

xl floor one

Semi-rapid setting, flexible ptb floor tile adhesive

DESCRIPTION

Semi-rapid setting, highly polymer-modified, water/frost resistant, flexible, semi-pourable cementitious tile adhesive for floors with high gel rheology.

Use for

- Fixing large and small format ceramics, porcelain and vitrified tiles, most natural stones, terrazzo in dry or wet interior and exterior environments.
- For fixing agglomerate stone* please contact BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE.
- Recommended for large format tiles, uneven thickness (slate) tiles/slabs, areas of total immersion in water e.g. swimming pools bases and wet room floors.
- Also suitable as patch repair mortar.
- Installations subject to limited movement and vibration.
- Heated screeds.

Restrictions: NOT suitable for

- Metal, painted, tiling to existing glazed tiles* and all wall substrates/backgrounds.
- Tiling directly to timber/plywood walls and floors.

Key

**Further applications possible by adding BAL ADMIX AD1 or BAL All in One Plus to provide flexibility, increased adhesion and reduce water permeability. This enables fixing onto existing glazed surfaces.*

USAGE: Bed Thickness / Time at 20°C

Bed Thickness [^]	Open Time**	Pot Life	Setting Time**
3- 25mm	45-60mins	90 mins	6 hours

*** Times will be extended in colder temperatures, when fixing to impervious backgrounds or when fixing tiles of low porosity.*

[^] Use minimum 3mm thickness for floor tiling.

[^] typical application 2-6mm, can be used up to 25mm in bed thickness.

TEMPERATURE RESISTANCE***

-30°C to 70°C

*** Cured adhesive.

PRODUCT INFORMATION

Composition: Semi-rapid highly polymer-modified cement-based powder.

Colours: White.

Type/Classification: Exceeds BS EN 12004 C2E Cementitious Adhesive with Improved / Additional Characteristics and Fast Setting.

Pack sizes: 20kg

Key Features:

- Extended working-time: up to 1.5 hours
- Extended open-time: up to 1 hour
- Semi-rapid: grout in 6 hours at all thicknesses
- Ideal for natural stone and all large format tiles
- Allows solid-bed fixing without back-buttering
- Removes need for additional leveller; up to 25mm bed depth
- Flexible and high strength
- Ideal for Underfloor and Undertile heating
- Suitable for use to install external porcelain tiles

Grout After: 6 hours (at 20°C)

COVERAGE

Adhesive Bed depth	Coverage ^{^^}
1.5mm bed depth	0.5m ² /kg
3mm bed depth	0.25m ² /kg
6mm bed depth	0.125m ² /kg

^{^^} May vary dependent on nature and flatness of surface, and on trowel used.

SURFACE PREPARATION

General

Ensure surfaces to be tiled are flat, clean, dry, sound, free from contamination and all barriers to adhesion.

Surface regularity:

Surface Regularity is defined as the deviation in height of the surface of a flooring layer over short distances in a local area. In simpler terms, it is the 'flatness' or 'measure of unevenness' of the screeded surface.

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

N.B. When using larger format tiles, it is essential that the substrate is as level as possible, ideally better than SR1, as this will avoid excessive bedding out of adhesive.

In wet areas: waterproof background with BAL TANK-IT or BAL WATERPROOF 1C

If tiling externally, provide protection against inclement weather during fixing and grouting and for as long as possible afterwards. It is recommended that all direct to earth sub floors include a DPM or, if required a surface DPM can be applied prior to tiling See **BAL DPM TECHNICAL DATA SHEET** for further details.

SUITABLE SURFACES include:

Concrete; cement:sand screeds

Before tiling, ensure that the substrate is flat (SR1), free from efflorescence, laitance, dirt, polished concrete and other loose materials. Remove using suitable mechanical methods (see BAL TECHNICAL DATA SHEET on BAL BOND SBR or BAL PRIME APD for priming information). NOTE: Priming and sanding is not required when using BAL FLEXBONE 2Easy.

Allow the following minimum drying times:

- Concrete/concrete block walls/clay brickwork: 6 weeks
 - Cement:sand screed: 3 weeks*
 - Cement:sand (3 weeks for swimming pools)
- *If BAL RAPID-MAT/ BAL FLEXBONE Varied/ BAL FLEXBONE 2Easy is used, this may be fixed when the screed is sufficiently strong enough to receive foot traffic. NOTE: BAL FLEXBONE 2Easy is not fixed down just loose laid.*

BAL QUICKSET CEMENT:sand screeds

- Bonded screeds: 4 hours**
- Unbonded/floating screeds: 48 hours

BAL BOND SBR SLURRY

****1 part sand to 1 part BAL QUICKSET CEMENT by weight, mixed with appropriate amount of BAL BOND SBR pre-diluted 1:1 with clean cold water by volume to achieve desired consistency.**

