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Agrément Certificate
00/3675
Product Sheet 1

WEDI BOARDS

WEDI BUILDING BOARDS

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Wedi Building Boards, a range of boards comprising a tailor-made IBFWE grade, rigid extruded polystyrene foam finished on both sides with a polymer-modified mortar facing, reinforced with a glass fibre mesh fabric. The boards are for use as an intermediate substrate to ceramic and natural stone tiling for internal use on walls and floors.

AGRÉMENT CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Performance in fire — the boards are classified as Class 1 or 'medium risk' in accordance with the various national Building Regulations (see section 5).

Impact resistance — tiled boards will resist the effects of the normal impacts expected in-service (see section 6).

Floor loading — the boards are satisfactory for use in domestic and residential applications (see section 7).

Condensation risk — the use of the boards will reduce the risk of condensation (see section 9).

Durability — under normal conditions the boards will have a service life commensurate with the structure into which they are installed (see section 13).

The BBA has awarded this Agrément Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 5 November 2010

Originally certificated on 24 January 2000

Simon Wroe
Head of Approvals — Materials

Greg Cooper
Chief Executive

The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Regulations

In the opinion of the BBA, Wedi Building Boards, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:

The Building Regulations 2010 (England and Wales)

Requirement:	B2(1)	Internal fire spread (linings)
Comment:		The products can contribute to meeting this Requirement. See sections 5.1 to 5.3 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		Walls incorporating the products can meet this Requirement. See sections 9.1 to 9.3 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The products are acceptable. See section 13 and the *Installation* part of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The products can contribute to a construction satisfying this Regulation. See section 13 and the *Installation* part of this Certificate.
Regulation:	9	Building standards — construction
Standard:	2.5	Internal linings
Comment:		The products can contribute to satisfying this Standard, with reference to clauses 2.5.1[1][2] and 2.5.2[1][2]. See sections 5.1 to 5.3 of this Certificate.
Standard:	3.15	Condensation
Comment:		The products can contribute to satisfying this Standard, with reference to clauses 3.15.1[1], 3.15.4[1] and 3.15.5[1]. See sections 9.1 to 9.3 of this Certificate.
Regulation:	12	Building standards — conversions
Comment:		All comments given for these products under Regulation 9, also apply to this Regulation, with reference to clause 0.12.1[1][2] and Schedule 6[1][2].

(1) Technical Handbook (Domestic).
(2) Technical Handbook (Non-Domestic).

The Building Regulations (Northern Ireland) 2000 (as amended)

Regulation:	B2	Fitness of materials and workmanship
Comment:		The products are acceptable. See section 13 and the *Installation* part of this Certificate.
Regulation:	C5	Condensation
Comment:		The products are acceptable. See sections 9.1 and 9.2 of this Certificate.
Regulation:	E3(a)(b)	Internal fire spread — Linings
Comment:		The products can contribute to meeting this Regulation. See sections 5.1 to 5.3 of this Certificate.

Construction (Design and Management) Regulations 2007

Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See sections: 2 *Delivery and site handling* (2.1 and 2.2) and 14 *General* (14.2) of this Certificate.

Non-regulatory Information

NHBC Standards 2010

NHBC accepts the use of Wedi Building Boards when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Part 8 *Services and internal finishes*, Chapters 8.2 *Wall and ceiling finishes* and 8.3 *Floor finishes*.

Technical Specification

1 Description

1.1 Wedi Building Boards consist of a tailor-made IBFWE grade, rigid extruded polystyrene foam boards, finished on both sides with polymer-modified cement coating reinforced with glass fibre mesh fabric.

1.2 The products are available in the sizes and weights given in Table 1.

Table 1 Nominal dimensions and weights

Length (mm) x width (mm) x thickness (mm)	Approximate weight per board (kg)
1250 x 600 x 4	2.3
1250 x 600 x 6	2.4
2500 x 600 x 10	5.0
2500 x 625 x 12.5[1][2]	5.3
2500 x 600 x 20[1]	5.5
2500 x 600 x 30[1][2]	6.1
2500 x 600 x 40	6.4
2500 x 600 x 50[1][2]	6.9

(1) Available in 900 mm widths.
(2) Available in 1200 mm widths.

1.3 Materials are supplied to an agreed specification. The finished product is examined for dimensional accuracy, adhesion of the facings, and visual appearance.

