual (page 176).

7.5 Galvanized steel framework should be structurally sound and designed and constructed in accordance with BS 5950-5 : 1998.

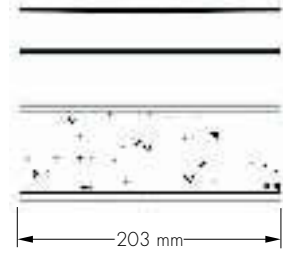
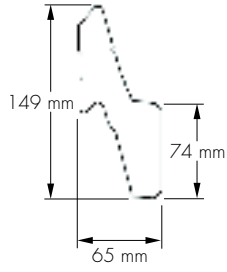
7.6 The product has not been assessed for use with external wall insulation systems.

### 8 Strength and stability

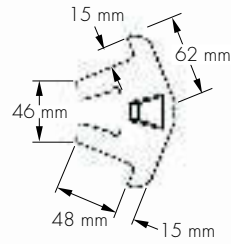
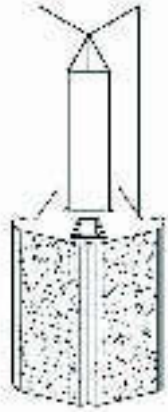
 8.1 When fixed in accordance with the requirements of this Certificate and the manufacturer's instructions, the product will withstand, without damage or permanent deformation, the pressures imposed by wind forces likely to be experienced in the United Kingdom.

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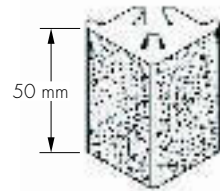
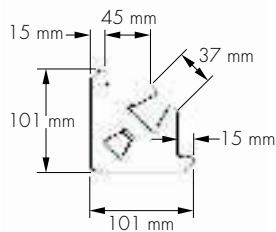
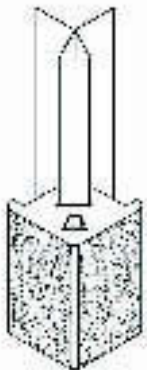
Figure 1 Products and dimensions



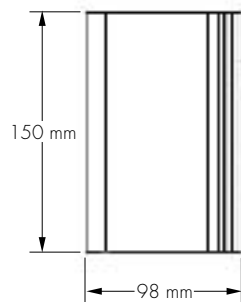
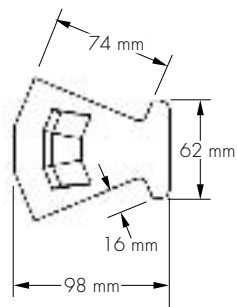
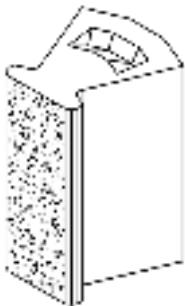
brick



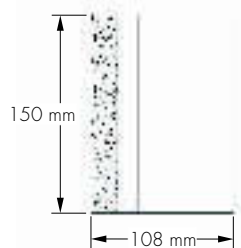
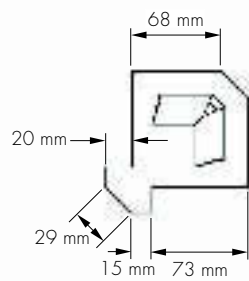
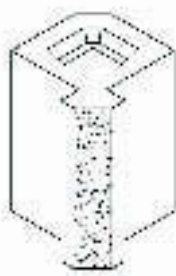
45° outside corner block



90° outside corner block



45° inside corner block



90° inside corner block

8.2 The wall and sub-frame to which the product is fixed should be structurally sound and constructed in accordance with sections 7.3 to 7.5. When designing the wall for strength, stability and racking, no contribution from the cladding should be assumed.

8.3 Wind loads should be calculated in accordance with DD ENV 1991-2.4 : 1997 and BS 6399-2 : 1997. The higher pressure coefficients applicable to corners of buildings should be used.