BACKGROUNDS / BASES

Concrete (2)(3)	✓	Plaster	✗
Rendering	✗	Plasterboard	✗
BAL BOARD/Tile Backer/Fibre Cement Boards (Floors only) (3)(4)(5)(9)(11)	✓	Unglazed Ceramic Tiles / Hard Natural Stone (4)(11)	✓
Cement:Sand Screed (3)(4)(11)	✓	Lightweight Blockwork	✗
Anhydrite/Calcium Sulfate Screeds (4)(8)(11)	✓	All Timber Floors (3)(4)(5)(6)(10)	✓
Mastic Asphalt (4)(7) (11)	✓	Glazed Tiles (Floors)(4)(11)(12)	✓
Vinyl Tiles/Sheets (4)(11)	✓		✓

USAGE & SERVICE CONDITIONS

Walls	✗	Floor	✓
Interior	✓	External	✓
Dry	✓	Wet Areas	✓
Worktops	✗	Showers (a)(5)	✓
Swimming Pool Base (b)(c)	✓	Hydrotherapy Pool Base (b)(c)(1)	✓
Underfloor Heating Systems (3)(4)(9)(11)	✓	Limited Movement/Vibration (4)(11)	✓

- (1) Tiles must be grouted using BAL ABSOLUTE GROUT.
- (2) Provided the surface is sufficiently flat.
- (3) Prime with BAL PRIME APD or BAL BOND SBR. (See BAL TECHNICAL DATA SHEET for more information).
- (4) Do not prime backgrounds when using BAL FLEXBONE 2Easy uncoupling mat.
- (5) In wet conditions tank out with BAL TANK-IT or BAL WATERPROOF 1C.
- (6) Seal back face and edges with undiluted BAL BOND SBR.
- (7) Flooring grade only.
- (8) Prime with BAL PRIME APD, first coat diluted 1:1 with water by volume, second coat undiluted and applied 90° to the first coat.
- (9) Check suitability for the intended purpose with the manufacturer or check BAL TECHNICAL DATA SHEETS on any BAL Products.
- (10) See New/existing Timber Floors section below(i) (page 3).
- (11) May be used in conjunction with BAL RAPID-MAT/BAL FLEXBONE Varied or BAL FLEXBONE 2Easy uncoupling mats.
- (12) When modified with BAL ADMIX AD1, Pre-diluted 1:3 with water by volume.

Note:

- (a) Do not use shower for at least 2 weeks after completion of grouting – Latest BS 5385: Part 4.
- (b) Do not fill pool for at least 3 weeks after completion of routing- Latest BS 5385: Part 4. BAL XL FLOOR ONE is sulphate resistant.
- (c) Must be onto a watertight background.

Asphalt (Flooring Grade Only)

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.

Ensure that surface is sufficiently regular to suit bedding depths of adhesive.

Clean thoroughly to remove surface dirt using warm water and a suitable detergent. Remove all detergent residues with clean water.

Fibre reinforced cement boards and lightweight tile backer boards (Floors)

Install boards onto floors in line with the latest BS 5385 Part 3 – i.e. moisture-resistant boards such as BAL BOARD and screwed to timber based floor boards as an overlay at a maximum of 300mm centres in all directions 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.

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.

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).

Metal

Suitable to be used with metal when primed with aggregate blinded **BAL DPM**. See *BAL TECHNICAL DATA SHEET for further details*.

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 abrade the 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.

Using onto BAL FLEXBONE 2Easy over

Anhydrite/calcium sulfate and hemi-hydrate screed

Allow the screed to dry in accordance with manufacturer's instruction example: moisture contact below 1.5% w/w. No need to mechanically remove the top surface. The floor must be flat to SR1 and the only preparation is to sweep the floor. No priming required. *NOTE: For further information contact BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE and see BAL TECHNICAL DATA SHEET on BAL FLEXBONE 2Easy for further guidance.*

(i) New/existing Timber Floors (Incl. T & G Floorboards)

NOTE: As of May 2024 Plywood/Timber is no longer a suitable base for floor tiling directly to BS 5385 -3: 2024

Option 1 - Overlay with a suitable tile backer board of appropriate thickness and fixed as per manufacturers instructions.

Option 2 - An uncoupling matting such as BAL Flexbone Varied/2 Easy, BAL RAPID-MAT - can be selected providing that the plywood/timber floor is:

- the correct grade
- sufficiently dry, rigid and stable
- able to carry all anticipated static and dynamic loads without deflection
- have adequate ventilation below
- flat and level (SR1)
- securely fixed (screwed to joists at 300mm centres, including any cross-noggins, if necessary)

When bonding tile backer boards or uncoupling mattings down to the surface of the timber, it should be prepared to receive an appropriate BAL cement based adhesive. Sanding of the surface may be required to ensure any surface coatings are removed, e.g. varnish, lacquers, etc. Prime with 2 coats of (second coat applied at 90° to the first): BAL PRIME APD (undiluted). BAL BOND SBR (diluted 1:2 by volume with clean water) Allow each coat of primer to dry.