1.4 The fixing components comprise:

- Wedisteck RK — used as a fixing anchor to walls and floors
- Wedisteck WE — for special shapes, bath surrounds, shelves and all kinds of substructure
- Wedisteck BA — to connect and join adjacent boards of minimum thickness 30 mm
- Wedi reinforcing tape — for joints in dry areas
- Wedi self adhesive reinforcing tape — for joints in dry areas
- Wedi sealing tape — for sealing and reinforcement of boards and corner joints in wet areas
- Wedi 610 adhesive sealant — used as an alternative method for sealing joints between boards used in wet areas in conjunction with Wedi self adhesive reinforcing tape
- Wedi dowel fixing — used to fix the board to surfaces unable to bond with adhesive or to supplement adhesive fixing.

1.5 The Certificate holder should be consulted for details of the additional screw washers available and for suitable tile adhesives to BS EN 12004 : 2001 and tile grouts.

2 Delivery and site handling

2.1 The boards are delivered on pallets and can be offloaded either by mechanical handling equipment or manually by removing individual boards. Each stack incorporates a label bearing the manufacturer's name, type, size of sheet and the BBA identification mark incorporating the number of this Certificate.

2.2 The boards should be stored flat, under cover, on a dry, level surface away from sources of ignition. Stacks of loose boards should not exceed 1 m in height.

2.3 The Certificate holder's advice should be sought with regard to storage of the accessories.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Wedi Building Boards.

Design Considerations

3 Use

3.1 Wedi Building Boards are satisfactory for use as an intermediate substrate to ceramic and natural stone tiling for internal use.

3.2 The boards are suitable as part of a system of tiles, cement-based tile adhesive and grout, to install a stable, waterproof tile substrate in showers and wet areas. The Certificate holder should be consulted for suitable products.

3.3 The boards may also be used to form various kinds of substructure, such as bath surrounds, partitions and shelves. The Certificate holder should be consulted for advice on the suitability of any proposed project.

3.4 The board may be directly bonded to clean, sound brick, block or concrete walls and may also be used on concrete floors or suspended timber floors. Boards can also be fixed to stud walling/partitions.

3.5 Masonry walls of new buildings should be designed and constructed in accordance with BS EN 1996-2 : 2006 and UK National Annex. The walls of existing buildings should be watertight.

3.6 With timber batten systems, services can be incorporated in the void behind the boards (provided the void is at least 20 mm wide), making chasing of the wall unnecessary. When using adhesive systems, or where the services have a greater depth than the void, the wall should be chased rather than the board. It is recommended that services penetrating the board, eg light switches, power outlets, are kept to a minimum.

3.7 The installation of the boards requires careful detailing around doors and windows to achieve a satisfactory finish. New work should be designed to accommodate the thickness of the overall installation.

3.8 If mould or fungal growth is present, it should be treated prior to the application of the boards.

3.9 When using adhesive fixing methods, it is essential to establish, before installation, that a satisfactory bond can be achieved between the walling material and the adhesive. If difficulty is experienced with adhesion, the Certificate holder's advice should be sought.

4 Practicability of installation

The boards are designed to be installed by a competent general builder or contractor, experienced with this type of product.

5 Performance in fire

5.1 When tested to BS 476-7 : 1987, the untiled product achieved a Class 1 or 'medium' rating. Suitable areas of use are defined in:

England and Wales — Approved Document B, Volume 1, Section 3, Table 1 (Dwelling houses) and Approved Document B, Volume 2, Section 6, Table10 (Buildings other than dwelling houses).

Scotland — Mandatory Standard 2.5, Clause 2.5.1

Northern Ireland — Technical Booklet E, Section 2, Table 2.1

5.2 This performance may not be achieved when the product is covered/overcoated and care should be taken to select a finish with the appropriate performance in fire for the installation in question.

5.3 Recessed lighting must not be used with this form of insulation material.

6 Impact resistance

6.1 When tested in accordance with BBA test methods, tiled boards performed in a satisfactory manner.

6.2 Soft body impacts resulted in no damage being observed. Hard body impacts resulted in tile damage directly under the impact. No tile detachment occurred and the damage observed was no greater than to be expected from tiled boards of this type.

7 Floor loading

7.1 For design purposes the compressive strength of the boards at 10% compression should be taken as 250 $kN \cdot m^{-2}$.

7.2 The boards are capable of resisting a uniformly distributed load of 1.5 $kN \cdot m^{-2}$ with minimal deflection.

7.3 The level of resistance to concentrated loads will depend on the size and strength of the tiles used to cover the boards.

7.4 Provided the tiles selected are correctly specified to resist the designed, distributed and concentrated loads, the boards are suitable for use in Categories A1 and A2 and appropriate Type A situations for domestic and residential activities as defined in BS EN 1991-1-1 : 2002 and UK National Annex, Table NA.2.

