

# flexbone VARied

## Advanced, high load-bearing uncoupling membrane for substrates with limited movement

### DESCRIPTION

BAL FLEXBONE VARied is a high load bearing, waterproof, uncoupling membrane. Accommodates lateral movement for tile installations on floors with limited movement. Used as a system with a recommended BAL flexible cementitious adhesive

#### Use for

- Ideal for the installation of large format ceramic and porcelain tiles, slabs and natural stone with a minimum edge length of 100mm.
- Counteracts and therefore minimises tension stresses between the substrate and the floor to be installed.
- Prevents reflective cracking caused by shrinkage cracks, board joints and lateral movement.
- Provides crack bridging and allowing a safe installation onto challenging substrates.
- Suitable for internal flooring; renovation and new construction, domestic and commercial areas in medium/heavy duty applications.
- Suitable for use in most internal floor areas including bathroom and kitchen.
- Recommended for heated floors, new cement screeds, timber floors and existing floor surfaces.

#### Restrictions: NOT suitable for

- Exterior environments.
- Substrates with deflection (vertical movements).
- Use on parquet flooring.
- Bridging movement joints.

The use of the uncoupling mat should not be considered if agglomerated stone tile exhibits a tendency to curl. Seek further guidance from the tile manufacturer.

### TEMPERATURE RESISTANCE

-30°C to 70°C N.B Tiling should not be carried below 5°C

### PRODUCT INFORMATION

**Composition:** Waterproof unique bone shaped pattern with GripLock technology with a fleece on the underside.

**Colour:** Grey

**Pack Sizes:** 20m rolls and 5 x 2m sheets

**Sheet Width:** 1m

**Sheet Thickness:** 3mm

**Sheet Weight:** approx. 1.8kg / per sheet

**Roll Weight:** approx. 18kg

#### Additional Benefits:

- **Fast-track system:** easy filling of bone shaped GripLock Technology and tiling can be carried out immediately after laying the membrane.
- **Excellent adhesive shear strength:** 50% better than other cavity uncoupling mats in independent tests.
- **Excellent tensile strength:** stops tiles 'popping-off' / cracking under pressure.
- **Water vapour pressure compensating:** a fleece laminated to the underside compensates for water vapour pressure.
- **Waterproof:** can be used in internal wet areas.
- **Can be stored for approx:** 48 months in dry rooms, away from direct sunlight.

## SURFACE PREPARATION

### General

Ensure surfaces to be tiled are flat to SR1 tolerance as recommended in BS 5385: Part 3. Substrates must be clean, dry, sound and free from contamination and stable enough to receive tiling.

The surface must be levelled to SR1 prior to installation. Uneven surfaces must be primed and levelled with BAL primers and levelling compounds prior the installation of BAL FLEXBONE VARied using suitable BAL Flexible cement-based adhesive.

The BAL RAPID-MAT is suitable for bridging static cracks less than 2 mm wide if differences in height can be excluded.

Always ensure the correct adhesives and grouts are selected for the installation.

BAL FLEXBONE VARied can be used in internal wet floor areas, including high load-bearing areas such as airports, car showrooms and shopping centres.

**IMPORTANT NOTE:** Do NOT install in temperatures below 5°C.

### TILES

Type of Floor Material	Minimum Size	Minimum Thickness
Ceramic	100 mm x 100 mm	10mm
Porcelain	100 mm x 100 mm	8 mm
Natural Stone	100 mm x 100 mm	15 mm

Contact BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE for further advice on other materials.

### GENERAL PROPERTIES AND AREAS OF APPLICATION

BAL FLEXBONE VARied absorbs the lateral movement tensions from the substrate and bridges stress cracks to prevent movement being transferred to the surface covering. Its resistance to stresses should be examined separately based on the expected concentration, temperature and exposure time.

