

ctf4

Cementitious tile adhesive walls & floors

DESCRIPTION

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

Use for

- Fixing ceramics, porcelain and vitrified tiles, mosaics, certain natural stones, terrazzo, rigid foam insulating materials and brick slips 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 of a BAL rapid-setting white adhesive is recommended i.e. BAL RAPIDSET FLEXIBLE FIBRE WHITE. Do NOT use BAL CTF4 for translucent or water sensitive stone.

- Recommended for large format wall tiles.
- Recommended for showers.

Restrictions: NOT suitable for

- Metal, painted, Glass/metal tiles with water-sensitive coating on back, plywood walls*, tiling to existing glazed tiles* and areas of total immersion in water e.g. swimming pools.

**Further applications possible by adding BAL ADMIX AD1 to provide flexibility, increased adhesion and reduce water permeability. This enables use onto glazed surfaces.*

PRODUCT INFORMATION

Composition: Standard-setting polymer-modified cement-based powder.

Colours: White.

Type/Classification: Exceeds BS EN 12004 C2TE – Cementitious Adhesive with Improved / Additional Characteristics, Reduced Slip, Extended Open Time.

Pack sizes: 20kg

Key Features:

- Extended open times of 30 minutes.
- Pot life of 5 hours.
- Suitable for porcelain tiles.
- Use on walls and floors.
- Highly water/frost resistant.

Grout after: 16 hours (at 20°C)

USAGE & SERVICE CONDITIONS

Walls	✓	Floor	✓
Interior	✓	Exterior (12)	✓
Dry	✓	Wet	✓
Worktops (1)	✓	Showers (a)(5)	✓
Swimming Pools (b)(12)	✓	Heated Screeds (9)(11)(12)	✓
Hydrotherapy Pools (b)(1)(12)	✓	Limited Movement / Vibration (11)(12)	✓

BACKGROUNDS / BASES

Brick/Concrete (2)	✓
Rendering	✓
Lightweight Blockwork (2)(3)(4)(12)	✓
Cement:Sand Screed (11)	✓
Plaster (3)(5)	✓
Plasterboard (5)(12)	✓
Tile Backer/Fibre Cement Boards (9)(12)	✓
Glazed/Unglazed Ceramic Tiles / Hard Natural Stone (11)(12)	✓
Timber Floors (10)(12)	✓
Overlaid Timber Floors – 15mm min. (5)(6)(11)(12)	✓
Vinyl Tiles/Sheets (12)(13)	✓
Mastic Asphalt (7)	✓
Anhydrite/Calcium Sulfate Screeds (8)(11)	✓
Plywood (Walls) (6)(8)(12)	✓

USAGE: Bed Thickness / Time at 20°C

Bed Thickness	Open Time	Pot Life	Setting Time**
2- 6mm	30 mins	5 hours	16 hours

** Open time/setting time will be extended in colder temperatures, when fixing to impervious backgrounds or when fixing tiles of low porosity.

^ Up to 12mm in areas of limited extent. Use minimum 3mm for floor tiling.

COVERAGE

Area	Trowel	Coverage ^^
Dry Wall	Mosaic	0.5m ² /kg
Dry Wall	Round Notched	0.4m ² /kg
Wet Wall	Thin Bed Solid Bed	0.33m ² /kg
Exteriors / Floors	Thick Bed Solid Bed	0.25m ² /kg

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

TEMPERATURE RESISTANCE***

-30°C to 150°C

*** Cured adhesive.

- (1) Tiles must be grouted using BAL EASYPOXY AG.
 (2) Provided the surface is sufficiently flat.
 (3) Prime with undiluted BAL PRIME APD.
 (4) Direct fixing in dry conditions only.
 (5) In wet conditions tank out with BAL TANK-IT or BAL WATERPROOFING KIT FOR SHOWERS.
 (6) Seal back face and edges with undiluted BAL BOND SBR.
 (7) Check suitability of the grade of asphalt (flooring grade only).
 (8) Prime with BAL PRIME APD, first coat 1:1 with water, second coat undiluted 90°C to the first.
 (9) Check suitability for the intended purpose with the manufacturer.
 (10) When used with BAL RAPID-MAT.
 (11) May be used in conjunction with BAL RAPID-MAT.
 (12) When modified with BAL ADMIX AD1, Pre-diluted 1:1 with water
 (13) Alternatively, prime with undiluted BAL BOND SBR and allow to dry, fix tiles within 24 hours with BAL CTF4.

Not recommended for use on paint, metal.

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
 BAL CTF4 is sulphate resistant.

SURFACE PREPARATION

General

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

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
SR2	5mm	For tiles & slabs bedded in a cement: sand mortar or a suitable tile adhesive (see the manufacturer's recommendations)
SR3	10mm	For tiles & slabs bedded in a cement:sand semi-dry mix.

In shower areas: waterproof background with BAL TANK-IT, BAL WATERPROOFING KIT FOR SHOWERS or BAL WP1 TANKING SYSTEM.