8 Thermal insulation

The boards will provide thermal insulation and, for calculation purposes, the thermal conductivity (λ *value*) of the core foam component should be taken as 0.036 $W \cdot m^{-1} \cdot K^{-1}$.

9 Condensation risk

Interstitial condensation

9.1 The boards can offer significant resistance to water vapour transmission provided all the joints are taped and the tiling is bonded and grouted in accordance with the Certificate holder's literature.

9.2 When carrying out condensation risk assessments the water vapour resistivity of the foam component may be taken as 460 $MN \cdot s \cdot g^{-1} \cdot m^{-1}$.

Surface condensation

9.3 Walls incorporating the products can be designed to meet the requirements of the national Building Regulations with regard to surface condensation.

10 Proximity of flues and heat producing appliances

When installing boards in close proximity to hot flue pipes and/or heat-producing appliances the provisions of the following national Building Regulations are necessary to minimise the risk of damage to the boards due to radiated, convected and/or conducted heat:

England and Wales — Approved Document J

Scotland — Mandatory Standard 3.19, clause 3.19.4[1][2]

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet L.

11 Wall-mounted fittings

Objects other than lightweight items must be fixed through the board into the wall behind using suitable proprietary fixings. The recommendations of the Certificate holder must be followed.

12 Maintenance

As the products are confined within the wall structure and have suitable durability (see section 13) maintenance is not required. However, it must be ensured that damage occurring before tiling is repaired (see section 18).

13 Durability

The durability of the products is satisfactory, and when fixed to appropriate stable backgrounds the products will have a life commensurate with the structure in which they are installed.

Installation

14 General

14.1 Wedi Building Boards can be installed on internal walls and floors of new or existing buildings. The fixing method depends on the substrate.

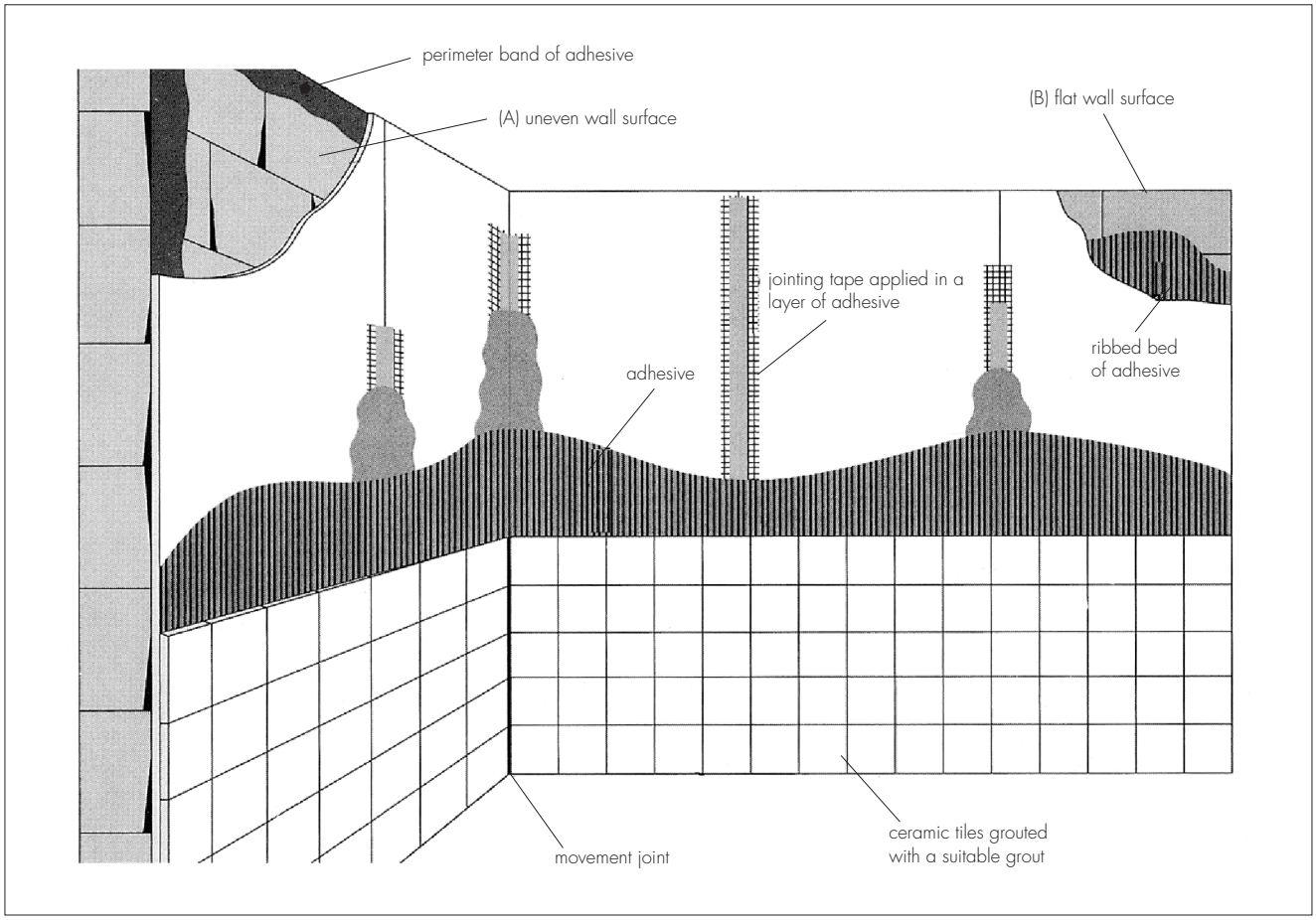
14.2 Boards may be cut using such tools as a padsaw, keyhole saw or craft knife. When working in enclosed areas precautions should be taken to ensure dust levels are controlled in accordance with the current issue of EH40/2005 *Occupational exposure limits*, 2005. The Certificate holder should be consulted for advice.