BAL FLEXBONE VARied can be used in a broad range of installations; however, its suitability for specific mechanical conditions must be evaluated for each individual case. As some general guidelines BAL FLEXBONE VARied can be applied to:

#### Tongue and Grooved Timber/Single Layer Plywood

Ensure boards are flat (SR1) dry, rigid and securely fixed (screwed to joints at 300mm centres, including any cross-noggins, if necessary). Sand (abrade) surface and ensure any surface coatings removed, e.g. varnish, lacquers, etc. Before priming with 2 coats of (second coat applied at 90° to the first):

- BAL PRIME APD (undiluted) or
- BAL BOND SBR (diluted 1:2 by volume with clean water)

Allow each coat of primer to dry. *NOTE: Priming/sanding is not required when using BAL FLEXBONE 2Easy.*

If necessary, the floor may require levelling using BAL LEVEL MAX or BAL LEVEL FAST and allow to dry before installing BAL FLEXBONE VARied.

## BACKGROUNDS / BASES

Concrete (1)(2)(3)	✓	Cement:Sand Screed (including new green screeds) (1)(2)	✓
Anhydrite/Calcium Sulfate Screeds (2)(5)(8)	✓	Unglazed Ceramic Tiles / Hard Natural Stone (2)	✓
BAL BOARD/Tile Backer/Fibre Cement Boards (2)(3)(5)	✓	Overlaid Timber Floors – 15mm min. (2)(3)(6)	✓
Mastic Asphalt (2)(7)	✓	Timber Floors (2)(3)	✓
Vinyl Tiles/Sheets (2) (non cushioned)	✓	Glazed Tiles (2)(4)	✓
Existing and Cracked Tiles (2)	✓		

## USAGE & SERVICE CONDITIONS

Walls	✗	Floor	✓
Interior	✓	External	✗
Dry	✓	Wet Areas	✓
Chemical Resistance	✗	Leisure Centres	✓
Swimming Pools	✗	Medium/ Heavy Duty	✓
Heated Screeds & Electric Underfloor Heating(1)(3)(5)	✓	Limited Movement/Vibration	✓

## APPLICATION AREAS

Leisure Centres	✓
Bathrooms	✓
Changing Rooms	✓
Car Showrooms	✓
Domestic Kitchens	✓
Shopping Malls	✓
Heated Floors	✓
Wet Rooms	✓

(1) Floor must be even and load bearing and prepared to SR1 standard such a BAL LEVEL MAX or BAL LEVEL FAST.

(2) All tiles must be solidly bedded in a suitable BAL Flexible tile adhesive.

(3) Prime with BAL PRIME APD. (See BAL TECHNICAL DATA SHEET for more information).

(4) When modified with BAL ADMIX AD1, Pre-diluted 1:3 with water by volume with BAL RAPID-FLEX ONE.

(5) Check suitability for the intended purpose with the manufacturer or check BAL TECHNICAL DATA SHEETS on any BAL Products.

(6) Seal back face and edges with undiluted BAL BOND SBR.

(7) Check suitability of the grade of asphalt (flooring grade only).

(8) Prime with BAL PRIME APD, first coat 1:1 with water by volume, second coat undiluted 90° to the first coat.

### **Existing glazed/unglazed ceramic tiles, quarry tiles, terrazzo and natural stone**

For floors ensure that the existing finish is firmly adhered to the base. If areas are loose or hollow-sounding, remove and make good with BAL QUICKSET RENDER or 1:3 cement:sand mortar over a slurry bonding coat (1 part sand to 1 part cement by weight, mixed with appropriate amount of BAL BOND SBR pre-diluted 1:1 by volume with clean cold water to achieve desired consistency). *N.B. Suitable for existing glazed tiles/brickwork when adhesive has been modified with BAL ADMIX AD1 (pre-diluted 1:3 by volume with clean cold water).*

### **Concrete and Cement Sand Screeds**

Concrete can receive the matting when it is load bearing. An OPC cement and sand screed can receive the matting when it is load bearing.

For screeds containing BAL QUICKSET CEMENT, please refer to the BAL QUICKSET CEMENT data sheet for typical drying times prior to installing tiles and matting. All dirt, dust laitance must be removed using suitable mechanical methods followed by use of suitable vacuuming equipment. If levelling is required, prime using BAL PRIME APD (Diluted 1:1 by volume with water) followed by the application of a suitable BAL levelling compound such as BAL LEVEL MAX/BAL LEVEL FAST. Allow to dry.

