



af max

Unique rubber-crumb adhesive that performs as an uncoupling and fixing system in-one

DESCRIPTION

Highly polymer-modified, water/frost-resistant elastomeric tile adhesive with anti-fracture properties. BAL 'Go Greener' range of environmentally responsible adhesives.

Use for

- Areas subject to limited lateral movement and vibration. Use as isolating anti-fracture underlay for ceramics, porcelain and vitrified tiles, mosaics, slate and certain natural stones, terrazzo in dry or wet interior and exterior environments.

NOTE: Certain types of natural stone (i.e. limestone, marble, travertine and some granite) may be susceptible to water staining. In this case, use alternative suitable products.

Restrictions: NOT suitable for

Do NOT use with uncoupling or decoupling mats.

USAGE: Bed Thickness / Time at 20°C

Bed Thickness [^]	Open Time [*]	Pot Life	Setting Time [*]
3-6mm ^{^^}	20 mins	45 mins	5 hours

^{*} Time will be extended in colder temperatures, when fixing to impervious backgrounds or when fixing tiles of low porosity.

[^] Up to 10mm in limited areas.

^{^^} 3mm minimum thickness, when used for sound-reduction or anti-fracture underlayment.

COVERAGE

Trowel	Coverage [^]
10mm x 20mm Round Notch Trowel	0.435m ² /kg
10mm x 10mm Square Notch Trowel	0.5m ² /kg

[^] May vary dependent on nature and flatness of surface, and on trowel used.

TEMPERATURE RESISTANCE***

-30°C to 60°C (up to 100°C for limited exposure)
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*** Cured adhesive.

PRODUCT INFORMATION

Composition: Rubber-based powder

Colours: Grey

Type/Classification: Exceeds BS EN 12004 **C1S2** - Cementitious (Rubber/cement based), Normal Characteristics and Highly Deformable

Pack size: 17kg

Key Features:

- Unique floor tile adhesive that absorbs lateral stress and movement, providing crack-bridging and anti-fracture
- No uncoupling mats required - just mix with water to fix tiles direct
- Highly flexible elastomeric anti-fracture underlay
- Performance benefits** versus uncoupling mat systems:
 - Over 70% less weight of total materials required
 - Less than 1/3rd materials to carry or store
 - One stage of installation
 - Reduces installation time by over 70%
 - Reduces material cost by 40%
- Helps achieve requirements of Building Regulations Part E (Resistance to sound)
- **Grout after:** 5 hours (at 20°C)

**Assumptions:

- Comparisons versus alternate fixed uncoupling mat systems: uncoupling mat and required adhesive only.
- No additional preparation to floor is required i.e. levelling etc.
- Time estimates based on internal trials where floors will require a standard amount of matting cuts and trimming for room dimensions and upstands etc.
- Certain site conditions, or applicator abilities may reduce or increase estimates.
- Price comparison based on current average trade prices of a comparative system of 30m uncoupling matting and 11x 20kg units of adhesive, at time of issue.

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

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

SUITABLE SURFACES include:

Asphalt (Flooring Grade Only)

Must 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.

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 by the use of suitable mechanical methods (see BAL TECHNICAL DATA SHEET on BAL BOND SBR or BAL PRIME APD for priming information).

Allow the following minimum drying times:

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

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 to achieve desired consistency.**

Existing glazed and unglazed ceramic tiles, quarry tiles, terrazzo and natural stone

Ensure that the existing finish is firmly adhered to the base. Cut out loose or hollow sections and make good. Surface should be thoroughly cleaned/degreased and free from any barriers to adhesion.

USAGE & SERVICE CONDITIONS

Walls	✗	Floor	✓
Interior	✓	Exterior	✓
Dry	✓	Wet	✓
Swimming Pools (b)(d)	✓	Showers (a)(3)	✓
Hydrotherapy Pools (b)(d) (1)	✓	Heated Screeds	✓
Limited Movement/Vibration	✓		

BACKGROUNDS / BASES

Sand Blinded Epoxy coatings	✓	Cement:Sand Screed	✓
Steel (c)	✓	Anhydrite/Calcium Sulfate Screeds (5)	✓
T&G Floorboards, plywood (c)(2)	✓	Glazed Ceramic Tiles/Hard Natural Stone	✓
Concrete	✓	Existing Thermoplastic Vinyl Tiles/Sheets	✓
Tile Backer/Fibre Cement Boards	✓	Flooring Grade Asphalt (4)	✓
Bitumen Adhesive Residues	✓		

- (1) Tiles must be grouted using BAL ABSOLUTE GROUT.
- (2) Prime with undiluted BAL PRIME APD.
- (3) In wet conditions tank out with BAL TANK-IT or BAL WATERPROOF 1C.
- (4) Check suitability of the grade of asphalt (flooring grade only).
- (5) Prime with 2 coats of BAL PRIME APD, first coat diluted 1:1 with water, second coat undiluted applied 90° to the first.