14.3 Installation should be in accordance with the manufacturer's technical literature and the provisions detailed in this Certificate. It is recommended that installation be undertaken by experienced tile fitters or other suitably trained personnel.

15 Procedure

Fixing to walls — direct bonding (see Figure 1).

Figure 1 Fixing to walls — direct bonding



15.1 Direct bonding is for use on clean and sound brick, block or concrete walls. If any doubt exists as to the adequacy of the bond to be achieved or for all natural stone tiling, then supplementary fixings should be used as described in sections 15.5 to 15.8.

Adhesive strips or mortar dabs — uneven wall surfaces [(A) in Figure 1]

15.2 The board (minimum thickness 10 mm) is cut to length. The adhesive is applied to the wall surface to provide perimeter strips or dabs. Whilst the adhesive is still fresh and moist, the board is placed in position and, using a timber batten, thoroughly tamped to ensure good all round contact and a true surface.

15.3 The adhesive is allowed to set and harden before the jointing tape (reinforcing or sealing) is applied in a fresh layer of adhesive with a taping knife or similar, ensuring that it is firmly bedded and free from trapped air bubbles. Immediately after the tape has been fixed, a fresh layer of adhesive is applied over it and feathered off with the surface of the board. When this adhesive has set, but not necessarily dried, the tiles can be applied using the appropriate adhesive. Alternatively, Wedi self adhesive reinforcing tape can be used in dry areas or in conjunction with Wedi 610 adhesive sealant in wet areas in accordance with the Certificate holder's instructions.

Thin-bed adhesive — flat wall surface [(B) in Figure 1]

15.4 The adhesive is applied either to the existing sound wall surface or directly to the board and combed out with an 8 mm by 8 mm toothed and notched trowel over the complete board area to provide a ribbed adhesive bed. The board is offered up to the wall surface and tapped level. The boards are butt-jointed and all joints are reinforced with the appropriate jointing tape applied as described in section 15.3.

Fixing to walls — mechanical fixing

15.5 On flat, structurally sound walls where conditions exist that will prevent adhesion (eg surface insufficiently sound or contaminated), the board can be fixed using Wedi dowel fixings.