### **Calcium Sulfate/Anhydrite (Gypsum)Based Screeds**

Allow the screed to dry out in accordance with manufacturer's instruction example: moisture contact below 0.5% w/w or 75% RH (Relative Humidity). Mechanically remove top surface to remove weak/dusty surface layer(s) as per the screed manufacturer's recommendations. Ensure any underfloor heating system is fully commissioned. Remove all dust and loose material e.g. by vacuum etc. before priming with 2 coats of (second coat applied at 90° to the first):

- BAL PRIME APD diluted 1:1 with clean water and second coat undiluted or
- BAL BOND SBR diluted 1:4 with clean water and second coat diluted 1:2 with clean water. Allow each coat of primer to dry.

*NOTE: For further information on other backgrounds and preparation, contact BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE.*

### **Mastic Asphalt (Internal Flooring Grade)**

Before tile fixing commences the asphalt base should be examined to ensure that it is in a suitable condition to receive tiles; in particular, it should have adequate cohesive strength and should be laid on a firm and rigid base. Sand rubbed surfaces should be carefully examined to ensure all loose sand or debris is completely removed from the surfaces prior to the commencement of tiling. The Asphalt must be level i.e. to SR1 tolerance before application of BAL FLEXBONE VARied.

### **Fibre reinforced cement boards and lightweight tile backer boards**

Install boards to BS 5385 – i.e. moisture-resistant boards such as BAL BOARD and screwed to seasoned timber or suitable proprietary framework at maximum 300mm centres vertically and horizontally or as per the board manufacturer's recommendations (*see BAL TECHNICAL DATA SHEET on BAL BOARD for further information*).

Ensure no fixings protrude.

Some boards may require priming, prior to tiling with a cementitious based tile adhesive. Use a suitable primer from the BAL range such as BAL PRIME APD diluted 1:1 with water by volume. *Please refer to the BAL TECHNICAL DATA SHEETS for further information. IMPORTANT NOTE: Obtain manufacturer's confirmation that boards are suitable for the tiling application and for relevant fixing instructions.*

### **Existing vinyl tiles**

Ensure these are in good sound condition and securely bonded to their base.

Remove loose or damaged tiles/areas of sheet along with any loose or soft adhesive.

Remove any polishes, wax, grease etc. with a suitable proprietary cleaner.

*NOTE: Cushioned types of flooring are not suitable and must be completely removed along with the adhesive residue prior to tiling.*

### **Heated Cement: Sand Screeds**

- Allow cement: sand screeds to dry for a minimum of 3 weeks (at 20°C) and conditioned in accordance with BS requirements

Please refer to the BAL QUICKSET CEMENT data sheet for typical drying times. All dirt, dust laitance must be removed using suitable mechanical methods followed by use of suitable vacuuming equipment. Prime using BAL PRIME APD (Diluted 1:1 by volume with water). If required, apply of a suitable BAL levelling compound such as BAL LEVEL MAX. Allow to dry before installing BAL FLEXBONE VARied.

Ensure that the underfloor heating system has been correctly pressurised and fully commissioned in line with British Standards requirements.

### **Electric Undertile Heating**

Can be used onto electrical undertile heating systems encased within an appropriate BAL leveller over suitable boards (such as BAL BOARD). Use BAL LEVEL MAX or BAL LEVEL FAST. Allow to dry before installing BAL FLEXBONE VARied.

