Product Technical Statement

PTS #: I-2440

EXPIRY DATE: 30 September 2027

The Magnum Board® Flooring Underlay



MAGNUM® BOARD

1. Product

1.1 Description

Magnum Board® Flooring Underlay is an 18mm thick, fibre reinforced Magnesium Oxide (MgO) product used for interior flooring and exterior tiled areas in residential and light commercial buildings.

It is supplied in sheets of size and weight that can be carried by one person and in one length that is suitable for installation onto 450 mm and 600mm joist centres.

A tongue and groove is machined into the long edges and enables the product to be installed without the need for dwangs along the long edge joints.

2. Building Code and Performance Requirements

2.1 NCC2022 BCA Volumes One and Two

In the opinion of BEAL* the Magnum Board® Flooring Underlay meets the following performances based on A5G3 Evidence of suitability - Volumes One and Two - a Product Technical Statement:

2.1.1 NCC 2022 Volume One:
Meets performance requirements: B1P1 (1) (a), (b); (2) (a), (b) and J4D1 (1), (2)
Deemed to satisfy provisions: Not applicable
State or territory variations: Not applicable

2.1.2 NCC 2022 Volume Two:
Meets performance requirements: H1P1 (1), (2) (a), (b)
Deemed to satisfy provisions: Not applicable
State or territory variations: Not applicable

Building classifications: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10a

*BEAL is a New Zealand based & internationally recognized testing a certification body providing specialist services to numerous clients throughout New Zealand, Australia & overseas. Refer to Who is BEAL?

Applicant:

Health Based Building Ltd
1062 Colombo St, Edgeware,
Christchurch 8014, New Zealand
P: +64 3 366 4044
E: enquiries@healthbasedbuilding.co.nz
www.healthbasedbuilding.com

Appraised by:

BEAL
6B Cedric Place,
Plimmerton, Porirua, New Zealand
P: +64 4 233 6661
E: bts@beal.co.nz
www.beal.co.nz

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3. Purpose and Use

3.1 Magnum Board® Flooring Underlay is intended for use as an interior flooring material and a tile underlay for interior wet areas and exterior tiled decks and balconies.

3.2 The product has been assessed for use at 450 mm joist centres over solid timber joists, beams and laminated veneer lumber (LVL), and light gauge steel joists.

3.3 Design, technical and installation information is provided in the Magnum Board® Flooring Underlay Technical Information (Technical Document No. #043AU, Version 3.1) produced by Health Based Building Ltd. (HBB).

3.4 The technical information also contains details about the installation equipment required, fixings, sealant/adhesive, other components used during installation, safety guidance, handling and storage instructions.

3.5 The Magnum Board® Product Quality Plan, PQP Version 2.4 produced by HBB describes the quality processes and procedures that distributors and installers of Magnum Board® Flooring Underlay must follow.

4. Limitations and Conditions

4.1 Magnum Board® Flooring Underlay is for use as flooring and tile substrate.

4.2 Framing must be level prior to interior installation.

4.3 Exterior-use decks and balconies must have a fall of at least 1:100 away from the building.

4.4 Square edges must be fully supported on each Magnum Board® Flooring Underlay sheet.

4.5 Joints must be sealed where waterproofing is required.

4.6 Magnum Board® Flooring Underlay:

- is not assessed for bracing resistance to wind and earthquake.
- must not be exposed to the weather for more than 60 days.
- should be kept out of contact with copper piping as corrosion can occur.

5. Technical Literature

5.1 The technical literature can be found in HBB Technical Document # 043AU ver 3.1 or on the HBB website.

5.2 For a copy of this technical literature, visit https://www.healthbasedbuilding.com/

6. Product Technical Information

6.1 **General Characteristics**

Material:
18mm thick fibre-reinforced Magnesium Oxide board (MgO).

Size:
2.7m x 0.6m x 18mm.