8.4 The panels are capable of transmitting their self-weight and wind load to the structure but the adequacy of fixing of the sub-frame to the structural frame or substrate is outside the scope of this Certificate and must be verified by a suitably qualified engineer. Particular care is required around window and door openings to ensure that the structure is capable of sustaining the additional weight of the Novabrik.

8.5 The sub-frame should be designed to limit mid-span deflections to  $L/200$  and cantilever deflections to  $L/500$ .

8.6 The product has good resistance to the hard and soft body impacts likely to occur in practice and is satisfactory for use in locations described in categories B to F of BS 8200 : 1985.

## 9 Properties in relation to fire



The system is classified as non-combustible as described in the national Building Regulations:

### *England and Wales*

Approved Document B, Table A6

### *Scotland*

Technical Standard (D3.1), Table 3 *Reaction to fire*

### *Northern Ireland*

Technical Booklet E, Paragraph 6.4.

## 10 Proximity of flues

When installing the product in close proximity to certain flue pipes and/or heat-producing appliances, the following provisions to the national Building Regulations are acceptable:

### *England and Wales*

Approved Document J

### *Scotland*

Technical Standards, Part F *Provisions deemed to satisfy the standards*

### *Northern Ireland*

Technical Booklet L.

## 11 Air and moisture penetration



The cladding is not watertight or airtight and a breather membrane must be installed on the outer face of the existing wall.

## 12 Risk of interstitial condensation

The relevant components of the product have a water vapour resistance such that, under the conditions likely to be found in dwellings in the United Kingdom, interstitial condensation should not occur.

## 13 Maintenance

Regular maintenance inspections followed by appropriate remedial action should be made on the installed system. Where damage has been caused by impact, advice should be sought from the manufacturer.

## 14 Durability



The product is manufactured from durable materials and when installed, inspected and maintained in accordance with the provisions of this Certificate, is capable of achieving a design life of 60 years.

## Installation

## 15 General

15.1 The product must be installed strictly in accordance with the Certificate holder's instructions and this Certificate.

15.2 As there may be some colour variation between pallets, each course of Novabrik should be made up from a selected number of pallets, to ensure a consistent spread of finishes across any given elevation.

## 16 Preliminary work

16.1 Substrates should be of sound timber-frame, steel-frame, masonry or dense concrete construction. Any deteriorated sheathing or loose material should be removed and any repairs effected.

16.2 A suitable breather membrane should be installed over the outer face of the existing wall in accordance with the manufacturer's instructions.

16.3 A 25 mm by 150 mm horizontal baseboard is installed along the bottom of the wall.

16.4 25 mm by 75 mm timber or galvanized steel battens are installed vertically (to align with existing timber/steel studs where appropriate) at maximum 400 mm intervals.

16.5 Additional framework is installed at corners and around features such as windows to allow for the installation of corner fittings and other detailing (see section 17.8).