## APPLICATION

1. The substrate must be even and load bearing.
2. If necessary, the floor may require priming with BAL PRIME APD or levelled using a suitable BAL smoothing and levelling compound such as BAL LEVEL MAX or BAL LEVEL FAST.
3. Roll out the BAL FLEXBONE VARied from the corner and cut them precisely to the required length and sizes as required for the floor. Trim off any excesses around up-stands using scissors or a utility knife.  
*Note: Leave a 6mm movement joint around the perimeter or use BAL Aquadrain Edge foam strip for ease.*
4. Apply a thin bed of a suitable BAL flexible tile adhesive to bond the BAL FLEXBONE VARied which is appropriate for the substrate to be tiled. Use a 4mm notched trowel.
5. Roll back and lay the BAL FLEXBOND VARied into the freshly applied BAL flexible tile adhesive. The mat must be fully engaged into the adhesive to provide a suitable bond and applied within the open time of the adhesive. If the adhesive has started to skin or set, remove this layer of adhesive and re-apply a fresh layer.
6. To ensure full adhesion is achieved between the BAL FLEXBONE VARied and the BAL flexible tile adhesive, smooth out the matting using either the flat edge of a steel trowel or a suitable float. Eliminate any air pockets.
7. Where additional rolls / membrane is needed on the floor, ensure the separate mats are butt jointed at the edges but not overlapped. Remove any excess tile adhesive which may have squeezed through the joints.  
**N.B** The matting must always be separated where a change in substrate occurs, or a construction/movement joint is present in the background. Continue the movement joint through to the tiles finish.
8. If waterproofing is required, apply a suitable sealing tape (such as ARDEX SK-12 Tape) adhered with BAL TANK-IT over all BAL FLEXBONE VARied membrane edges, joints and roll ends to ensure a waterproof seal over the surface.
9. To apply tiles, mix and apply the adhesive to the mat using a minimum 10mm notched trowel. If using a 20mm notched trowel (large format) ensure the final bed thickness of the tile does not exceed 8mm over the BAL FLEXBONE VARied.
10. If a BAL flexible rapid-setting cementitious based adhesive is used the tiles can be applied immediately.
11. Always take care when applying the layer of adhesive and tiles onto the mat to avoid de-bonding the mat.
12. Ensure you follow all required fixing instructions for the adhesive used and all applicable industry standards.

## TECHNICAL ADVISORY SERVICE

For free expert guidance on use of this product, or any aspect of tiling, contact the BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE on Tel: 01782 591120 or 03330 030160 or Email: [info@building-adhesives.com](mailto:info@building-adhesives.com)

### SHELF LIFE

48 months under normal dry conditions. Protect from frost, damp and sunlight.

### QUALITY AND ENVIRONMENTAL STANDARDS

Manufacturing quality assurance standards conform to BS EN ISO 9001. Satisfies the environmental management requirements and operational scope of ISO 14001.

### 25 YEAR GUARANTEE

*All BAL products are supplied with a 25-year product guarantee to be free from manufacturing defects and to be fit for purpose. The guarantee covers materials replacement costs and labour. This guarantee is subject to use of product in accordance with BAL's instructions and technical data, and good working practice. No liability can be accepted for any loss or damage arising from incorrect use of products or poor workmanship, over which BAL has no control. While products may be suitable for installations internally or externally, products when used externally are exempt from cover under the BAL 25 Year Guarantee. Terms and conditions apply. Full details are available for your review at [www.bal-adhesives.com](http://www.bal-adhesives.com).*

### CONDITIONS OF SALE

Sold subject to the Company's Conditions of Sale. *Available on request.*

*For sales and technical queries, contact:*

### BUILDING ADHESIVES LTD

Longton Road, Trentham, Stoke-on-Trent, ST4 8JB, England  
[www.bal-adhesives.com](http://www.bal-adhesives.com)

#### Sales

Tel: +44 (0) 1782 591160

Fax: +44 (0) 1782 591131

#### Technical

Tel: +44 (0) 1782 591120 or

+44 (0) 3330 030160

Email: [info@building-adhesives.com](mailto:info@building-adhesives.com)

#### Ireland

Unit 622, Phase III

Northwest Business Park

Ballycoolin, Dublin 15, Ireland

Tel: +353 (0) 1 880 9210

Fax: +353 (0) 1 880 9211

NOTE: BAL reserves the right to update instructions, technical data and other information at any time without notice. PorcelBond Plus™ is a trademark of Building Adhesives Ltd