Profile:
Square ends, tongue and groove long edges.

Components:

- For timber framing:

- Simpson strong tie fasteners – 10g x 50 square drive, CSK, coarse thread T17 305 S/S screw, and;
- 50 x 2.5-2.8mm round head coil or cassette stainless steel nail.

- For steel framing:

- Simpson strong tie fasteners – 10g x 50 Square drive, CSK, 16TPI (medium) thread, winged self-drilling 316 stainless steel screws.

- Mapei Mapeflex PU45 adhesive/sealant.

6.2 **Properties:**

- Non-hazardous
- Freeze–thaw resistant
- Suitable for wet areas
- Vapour permeable
- Suitable for tiled deck areas and balconies
- Dimensionally stable: freeze, thaw, heat and humidity
- Non-combustible
- Moisture resistant - mould and insect proof
- Good adhesion properties with tiling substrates, floor coverings and finishes
- Can be finished with a range of products

7. Design and Installation

7.1 Details regarding the design, use and installation of Magnum Board® Flooring Underlay are contained in Technical Document No. #043AU, v3.1 available from: www.healthbasedbuilding.com It is the responsibility of the Installer to correctly install Magnum Board® Flooring Underlay and comply with the appropriate requirements of the NCC and applicable regulations and standards at the time of installation. The installer must also follow the requirements of the Magnum Board® Product Quality Plan, PQP Version 2.4

7.2 **Design**

- Magnum Board® Flooring Underlay is suitable for installation over joists at 450mm centres.
- Floor or deck framing is to be installed according to AS1684-2010 SAA National Timber Framing Code or NASH Standard for Residential and Low-Rise Steel Framing Parts 1 and 2.

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- Waterproofing shall meet AS3740-2010 and AS4654.1-2012.
- Magnum Board® Flooring Underlay:
  - is classified as non combustible
  - tolerates heat and cold
  - is vapour permeable (1.0–4.2 g/h.m2)
  - has an R-value of 0.13 m2.K/W

Magnum Board® has a specified waterproofing system using Mapei products. If other waterproofing systems are used, all components must be compatible with Magnum Board® and be from one manufacturer.

7.3 **Installation**

Interior use:

- Magnum Board® Flooring Underlay must be installed to level framing and be fully supported on all square edges.

Tiled deck exterior use:

- Magnum Board® Flooring Underlay must be installed with a minimum 1:100 fall away from the building and joists must run in the direction of the fall. The fall can be achieved by trimming or sloping the joists.
- There must be a minimum step down of 50mm from door sill level to the finished surface of the deck.

Magnum Board® Flooring Underlay must be fitted in a staggered layout.

For applications where a waterproofing membrane is to be applied under tiles, Magnum Board® Flooring Underlay should have 2mm gap between all butt joints, filled with Mapei Mapeflex PU45.

8. Product Maintenance and Warranty

8.1 **General**

If Magnum Board® Flooring Underlay is intended to be used as a direct flooring surface without tiles, carpet or timber flooring installed, it should be finished to seal the surface and provide a decorative finish.

No other maintenance is required apart from re-applying the finish (if applicable) when it becomes worn.

Details of the warranty provided for Magnum Board® Flooring Underlay can be found in the Technical Document No. #043, v3.1 provided by HBB.

9. Handling and Storage

9.1 **Handling**

Magnum Board® Flooring Underlay is non-toxic; however, it is advisable to always wear a dusk mask and safety glasses and to follow MSDS guidelines.

Only use a circular saw blade intended for the specific operation being undertaken. Do not use a grinder or continuous rim diamond blade for cutting.

Do not dry sweep. Use an extraction system with HEPA filtration.

9.2 **Storage**

Magnum Board® Flooring Underlay must be stored inside, on a solid surface, in a well ventilated area, up off concrete floors.

Magnum Board® Flooring Underlay should be kept dry and protected from direct sunlight, rain and freezing conditions.