## 17 Procedure

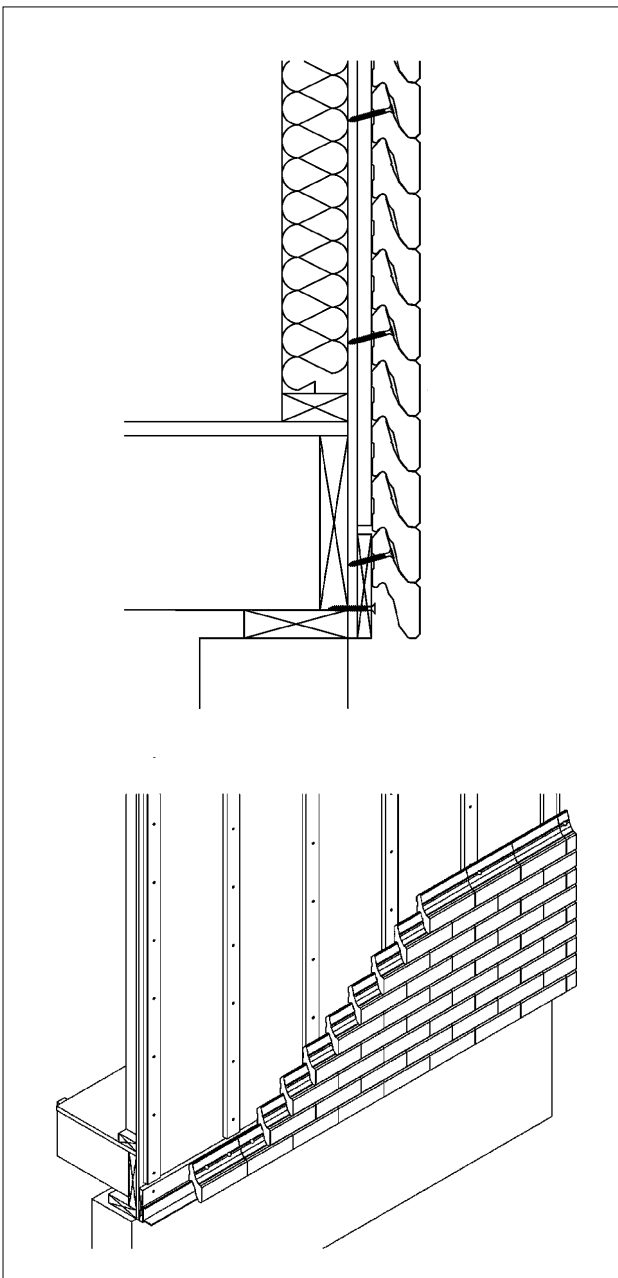
17.1 The starter rail is installed squarely at the bottom of the run.

17.2 Two holes are pre-drilled in each Novabrik to be used to form the base course.

17.3 The rebate in the rear of the brick is located on the top edge of the starter rail and the product fixed in place through both pre-drilled holes into the baseboard. The bottom course is completed in the same way, butting adjoining bricks tightly together, tapping in place using a rubber mallet and securing, using the appropriate fixings.

17.4 Successive courses are placed on top of the first, staggered by one half-brick width, and tapped in place (see Figure 2). Regular checks should be made to ensure that the run remains level.

Figure 2 Installation



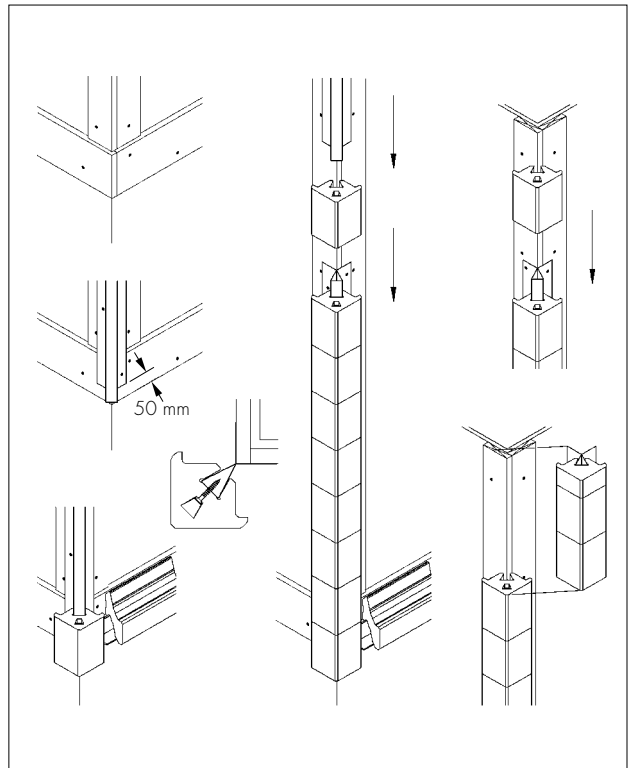
17.5 Units can be cut to length as required to complete courses or around details using circular/chop saws or masonry saws.

17.6 For every fourth course, additional fixing of the product is required to coincide with each of the vertical studs/battens as described in sections 17.2 and 17.3. The final course is also secured in this way.

