

# 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 movements 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 & 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 with parquet flooring.
- Bridging movement joints.

## PRODUCT INFORMATION

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

**Colour:** Grey

**Pack sizes:** 20m rolls and 1x2m 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:** 24 months in dry rooms, away from direct sunlight.

## USAGE & SERVICE CONDITIONS

Walls	✗	Floor	✓
Interior	✓	Exterior	✗
Dry	✓	Wet Rooms	✓
Movement	✓	Shopping	✓
Vibration	✓	Centre (1)	
Medium/		Airports (1)	✓
Heavy Duty (1)	✓	Heated	
Car		Floors	✓
Showrooms	✓	Leisure	
		Centres	✓

## APPLICATION AREAS

Concrete substrates	✓
Screeds (include new green screeds)	✓
Timber subfloors	✓
Existing vinyl floor coverings	✓
Existing and cracked tiles	✓
Calcium sulphate screeds	✓

## TEMPERATURE RESISTANCE

-30°C to 70°C

**N.B** Tiling should not be carried out below 5°C

(1) Floors must be even and load bearing and prepared to SR1 standard. All tiles must be solidly bedded in a suitable BAL flexible tile adhesive.

## 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 levelling compound prior the installation of BAL FLEXBONE VArIed using suitable BAL Flexible cement-based adhesive. The BAL FLEXBONE VArIed is suitable for bridging static cracks proving 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 domestic and heavy duty wet and dry floor areas, including high load-bearing areas such as airports, car showrooms and shopping centres.

**IMPORTANT NOTE:** Do NOT install BAL FLEXBONE VArIed or tiles in temperatures below 5°C.

### TILES

Ceramic tiles should be a minimum of 100mm x 100mm x 10mm.

Porcelain tiles should be a minimum of 100mm x 100mm x 8mm.

Natural Stone should be a minimum of 100mm x 100mm x 15mm.

### 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.
3. Roll out the BAL FLEXBONE VArIed 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 MOSAIC TROWEL (or 4 x 4 mm notched trowel).
5. Roll back and lay the BAL FLEXBONE VArIed into the freshly applied tile adhesive. The membrane 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 membrane 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. Tape all movement joints using BAL Watec BW-50 self-adhesive tape to protect against the entry of the wet adhesive bedding material during the installation.

8. If waterproofing is required, apply a suitable waterproof sealing tape to all BAL FLEXBONE VArIed membrane edges, joints and roll ends to ensure a waterproof seal over the surface. If waterproofing is not required, this taping is not required at edges or roll ends.
9. To apply tiles, mix and apply the BAL flexible adhesive to the mat using a THICK BED SOLID BED TROWEL. If using a LARGE FORMAT TROWEL, ensure the final bed thickness of the tile adhesive does not exceed 5mm 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.

## 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 VArIed can be applied to:

### Concrete and Cement Sand Screeds

- Allow concrete to dry for a minimum of 6 weeks (at 20°C).
- Allow cement: sand screeds to dry for a minimum of 3 weeks (at 20°C).

Allow OPC based cement: sand screeds to dry to a moisture content of less than <2% Carbide Method before fixing commences.

- For screeds containing BAL QUICKSET CEMENT, allow to dry to a moisture content of less than <2% w/w Carbide Method before fixing commences

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. 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. Allow to dry.

### **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. 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. 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.

### **Undertile Floor Heating**

The background must be suitably load bearing and free from any deflection. Ensure the heating system is installed correctly in accordance with the heating manufacturer's recommendations. All electrical heating elements must be encapsulated within a BAL levelling compound i.e. BAL LEVEL MAX. Allow to dry before installing BAL FLEXBONE VArIed.

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

All laitance, dust, dirt or any other loose surface material incompatible with the tile adhesive must be removed i.e. using a sanding machine (rotary floor scarifier) and a 60-grit paper. Remove excess dust completely by the use of suitable vacuum equipment. Ensure that the underfloor heating system has been correctly pressurised and fully commissioned in line with British Standards requirements. The screed must be allowed to dry to a moisture content of <75% RH as measured by use of a suitable Hygrometer or <0.5% w/w (as determined using the Carbide Method). Seek further advice on how to achieve this from the screed manufacturer.

Once tested to be dry, the surface should be treated to ensure clean and laitance free. The surface must then be primed using BAL PRIME APD mixed at a 1:1 ratio with water with a second coat (undiluted) applied once the first is dry and at 90° to the first. The floor must be level to SR1 prior to installation.

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

#### **Plywood/Overlaid Timber floors**

Ensure all sheets/T&G boards are sufficiently rigid and free from deflection. The moisture content of the timber must be the same as moisture conditions on site and the floor must be adequately ventilated underneath.

Sheets/T&G boards must be securely fixed i.e. with suitable screws to the joist and any additional noggins which may be required at 300mm centres.

All vanishes/ lacquers and other surface coatings must be removed e.g. by sanding and all dust removed. Prime T&G Boards with 2 coats of undiluted BAL PRIME APD applied at 90° to each other. Allow to dry between coats.

Plywood sheets must be of a suitable moisture resistant grade. To BS EN Prime the back face and edges of the boards with e.g. undiluted BAL BOND SBR. Further advice should be sought from BS 5385: Part 3

### **Mastic Asphalt (Internal 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.

**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 0845 600 1 222 or Fax: 01782 591121.

**POWERSPEC**

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

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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.

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**CONDITIONS OF SALE**

Sold subject to the Company's Conditions of Sale. *Available on request. For sales and technical queries, contact:*

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NOTE: BAL reserves the right to update instructions, technical data and other information at any time without notice.

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