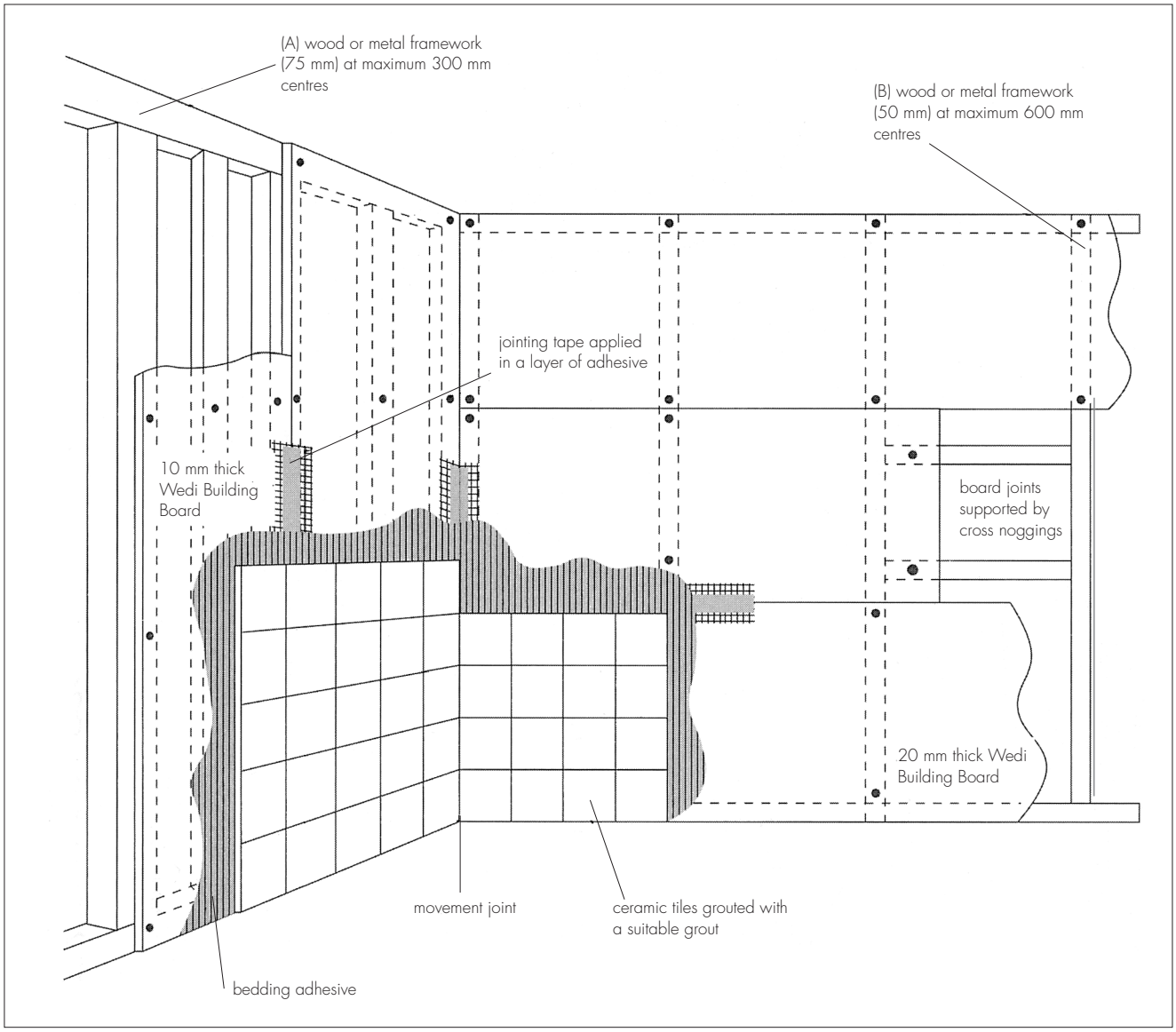
15.6 For ceramic tiling, dowel fixings are used at a rate of five per square metre. For natural stone tiling intended for adhesive fixing at a weight of up to 60 $kg \cdot m^{-2}$, this should be increased to eight per square metre.

15.7 Natural stone tiling at up to 60 $kg \cdot m^{-2}$ can be mechanically fixed in accordance with BS 8298 : 1994.

15.8 Joints between boards should be sealed using the appropriate sealing tape as described in section 15.3.

Fixing to stud walling/partitions (see Figure 2).

Figure 2 Fixing to stud walling/partitions



15.9 This system uses timber or metal studding designed to provide rigid support for the board. The unsupported span of the framework depends on the thickness of the board to be affixed (see Table 2). All board edges must be supported.

Table 2 Framework — unsupported span

Board thickness (mm)	Max unsupported span (mm)
10.0	300[1]
12.5	400
20.0	600[2]

(1) Illustrated as (A) in Figure 2.

