

# level max

## High performance leveller with FST

### DESCRIPTION

Rapid-setting, high performance single part polymer-modified, protein-free, fibre cementitious leveller for floors.

#### Use for

- Laying on absorbent and non-absorbent internal substrates; to prepare most floor surfaces including timber floors prior to installing:
  - Ceramic & porcelain tiles.
  - Glass/ceramic/stone mosaic tiles.
  - Natural stone.
  - Sheets and soft furnishing (inc. linoleum, carpet). ^
  - Wooden flooring (inc. parquet flooring, laminates)
  - Resilient flooring (such as vinyl) ^
  - Certain floor paints

*NOTE:* BAL LEVEL MAX is not suitable as a wearing surface

- Bed depth from 2mm up to 80mm thickness
- Internal applications
- Dry environments only, unless using BAL WATERPROOF 1C or BAL TANK-IT.
- Suitable for underfloor heating.
- Domestic or commercial use.

#### USAGE: Bed Thickness / Time

Bed Thickness *	Pot Life	Setting Time^
2mm – 80mm	>30 mins	3 - 4 hours at 20°C

^ Can receive ceramic or natural stone tiles after 4 hours at 20°C. A longer drying period will be required at thicker depths and/or lower site temperatures. Allow a minimum of 24 hours for soft floor coverings e.g. carpet, vinyl etc.

\*Up to 80mm in localised areas only. For larger areas a suitable aggregate – such as BAL Aggregate 3mm limestone chippings - should be included as this will facilitate application, increase yield and reduce cost. Thick layers must also be tiled within 48 hours. If this is not possible, the BAL LEVEL MAX must be covered with plastic sheeting until it is tiled.

Note: Ensure direct to earth subfloors incorporate an effective damp proof membrane.

#### Restrictions: NOT suitable for

- Exterior use or total immersion areas (e.g. swimming pools).

#### PRODUCT INFORMATION

**Composition:** Single-part, fibre reinforced, polymer modified rapid setting and shrinkage compensated cement-based levelling compound. The formulation is protein-free.

**Colour:** Grey

**Type/Classification:** Exceeds BS EN 13813 CT – C20 – F7 – Cementitious screed, Compressive Strength is >25N/mm<sup>2</sup> and Flexural Strength is >7N/mm<sup>2</sup> after 28 days

**Pack size:** 25kg

#### Key features:

- Bed depth 2mm – 80mm.
- Added flexibility and fibre technology.
- Can be applied at a minimum 3mm for timber floors.
- Accepts foot traffic in 3 hours.
- Self-smoothing, excellent flow and pumpable.
- Protein free formulation.
- Excellent coverage: 5m<sup>2</sup> at 3mm

**Tile after:** 4 hours (at 20°C)

#### TOOLS/COVERAGE

Recommended Application Tool	Typical Coverage ^^ at 3mm bed-thickness
Steel trowel	0.2m <sup>2</sup> /kg
Long hand blade	

^^ May vary dependent on nature and flatness of surface, and thickness of application.

#### TEMPERATURE RESISTANCE\*\*

-30°C to 100°C

\*\* Cured leveller.

## SURFACE PREPARATION

### General

Ensure surfaces are dry, sound, and free from grease, dust and any other contamination/barriers to adhesion.

All primed areas should be fully dry.

Ensure direct-to-earth sub-floors incorporate an effective damp proof membrane.

#### Surface regularity:

Surface Regularity is defined as the deviation in height of the surface over short distances in a local area. In simpler terms, it is the 'flatness' or 'measure of unevenness' of the surface. BAL LEVEL MAX may be used to correct floors to SR1 (+ or – 3mm or less over a 2-metre straight edge.

Class	MAXIMUM PERMISSABLE DEVIATION FROM a 2M STRAIGHT EDGE (MM)	APPLICATION
SR1	3mm	Recommended for direct fixing of tiles and slabs with a tile adhesive

*In wet areas:* Allow a minimum of 24 hours before waterproofing BAL LEVEL MAX with BAL WATERPROOF 1C or BAL TANK-IT.

### SUITABLE SURFACES include:

#### Asphalt (suitable grade e.g. flooring)

Must be of a suitable grade, be clean, in sound condition (without brittleness, softening. etc.) and have adequate cohesive strength, a natural float finish and laid on a firm rigid base.

Clean thoroughly to remove surface dirt using warm water and a suitable detergent. Remove all detergent residues with clean water. No priming is needed.

Ensure that surface is sufficiently regular to suit bedding depths of BAL LEVEL MAX.

Apply leveller as required, minimum 3mm to maximum 6mm.

#### Concrete; cement:sand screeds

Must be fully cured and free from efflorescence, laitance, dirt, polished concrete and other loose materials. Remove by the use of suitable mechanical methods.

Allow the following minimum drying times:

- Concrete: 6 weeks
- Cement:sand screed: 3 weeks

Absorbent cement:sand screeds and concrete.

Prime with BAL PRIME APD pre-diluted 1:1 with clean water. Allow to dry.

Low-absorbent cement:sand and concrete.

Dampen with clean water before laying BAL LEVEL MAX.

Note: Allow to dry for a minimum of 24 hours before soft finished can be used.