17.7 It is necessary to cut and bond slips to complete the top edge of the installation, using Novabrik Construction Adhesive. Each slip should also be mechanically secured in place using the same fixings and techniques as for the standard product.

17.8 Outside/inside corners are installed by first fixing the appropriate corner strip in place. The corner units are then slid down the strip and aligned with the bottom course of Novabrik (see Figure 3). The corners are tapped down and screwed securely in place using the appropriate fixing. A strip of Novabrik Construction Adhesive is applied to the top of each unit prior to fitting the next, to bond the units together.

Figure 3 Outside corner installation (internal similar)



17.9 Particular care is required when planning and installing the product around window/door openings. These are completed using corner units, cutting standard bricks to fit as required and then fixing as described in section 17.7. On completion the installation should be sealed using a suitable exterior grade sealant to ensure the opening is watertight.

## Technical Investigations

The following is a summary of the technical investigations carried out on Novabrik.

### 18 Tests

18.1 Tests were carried out to determine:

- effect of heat/spray and freeze/thaw
- resistance to hard and soft body impact damage
- compressive strength
- density.

18.2 An examination was made of data relating to:

- resistance to vertical loading
- resistance to wind loading
- resistance to bending
- resistance to water penetration.

### 19 Investigations

19.1 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of materials used.

19.2 A trial installation was witnessed at the BBA, to examine the practicability of installation and the effectiveness of detailing techniques.

19.3 An assessment of the risk of interstitial condensation was undertaken.

## Bibliography

BS 5268-2 : 2002 *Structural use of timber — Code of practice for permissible stress design, materials and workmanship*  
BS 5268-5 : 1989 *Structural use of timber — Code of practice for the preservative treatment of structural timber*

BS 5589 : 1989 *Code of practice for preservation of timber*

BS 5628-1 : 1992 *Code of practice for use of masonry — Structural use of unreinforced masonry*  
BS 5628-3 : 2001 *Code of practice for use of masonry — Materials and components, design and workmanship*

BS 5950-5 : 1998 *Structural use of steelwork in building — Code of practice for design of cold formed thin gauge sections*

BS 6399-2 : 1997 *Loading for buildings — Code of practice for wind loads*

BS 8110-1 : 1997 *Structural use of concrete — Code of practice for design and construction*  
BS 8110-2 : 1985 *Structural use of concrete — Code of practice for special circumstances*

BS 8200 : 1985 *Code of practice for design of non-loadbearing external vertical enclosures of buildings*

BS EN 351-1 : 1996 *Durability of wood on wood-based products — Preservative-treated solid wood — Classification of preservative penetration and retention*

BS EN 10326 : 2004 *Continuously hot-dip coated strip and sheet of structural steels. Technical delivery conditions*

BS EN 10327 : 2004 *Continuously hot-dip coated strip and sheet of low carbon steels for cold forming. Technical delivery conditions*

DD ENV 1991-2.4 : 1997 *Eurocode 1. Basis of design and actions on structures — Actions on structures — Wind actions (together with United Kingdom National Application Document)*

## Conditions of Certification

### 20 Conditions

20.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) is valid only within the UK;
- (d) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
- (e) is copyright of the BBA;
- (f) is subject to English law.

20.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

20.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabrication including all related and relevant processes thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;

(b) continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine; and

(c) are reviewed by the BBA as and when it considers appropriate.

20.4 In granting this Certificate, the BBA is not responsible for:

- (a) the presence or absence of any patent, intellectual property or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the actual works in which the product is installed, used and maintained, including the nature, design, methods and workmanship of such works.

20.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the installation and use of this product.



In the opinion of the British Board of Agrément, Novabrik is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 04/4148 is accordingly awarded to Novabrik Ireland Limited.

On behalf of the British Board of Agrément

A handwritten signature in black ink, appearing to read 'P. C. Newson'.

Date of issue: 20th September 2004

Chief Executive