Date Issued: MAY 2025

rapid-flex fibre plus

Flexible cementitious wall & floor tile adhesive with FST

DESCRIPTION

Rapid-setting, highly polymer-modified, water/frost-resistant cementitious tile adhesive for walls and floors.

Use for

- Fixing ceramics, porcelain and vitrified tiles, mosaics, most natural stone, terrazzo, rigid foam insulating materials and brick slips in dry or wet interior and exterior environments.
- Recommended for large format wall tiles and large format panels 3m x 1m in size), areas of total immersion in water e.g. swimming pools and showers.
- Installations subject to limited movement and vibration.
- Heated screeds.

Restrictions: NOT suitable for

- Metal, painted, Glass/metal tiles with water-sensitive coating on back, plywood walls, existing glazed tiles **only with** *.

Key

**Further applications possible by adding BAL ALL IN ONE PLUS to provide flexibility, increased adhesion and reduce water permeability. This enables use onto glazed surfaces.*

USAGE: Bed Thickness / Time at 20°C

Bed Thickness ^	Open Time**	Pot Life	Setting Time**
2- 6mm	>30 mins	60 mins	3 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, use up to 12mm in isolated areas only.

TEMPERATURE RESISTANCE***

-30°C to 100°C

**** Cured adhesive.*

PRODUCT INFORMATION

Composition: Rapid-setting highly polymer-modified cement-based powder with BAL Fibre Strand Technology (FST). ***(available at Topps Tiles only)***

Colours: White.

Type/Classification: Exceeds BS EN 12004 **C2FES1** (t)# – Cementitious Adhesive with Improved / Additional Characteristics, Fast Setting, Extended Open time and Deformable. #Reduced slip achieved with reduced water demand.

Pack sizes: 20kg

Key Features:

- Extended open times of 30 minutes.
- Extended pot life of 60 minutes.
- FST formulation and increased polymer levels for improved flexibility, strength, grab.
- Super-smooth consistency for easier mixing and application and ideal for use with glass mosaics.
- Heightened colours with brightest white formulation, ideal for use with translucent stone and glass tiles.
- Excellent use on walls or floors additional 'T' classification to achieve reduced slip performance when mixed at the water ratio stated for wall tiling.
- Higher polymer content for increased flexibility gaining a deformabity S1 classification.

Grout After: 3 hours (at 20°C)

COVERAGE

Area	Trowel	Coverage ^^
Dry Wall	4mm Notched	0.6m²/kg
Dry Wall	6mm Notched	0.5m²/kg
Wet Wall	6mm Notched (solid bed)	0.4m²/kg
Exteriors / Floors	10mm Notched (solid bed)	0.26m²/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 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

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.

SUITABLE SURFACES include:

Plaster (finish coat only)

Must be at least 4 weeks old before tiling. Ensure that the plaster is free from dust, laitance, and friable material.

If *plaster is shiny or polished*, brush thoroughly with a stiff bristled brush.

The plaster must always be primed with 2 coats of BAL ALL IN ONE PLUS (diluted 1:2 by volume with clean cold water)

Second coat applied at 90º to the first.

Allow each coat of primer to dry.

Maximum 20kg/m² weight restriction for tiling onto plaster

Note: The use of plaster is not recommended in commercial wet rooms or domestic power showers.

Plasterboard

Ensure boards are dry, securely fixed and rigid and suitable thickness used.

Maximum 32kg/m² weight restriction for tiling onto plasterboard. NOTE: For higher weight tolerances use a suitable board.

Note: The use of plasterboard is not recommended in commercial wet rooms or domestic power showers.

Lightweight blockwork/walling

Allow new block mortar to dry for minimum 6 weeks before rendering (such as BAL QUICKSET RENDER)/plastering or a suitable tile backer board.

Dense concrete/blockwork walling

Allow new block mortar to dry for minimum 6 weeks before rendering (such as BAL QUICKSET RENDER) /plastering. If direct fixing tiles, wall must be smooth-faced and sufficiently flat (SR1).

BACKGROUNDS / BASES

Brick(13)/Concrete (2)	✓	Plaster (3) (5)	✓
Rendering (3)	✓	Plasterboard (5)	✓
Tile Backer/Fibre Cement Boards (3)(4)(5)(9)(11)	✓	Unglazed Ceramic Tiles / Hard Natural Stone (4)(11)	✓
Cement:Sand Screed (3)(4)(11)	✓	Lightweight Blockwork (13)	✓
Anhydrite/Calcium Sulfate Screeds (4)(8)(11)	✓	All Timber Floors – (3)(4)(5)(6)(10)	✓
Mastic Asphalt (7) (4)(11)	✓	Glazed Tiles (4)(11)(12) ✓	×
Vinyl Tiles/Sheets (4)(11)	✓		