Note:

- (a) Do not use shower for at least 2 weeks after completion of grouting – BS 5385:Part 4
- (b) Do not fill pool for at least 3 weeks after completion of grouting – BS 5385:Part 4
- (c) BAL BAL MICROMAX3 ECO modified with BAL ADMIX GT1 1:2 with water
- (d) Must be onto a watertight background.

Anhydrite/calcium sulphate and hemi-hydrate screed

Allow the screed to dry out in accordance with manufacturer's instruction example: moisture content below 0.5% w/w or 75% RH (Relative Humidity). Mechanically remove top surface to remove weak/dusty surface layer(s) and all other barriers to adhesion 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 SERVICE.

Undertile electrical heating systems

Can be used onto electrical undertile heating systems encased within an appropriate BAL leveller. Over suitable boards.

See *BAL TECHNICAL DATA SHEET for further information on suitable surfaces and application.*

Heated Screeds

Suitable for sand/cement screeds with commissioned water fed underfloor heating encased within.

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

T & G Floorboards / Plywood

Ensure boards are flat (SR1) dry, rigid and securely fixed (screwed to joints at 300mm centres where applicable, including any cross-noggins, if necessary). Ensure any surface coatings are removed, e.g. varnish, lacquers, etc. by sanding/abrading.

Prime 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) or
- Allow each coat of primer to dry.

BAL AF Max tile adhesive has elastomeric properties and is designed to be able accommodate a limited amount of lateral movement, likely to be generated within a suitably prepared timber floor. The floor should always be adequately supported and capable of receiving a rigid tile finish.

Grout with BAL MICROMAX 3 ECO incorporating BAL ADMIX GT1 diluted at 1 part admix to 2 parts water by volume or BAL ALL IN ONE PLUS diluted at 1 part admix to 3 parts water by volume.

Bitumen adhesive residues

Must 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 the 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.

Existing thermoplastic 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.

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 vertically and horizontally 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.

Other substrates that may be suitable:

Steel

GRP (internal dry)

Epoxy coatings

Contact Technical Advisory Service.

MIXING

Use a BAL MIXING BUCKET 30L or suitable mixing bucket.

1. Add approximately 3 parts powder to 1 part clean cold water by weight. This 17kg bag requires approx. 6.1 litres of water).
2. Mix until a smooth lump-free mortar is achieved.
3. Allow mixed adhesive to stand for 2 minutes before re-mixing for 30 seconds.

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

Ready for immediate use. Pot life at 20°C: approx. 45 minutes.

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

APPLICATION/USAGE

Do NOT use in temperature 5°C or damp conditions.

Trowel recommendation

Area	Trowel
External/ Floor Tiles	THICK BED SOLID BED
Mosaics	THIN BED SOLID BED
Large Format Floor Tiles	LARGE FORMAT TROWEL

NOTE: ensure you achieve the correct contact of adhesive to both the background and tile in line with BS 5385, Parts 1-4.

Fixing procedure

1. Apply adhesive to floor surface and comb to required bed thickness ensuring the ribs of adhesive all run in one direction. The adhesive may be applied in bed thickness of 2-10mm.

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

2. For *mosaics*: using a rubber tile float, press mosaics into adhesive and beat into required position. NOTE: Mosaic tiles are NOT recommended to be fixed on to sound-reduction matting (minimum 100x100mm tiles 11mm thick (although 8mm tiles may be used)).

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

3. Fix mosaic/tiles before adhesive forms skin (typically over 20 minutes at 20°C, depending on surface porosity/atmospheric conditions). 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 1-4.

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

Grouting

1. Wait minimum 5 hours (at 20°C) after tile fixing. Select a BAL cementitious or Epoxy grout such as BAL MICROMAX3 ECO GROUT or 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 GROUT EFFECT SILICONE SEALANT. Backing strips and/or bond breaker tape will be inserted into the clean joint leaving no gaps. Ensure that backing strip and/or tape prevents contact between the silicone sealants and the adhesive. *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 SERVICE for further advice).

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 SERVICE on Tel: 01782 591120 or 0845 600 1 222 or Fax: 01782 591121.

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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