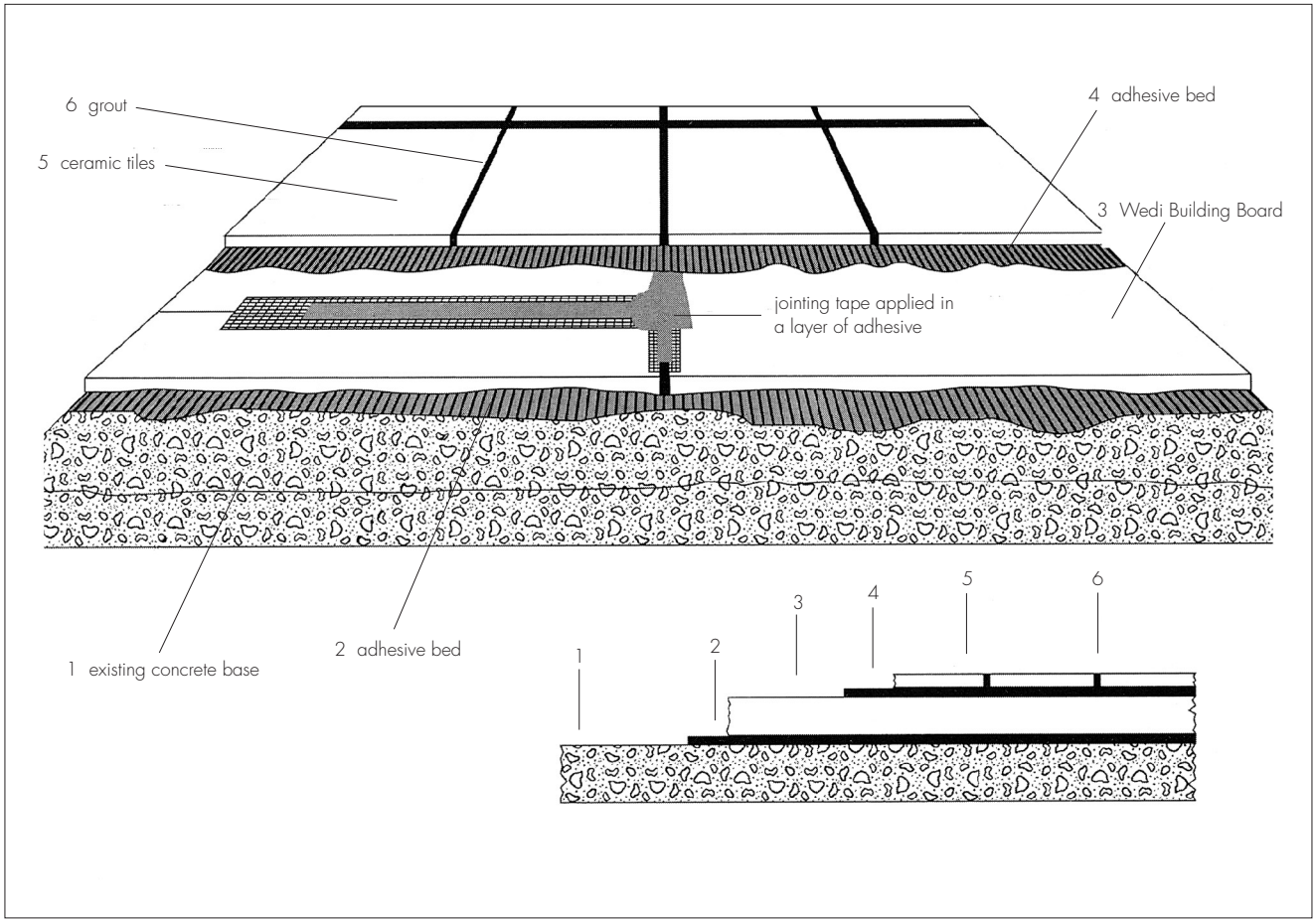
(2) Illustrated as (B) in Figure 2.

15.10 The board is fixed to the framework using a proprietary washer and screw fixing. These are fixed at the rate of five per square metre at two per batten (600 mm centres) for ceramic tiles and eight per square metre for natural stone tiles. The fixings must be a minimum of 30 mm from the edge of the board. The screw/washer fixing is tightened up to the board's surface and the washer driven to be flush with the board surface using a rubber-headed mallet. The screw is then retightened.