USAGE & SERVICE CONDITIONS

Walls	✓	Floor	✓
Interior	✓	External	✓
Dry	✓	Wet Areas	✓
Worktops (1)	✓	Showers (a)(5)	✓
Swimming Pools (b)(c)	✓	Hydrotherapy Pools (b)(c)(1)	✓
Underfloor Heating Systems (3)(4)(9)(10)	✓	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 ALL IN ONE PLUS. (See BAL TECHNICAL DATA SHEET for more information).
(4) Do not need to prime/admix (BAL ALL IN ONE PLUS) when using BAL FLEXBONE 2Easy uncoupling mat.
(5) In wet conditions tank out with BAL WATERPROOF 1C.
(6) Seal back face and edges with undiluted BAL ALL IN ONE PLUS.
(7) Flooring grade only.
(8) Prime with BAL ALL IN ONE PLUS, first coat 1:4 with water by volume, second coat diluted 1:2, 90º 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 or BAL FLEXBONE 2Easy uncoupling mats.
(12) When modified with BAL ALL IN ONE PLUS, Pre-diluted 1:3 with water by volume. And mixed with BAL RAPID FLEX FIBRE PLUS.
(13) Apply a cement: sand render e.g. BAL QUICKSET RENDER or a suitable tile backing board prior to tiling.

Note:
(a) Do not use shower for at least 2 weeks after completion of grouting – as per latest BS 5385:Part 4.
(b) Do not fill pool for at least 3 weeks after completion of grouting- as per latest BS 5385:Part 4. BAL RAPID-FLEX ONE is sulphate resistant.
(c) Must be onto a watertight background.

Concrete; cement:sand screeds and rendering

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 ALL IN ONE PLUS 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 rendering: 2 weeks (3 weeks for swimming pools)

BAL QUICKSET CEMENT:sand screeds and rendering

– Bonded screeds: 4 hours**
– Unbonded/floating screeds: 48 hours
– Rendering (bonded): 4 hours**

BAL ALL IN ONE PLUS SLURRY

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

BAL QUICKSET RENDER: 2 hours

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 (Walls)

Install boards to latest BS 5385 Part 3 – i.e. moisture-resistant boards and 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 such as BAL ALL IN ONE PLUS diluted 1:4 with clean cold water. *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.

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^{o} to the first):
– BAL ALL IN ONE PLUS 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 manufacture'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 2Easyfor 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^{o} to the first): BAL PRIME APD (undiluted). BAL ALL IN ONE PLUS (diluted 1:2 by volume with clean water) Allow each coat of primer to dry.

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

For wall ensure existing tiles/stone are soundly bonded to a stable background that is sufficiently strong enough to support the weight of the new tiling.
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 ALL IN ONE PLUS 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 ALL IN ONE PLUS (pre-diluted 1:3 by volume with clean cold 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.

Metal

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

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/water resistant grade plywood overlays (minimum 15mm thickness) use a suitable leveller such as BAL LEVEL MAX. 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 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.

APPLICATION/USAGE

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

Trowel recommendations

Area	Trowel
Internal Dry Wall Area (up to 300x300mm tiles)	**Min 6mm Notched Trowel**
Internal Wet Wall Area (up to 300x300mm tiles)	**Min 6mm Notched Solid Bed Trowel**
External & Walls and Floors	**Min 10mm Notched Solid Bed 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 RAPID-FLEX FIBRE PLUS tile adhesive may be applied on walls and floors 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. *NOTE: For thicker applications, the mixing water should be reduced to achieve the necessary slump resistance.* 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 better than SR1 to avoid excessive bedding-out of the adhesive and reduce installation time.***

MIXING

Use a BAL MIXING BUCKET or other suitable bucket.
1. Add approximately 4 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. *If using electric drill mixer, blend at slow speed (i.e. under 300rpm).*

Product Size	Usage	Approx. clean cold water required per size
20kg	Wall Tiling	4.2 – 4.8 litres
20kg	Floor Tiling	5.4 – 5.6 litres

Ready for immediate use. Pot life at 20°C: approx. 60 minutes.
NOTE: Pot life/setting time will vary slightly with temperature: higher temperatures = shorter; lower temperatures = longer.

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.

Fixing procedure

1. Apply adhesive to wall or 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 2 - 6mm or up to 12mm in limited, localised areas. (i.e.MAX 0.5m²)
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 (typically over 30 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.

Grouting

1. Wait minimum 3 hours (at 20°C) after tile fixing. Select a BAL cementitious such as BAL MICROMAX3 ECO 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 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 latest version of BS 5385: Part 4 . clause 7.2.1).

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.

ARDEX GROUP WARRANTY

ARDEX Group supplies products under a range of Brands into the UK and Ireland markets. This Warranty applies to BAL, ARDEX, Gutjahr, Wakol, Loba, wedi or Knopp products whether used individually or in combination provided they are used in accordance with the relevant product datasheets and the warranty terms and conditions are available on the website. This Warranty applies only to Products purchased and used in the UK and Ireland directly from one of the Brands or a Brand authorised stockist.

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

Sales
Tel: +44 (0) 1782 591160
Fax: +44 (0) 1782 591131

Technical
Tel:
+44 (0) 3330 030160
Email: 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