Heated Screeds

Suitable for sand/cement screeds with water fed underfloor heating encased within. Use in conjunction with one of the BAL uncoupling mattings, depending upon the size and type of tiles. **NOTE:** For further information on other backgrounds and preparation, contact BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE.

Undertile electrical heating systems

Can be used onto electrical undertile heating systems encased within an appropriate BAL leveller. Over suitable boards (such as BAL BOARD)/water resistant grade plywood overlays (minimum 15mm thickness) use BAL LEVEL MAX or BAL LEVEL FAST. Consideration may be given to the use of BAL uncoupling mattings, depending upon the size and type of tiles.

BAL LEVELLER	THICKNESS	SETTING TIME
BAL LEVEL MAX	2mm – 80mm*	3 – 4 hours
BAL LEVEL FAST	2mm – 30mm	30-45 minutes

See BAL TECHNICAL DATA SHEET for further information on suitable surfaces and application. *Up to 80mm in localised areas only. Thicker layers must also be tiled within 48 hours.

Fixing procedure

1. Apply adhesive to the floor surface and comb to required bed thickness ensuring the ribs of adhesive all run in one direction. The adhesive may be applied to a bed thickness of 3 – 25mm.

If fixing large/heavily patterned tiles, apply additional adhesive to tile reverse.

2. For mosaics: using a rubber tile float, press mosaics into adhesive and beat into required position.

For tiles: press tile firmly into the ribs of the adhesive and into position, with slight twisting/sliding action to ensure optimum adhesive contact.

3. Fix mosaics/tiles before adhesive forms skin. If skin has formed, remove adhesive and apply fresh layer). Discard any adhesive that has begun to set. Do not add further water.

4. Occasionally lift a mosaic/tile to check adhesive contact area. When solid bed fixing, leave no voids behind tiles.

5. Leave adequate joints between individual tiles. Install movement joints to BS 5385, Parts 1-5.

6. Clean off surplus adhesive from tile face and between tile joints before the adhesive has dried.

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) Never add more water than recommended as this may lead to excess shrinkage or de-bonding.

2. Mix until lump-free mortar achieved.

3. Allow mixed adhesive to stand for 2 minutes before re-mixing for 30 seconds.

Product Size	Usage	Approx. clean cold water required per size
20kg	Floor Tiling	4.0 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. 90 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	Trowel
External and Floors	Min. 10mm Notched Solid Bed Trowel
Large Format Floor Tiles	Min. 20mm Notched Solid Bed Trowel
Heavy Trafficked Areas	5mm Solid Bed Tipped Trowel
Mosaics (up to 100x100mm tiles) including when used with BAL RAPID-MAT	Min. 4mm Notched Trowel

NOTE: ensure you achieve the correct contact & thickness of adhesive to both the background and tile in line with BS 5385, Parts 1-5.

NOTE: Follow guidelines to BS Standards (minimum 2mm joints for walls and 3mm for floors, size can change depending on size of tile and environments), Contact BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE for more information.

BAL XL FLOOR ONE tile adhesive may be applied to floors only using a suitable notched trowel. N.B. For larger format tiles, the reverse of the tile should be back buttered with a thin layer of adhesive to ensure solid bedding. Do not use thicker beds of adhesive with porous or soft bodied tiles. **Note that when fixing large format tiles, it is essential that the substrate is level to better than SR1 to avoid excessive bedding-out of the adhesive and reduce installation time.**

Grouting

1. Wait minimum 6 hours (at 20°C) after tile fixing. Select a BAL cementitious grout such as BAL MICROMAX2 GROUT or epoxy grout i.e. BAL ABSOLUTE GROUT.

If using paper-faced mosaics: Pre-grout sheet and remove surplus. Place in position and tap down to achieve full contact with adhesive. Ensure joints between sheets match joints between mosaic tesserae (i.e. staggered). Wet paper and carefully remove before adhesive fully hardens. Clean off surplus adhesive and grout from mosaic face. Finish grouting.

2. Fill movement joints with suitable sealant i.e. BAL MICROMAX SILICONE SEALANT. *However, do NOT use on sensitive surfaces that could react to acetic acids released during cure.*

For intermediate movement joints, a more durable hard-wearing material may be needed e.g. an epoxy polysulphide sealant or a suitable pre-formed movement joint strip.

NOTE: If completing a swimming pool, do NOT fill pool for at least 3 weeks after grouting (contact BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE for further advice). If completing a shower, do NOT use shower for at least 2 weeks (as required by BS 5385: Part 4).

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: 03330 030160 or Email: 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.

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CONDITIONS OF SALE

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

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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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