15.11 All joints are taped (reinforcing or sealing) following the procedure given in section 15.3.

Fixing to concrete floors (see Figure 3)

Figure 3 Fixing to concrete floors



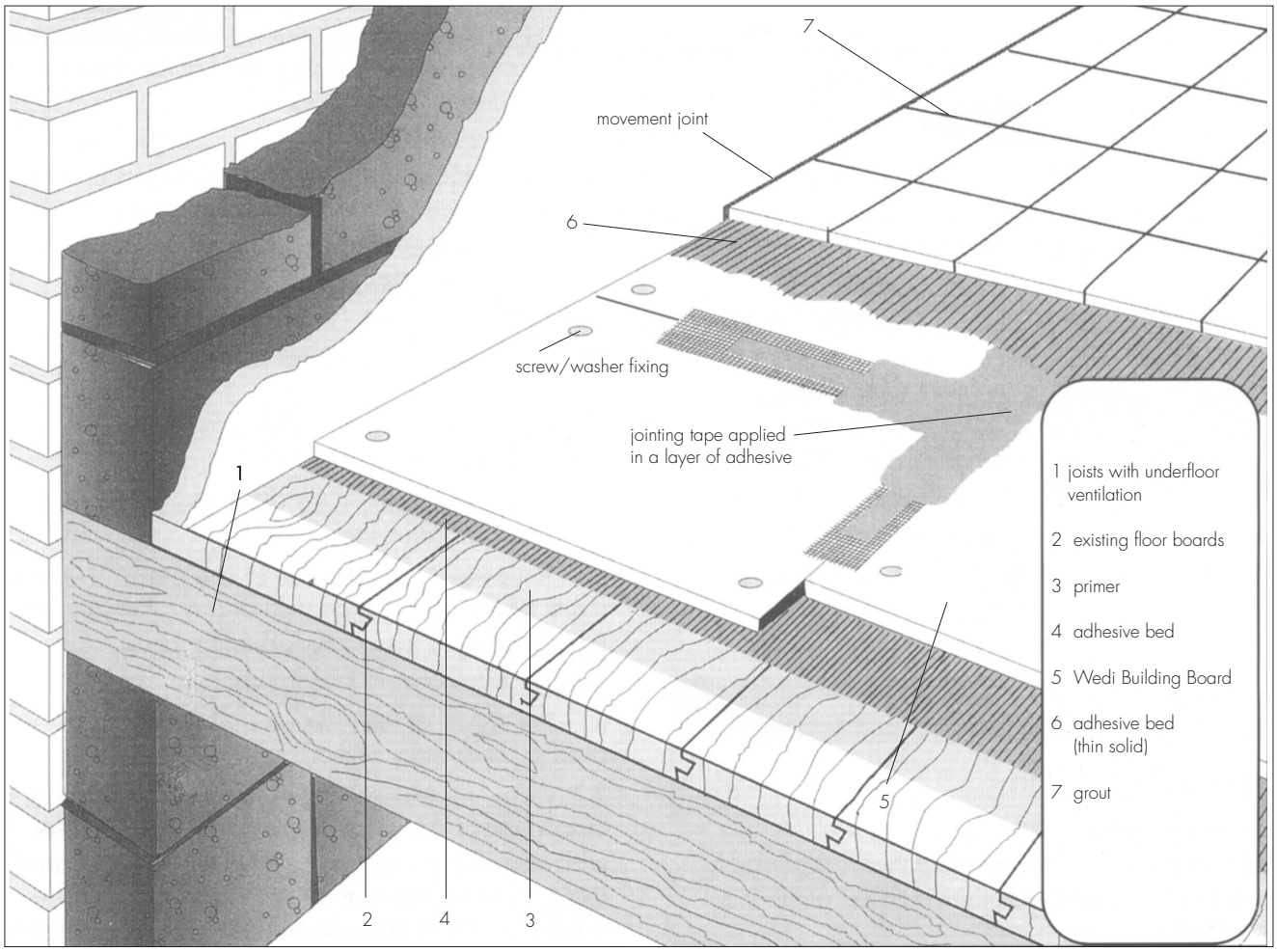
15.12 Existing concrete bases and screeds should be mechanically prepared in accordance with BS 8204-1 : 2003 to ensure removal of all traces of existing finishes and contamination, exposing a clean surface. New concrete or screed bases should be cured in accordance with BS 8204-1 : 2003 to allow shrinkage to occur prior to fixing the boards.

15.13 The boards are applied onto the prepared base using an appropriate cement-based adhesive mortar. This adhesive mortar should be trowelled out and combed through with the recommended notched trowel to give a ribbed bed (slight depressions of the base are filled at the same time). The boards should be laid with staggered joints on the fresh adhesive and be thoroughly bedded in, to ensure that as far as is practicable voids are eliminated and the boards are fully supported.

15.14 The adhesive must be allowed to harden before the joints are taped with either reinforcing or sealing tape, applied following the procedure given in section 15.3.

Fixing to suspended timber floors (see Figure 4)

Figure 4 Fixing to suspended timber floor



15.15 Suspended timber floors should be constructed in accordance with BS 8201 : 1987 and existing floorboards secured and rigidly fixed in accordance with BS 5385-3 : 2007.