Protect from dirt prior to and during installation.

Protect the corners of Magnum Board® Flooring Underlay prior to and during installation.

Do not stack other materials on top of Magnum Board® Flooring Underlay.

10. Assessment Against Performance Requirements

Summary of the assessment process:

10.1 The product has been evaluated against all applicable NCC provisions. Refer to the Engineering Report produced by structural engineers ENETREN Pty. Ltd, dated 12th September 2025.

10.2 BEAL has considered the following during the assessment process:

- expected uses
- installation practices
- use as tile substrate for internal wet areas and exterior tiled decks and balconies.

10.3 Performance was assessed from:

- **An Engineering Report** from structural engineers ENERTREN Pty. Ltd. Dated 12th September 2025.
- In-service history: 15 years in USA and China; 5 years in Canada and New Zealand.
- Expert opinion/s
- Local and overseas test data supplied by the certificate holder:
  - structural (flexural) testing – Holmes Solutions
  - spread of flame fire testing – BRANZ test report FAR 4338
- Physical properties testing – RADCO Resources Applications Design and Controls Inc.

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11. Concluding Statement

11.1 In the opinion of BEAL, the Magnum Board® Flooring Underlay is fit for purpose and will comply with the BCA to the extent specified provided that it is used, designed, installed and maintained as set out in this Appraisal Certificate.
The Appraisal Certificate is issued only to Health Based Building Ltd., and is valid until the date of expiry described on the front of this appraisal, subject to the conditions of this Appraisal.

12. Health Based Building Limited's Responsibilities

12.1 Health Based Building must:

- Notify BEAL of any changes to:
  - Their contact or ownership details
  - Magnum Board® Flooring Underlay product details, specifications, technical information, installation methodology, components, PQP or marketing information
  - The Magnum Board® manufacturing process
  - The Magnum Board factory/ manufacturer PQP.
- Carry out periodic quality control and conformity tests as requested by BEAL.
- Keep HBB Technical Document # 043AU up to date and approved by BEAL prior to public release.
- Ensure the latest versions of HBB Magnum Board PQP and HBB Technical Document # 043AU are used by staff and installers.
- Comply with BEAL's Terms and Conditions.

12.2 To maintain validity of their certificate, Health Based Building is subject to annual audits and surveillance by BEAL of:

- A building site where Magnum Board® Flooring Underlay is being installed;
- HBB Technical Document # 043AU;
- The HBB Magnum Board® PQP.

Conditions of Certification

1. This Appraisal Certificate:
a) Relates only to the Magnum Board Flooring Underlay system as described herein
b) Must be read, considered and used in full, together with the current version of the Technical Literature
c) Does not address any legislation, regulations, codes or standards, not specifically named herein
d) Is copyright of BEAL

2. The Appraisal Certificate holder continues to meet the quality requirements of the Health Based Building Ltd. Building Product Quality Plan and has the plan audited and the Appraisal Certificate revalidated by BEAL on an annual basis.

3. Health Based Building Ltd. shall notify BEAL and obtain approval of any changes of the product specification or quality assurance prior to product being marketed including any trade literature, web site info or the like.

4. BEAL makes no representation as to:
a) The nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship
b) The presence or absence of any patent or similar rights subsisting in the product or any other product
c) Any guarantee or warranty offered by the Appraisal Certificate holder.

5. BEAL's verification of the building product or system complying with one or more of the above-mentioned criteria is given on the basis that the criteria used were those that were appropriate to demonstrate compliance with the BCA at the date of this Appraisal Certificate. In the event that the criteria is withdrawn or amended at a later date, this Appraisal may no longer remain valid.

6. Any reference in this Appraisal Certificate to any other publication shall be read as a reference to the version of publication specified in this Appraisal Certificate.

Authorised signatory



C R Prouse - Director
BEAL (Building Element Assessment Laboratory Limited)
[Updated September 2025]

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