## BACKGROUNDS / BASES

Cement:Sand Screeds and Concrete with low/highly absorbent surface (2)(7)	✓
Cement:Sand Screeds with Underfloor Heating (2)(3)	✓
Overlaid Timber Floors (3)(4)	✓
T&G Floorboards (8)	✓
Single Layer Plywood (4)(8)	✓
Ceramic tile adhesive residues	✓
Unglazed Ceramic Tiles / Hard Natural Stone	✓
Tile Backer/Fibre Cement Boards (2)(3)	✓
Mastic Asphalt (6)	✓
Anhydrite/Calcium Sulfate Screeds (3)(5)	✓

## USAGE & SERVICE CONDITIONS

Walls	✗	Floor	✓
Interior	✓	External	✗
Dry	✓	Wet Areas (1)	✓
Worktops (1)	✓	Showers (1)	✓
Swimming Pools	✗	Domestic/ Commercial	✓
Underfloor Heating Systems (2)(3)	✓	Limited Movement/Vibration	✓

(1) In wet conditions tank out with BAL WATERPROOF 1C or BAL TANK-IT.

(2) Where the surface is high absorbency, prime with BAL PRIME APD 1:1 with water).

(3) Check suitability for the intended purpose with the manufacturer.

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

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

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

(7) Where the surface has low absorbency, dampen with clean water.

(8) Prime with undiluted BAL PRIME APD.

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

Install boards to BS 5385 – i.e. moisture-resistant boards screwed to seasoned timber or suitable proprietary framework at maximum 300mm centres or as per the board manufacturer's recommendations. 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. Please refer to the relevant BAL Technical Data Sheets for further information.

**IMPORTANT NOTE:** Obtain manufacturer's confirmation that boards are suitable for tiling and for relevant fixing instructions. For further information on other backgrounds and preparation, contact BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE.

### **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.

Prime Surface with undiluted BAL BOND SBR and allow to dry. Level within 24 hours of application.

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

### **Uneven timber floors (for soft floor finishes inc. vinyl, linoleum, carpet).**

Ensure boards are (i) dry, rigid and securely fixed; (ii) has adequate ventilation under the timber.

Lay BAL LEVEL MAX and allow to dry for a minimum of 24 hours before soft finished can be installed.

If required screw down layer of a suitable 12mm plywood compliant with BS6566 onto this levelled base.

### **Anhydrite/calcium sulfate and hemi-hydrate screed**

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. 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.

### **Ceramic tile adhesive residues**

Remove as much adhesive as possible.

Ensure all residual adhesive is soundly bonded.

No priming is needed.

Do not apply over old adhesive residues that are softened by water.

### **Cement:sand screeds with underfloor heating**

Switch off heating for MINIMUM 48 hours before application of BAL LEVEL MAX. Follow accordance with manufacturer's instructions.

Prime floor surface with BAL PRIME APD pre-diluted 1:1 with clean water.

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

### **Timber floors (hard floor finishes)**

#### **Overlaid timber floors (min. 15mm)**

Ensure timber floor (i) is sufficiently rigid and stable to receive tiles; (ii) can carry the additional static and dynamic load without excessive deflection; and (iii) has adequate ventilation under the timber.

Overlay existing timber floor with a suitable water resistant, marine plywood, min. 15mm thick, screwed (not nailed) at 300mm centres.

Seal timber surface on the underside and edges with undiluted BAL BOND SBR. Allow to dry.

Prime board surface with 2 coats of undiluted BAL PRIME APD, applying second coat at 90° to the first.

Allow each coat to dry.

#### **Tongued and grooved floorboards/18mm single layer WBP plywood**

Ensure boards are dry, rigid and securely fixed (screwed to joints at 300mm centres, including any cross-noggings, 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:** For further information on other backgrounds and preparation, contact BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE.

## MIXING

Use a BAL MIXING BUCKET or other suitable bucket.

1. Add approximately 5 parts powder to 1 part clean cold water by weight. (see table below)
2. If using BAL Aggregate – mix 1 bag of aggregate per 1 bag of Level Max.
2. Mix until lump-free mortar achieved.
3. Allow mixed leveller to stand for 2 minutes before re-mixing for 30 seconds.

Product Size	Usage	Approx., clean cold water required per size
25kg	Floors	5.25 litres

NOTE: If using electric drill mixer, blend at slow speed (i.e. under 300rpm).

Ready for immediate use. Pot life at 20°C: approx. 30 minutes.

NOTE: Pot life/setting time will vary slightly with temperature: higher temperatures = shorter; lower temperatures = longer.

## APPLICATION/USAGE

Do NOT use in temperatures below 5°C or in damp conditions.

### Trowel recommendations

Area	Recommended Application Tool
Small /medium to large size floors.	Steel trowel
Very large areas (Pumpable)	Long hand blade

### Usage procedure

1. Prime the floor surface if required and allow to dry before mixing BAL LEVEL MAX. Note: Timber board joints where gaps between boards are open, use thin heavy duty tape to bridge joints, care must be taken not to over everywhere in tape (this will help to minimise the leveller disappearing beneath the sub-floor).
2. Pour mix over sub-floor and spread to required depth using a suitable steel finishing trowel or long hand blade.
3. Surface should be sufficiently smooth to receive floor coverings without further treatment. Note: Do NOT use a spiked roller; this will pull the fibres to the surface.

If any trowel marks remain rub down before compound has hardened (after 3 hours).

4. Allow new floor surface to set. Depending on thickness of application, a 3mm layer BAL LEVEL MAX can receive foot traffic after 3 hours and receive tiling after 4 hours.
5. Show existing movement joints within the sub-floor and BAL LEVEL MAX when receive tile finishes.
6. Allow BAL LEVEL MAX to set for 24 hours when receive soft floor finishes (Inc. vinyl, linoleum, carpet etc.)

## HEALTH & SAFETY INFORMATION / GOOD PRACTICE ADVICE

For detailed information and safety guidance, please refer to Product Material Safety Data Sheet [MSDS].

### 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

12 months under normal dry conditions. Protect from frost and damp.

### 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:

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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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