Areas up to 20 m²

15.16 The surface of the floorboards should be primed and allowed to dry. Advice on appropriate primers and application can be supplied by the Certificate holder.

15.17 Boards should be bedded on to a flexible cement-based adhesive using the procedure described in section 15.13. When dry, the proprietary washer and screw fixings are applied a minimum of 30 mm from the edge of the board at the rate of five per square metre. The screw/washer fixing is tightened into the board until the screw head is flush with the surface. If required, it may be driven flush with the surface using a rubber-headed mallet and the screw re-tightened. In wet areas, it is recommended that the fixing hole is primed with silicone sealant prior to inserting the fixing.

Areas over 20 m²

15.18 The procedure follows that described in sections 15.16 and 15.17 but a layer of glass fibre mesh fabric(1) is placed over the Wedi Building Board and held in place by the tile adhesive bed.

(1) The Certificate holder should be consulted for a suitable product.

16 Tile fixing

16.1 Tiles can be applied onto the boards once the adhesive securing the boards to the wall has adequately set and hardened. The tiles are fixed using a tile adhesive conforming to BS EN 12004 : 2001, and in wet areas fixed using the thin solid-bed fixing technique to prevent voids.

16.2 Once the tile bed has hardened sufficiently, joints between the tiles can be grouted using an appropriate cement-based grout. Movement joints in the tile bed, eg between adjacent walls, should be sealed with a suitable sealant.

17 Movement joints

The boards must not bridge movement joints in the sub-floor. The integrity of such joints should be maintained through the board/tile bed and sealed in the appropriate manner.

18 Repair

In the event of accidental damage, repairs can be carried out by replacing damaged boards and tiles in accordance with the relevant parts of sections 15 and 16.

19 Tests

19.1 Wedi Building Boards were tested for dimensional accuracy and Wedi sealing tape was tested for tensile strength.

19.2 The Wedi Building Board system, consisting of boards, tiles, adhesive mortar, grout, reinforcing/ sealing tape and connectors, was tested for:

- effect of humidity on stability
- effect of thermal cycling on stability
- impact resistance (soft body)
- impact resistance (hard body)
- bending strength
- bond strength to substrate, tiles and boards under various conditions.

20 Investigations

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

20.2 Sites in progress were examined to establish the practicability of installation.

20.3 A user survey was carried out to establish the performance in use.

20.4 An examination was made of test reports relating to:

- surface spread of flame to BS 476-7 : 1987
- water vapour resistivity
- compressive strength
- tensile strength
- thermal conductivity.

Bibliography

BS 476-7 : 1987 *Fire tests on building materials and structures — Method for classification of the surface spread of flame of products*

BS 5385-3 : 2007 *Wall and floor tiling — Design and installation of ceramic and mosaic floor tiling in special conditions — Code of practice*

BS 8201 : 1987 *Code of practice for flooring of timber, timber products and wood based panel products*

BS 8204-1 : 2003 *Screeds, bases and in-situ floorings — Concrete bases and cement sand levelling screeds to receive floorings — Code of practice*

BS 8298 : 1994 *Code of practice for design and installation of natural stone cladding and lining*

BS EN 1991-1-1 : 2002 *Eurocode 1 : Actions on structures — General actions— Densities, self-weight, imposed loads for buildings*
NA to BS EN 1991-1-1 : 2002 *UK National Annex to Eurocode 1 : Actions on structures — General actions— Densities, self-weight, imposed loads for buildings*

BS EN 1996-2 : 2006 *Eurocode 6 : Design of masonry structures — Design considerations, selection of materials and execution of masonry*
NA to BS EN 1996-2 : 2006 *UK National Annex to Eurocode 6 : Design of masonry structures — Design considerations, selection of materials and execution of masonry*

BS EN 12004 : 2001 *Adhesives for tiles — Definitions and specifications*

21 Conditions

21.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- is valid only within the UK
- has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English law.

21.2 Publications and documents referred to in this Certificate are those that the BBA deems to be relevant at the date of issue or re-issue of this Certificate and include any: Act of Parliament; Statutory Instrument; Directive; Regulation; British, European or International Standard; Code of Practice; manufacturers' instructions; or any other publication or document similar or related to the aforementioned.

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

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

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

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- individual installations of the product/system, including the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

21.5 Any information relating to the manufacture, supply, installation, use and maintenance of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used and maintained. It does 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; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any 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 manufacture, supply, installation, use and maintenance of this product/system.

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