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.

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 and rendering

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/concrete block walls/clay brickwork: 6 weeks
- Cement:sand screed: 3 weeks*
- Cement:sand rendering: 2 weeks (3 weeks for swimming pools)

**If BAL Rapid-mat is used, this may be fixed when the screed is sufficiently strong enough to receive foot traffic*

BAL QUICKSET CEMENT:sand screeds and rendering

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

BAL QUICKSET RENDER: 2 hours

Overlaid timber floors (min. 15mm)

Suitable when adhesive has been modified with BAL ADMIX AD1 (pre-diluted 1:1 by volume with clean cold water).

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 e.g. a suitable water resistant grade e.g. 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.

Tongued and grooved floorboards with BAL RAPID-MAT

Suitable when adhesive has been modified with BAL ADMIX AD1 (pre-diluted 1:1 by volume with clean cold water).

Ensure boards are flat (SR1) 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.

If necessary the floor may require levelling using BAL LEVEL MAX and allow to dry before installing BAL RAPID-MAT. See BAL TECHNICAL DATA SHEET for further information on suitable surfaces and application.

Anhydrite/calcium sulfate 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) 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.

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 (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.

Weight restrictions for tiling onto plaster i.e. a maximum weight of 20kg/m².

Plywood walls (internal dry areas only)

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

Dense concrete/blockwork walling

Suitable when adhesive has been modified with BAL ADMIX AD1 (pre-diluted 1:1 by volume with clean cold water).

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

Lightweight blockwork/walling

Suitable when adhesive has been modified with BAL ADMIX AD1 (pre-diluted 1:1 by volume with clean cold water).

Allow new block mortar to dry for minimum 6 weeks before rendering /plastering. If direct fixing tiles, wall must be smooth-faced and sufficiently flat (SR1) 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: Only suitable for internal dry environments unless rendered.

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 BOND SBR pre-diluted 1:1 with clean cold water to achieve desired consistency).

N.B. Suitable for existing glazed tiles/brickwork when adhesive has been modified with BAL ADMIX AD1 (pre-diluted 1:1 by volume with clean cold water).

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 all allow to dry.

Fix tiles within 24 hours.

Alternatively modify with BAL ADMIX AD1 (pre-diluted 1:1 by volume with clean cold water).

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

Suitable when adhesive has been modified with BAL ADMIX AD1 (pre-diluted 1:1 by volume with clean cold water).

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. Do NOT seal or prime surfaces to be tiled. IMPORTANT NOTE: Obtain manufacturer's confirmation that boards are suitable for tiling and for relevant fixing instructions.

Plasterboard (If required)

Suitable when adhesive has been modified with BAL ADMIX AD1 (pre-diluted 1:1 by volume with clean cold water).

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

NOTE if the plasterboard are dot and dabbed at 300mm centres and around the perimeter, leave to dry before fixing tiles.

Typical weight restrictions for tiling onto plasterboard i.e. a maximum weight of 32kg/m².

Undertile electrical heating systems

Suitable when adhesive has been modified with BAL ADMIX AD1 (pre-diluted 1:1 by volume with clean cold water).

Can be used onto electrical undertile heating systems encased within an appropriate BAL leveller. Over suitable boards/exterior grade plywood overlays (minimum 15mm thickness) use BAL LEVEL MAX.

BAL LEVELLER	THICKNESS	SETTING TIME
BAL LEVEL MAX	2mm – 80mm	3 - 4 hours
BAL ACRYBASE	Up to 20mm	3 – 4 hours

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

Heated Screeds

When adhesive has been modified with BAL ADMIX AD1 (pre-diluted 1:1 by volume with clean cold water).

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

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

BAL RAPID-MAT

Uncoupling matting for fast track tiling onto problematic floors – Protecting floor tiling against reflective cracks, fractures and other damage caused by stresses and lateral movement in the substrate.

– Suitable for most problematic floor substrates including timber floors, new screeds and floors with under-tile heating systems.

– Suitable for most tile types including natural stone and mosaics.

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

MIXING

Use a BAL MIXING BUCKET or other suitable bucket.

1. Add approximately 3.6 parts powder to 1 part clean cold water by weight. (see table below)

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	Wall & Floor Tiling	5.6 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. 5 hours.

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

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)	BAL ROUND NOTCHED
Internal Wet Wall Area (up to 300x300mm tiles)	BAL THIN BED SOLID BED
External Walls and Floors	BAL THICK BED SOLID BED
Mosaics (up to 100x100mm tiles) including when used with BAL RAPID-MAT)	BAL MOSAIC TROWEL

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

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 in a bed thickness of 2 - 6mm or up to 12mm in limited, localised areas.

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.

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.

Grouting

1. Wait minimum 16 hours (at 20°C) after tile fixing. Select a BAL cementitious or Epoxy grout such as BAL MICROMAX2 GROUT or BAL EASYPOXY AG 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, 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: 01782 591120 or 0845 600 1 222 or Fax: 01782 591121.

POWERSPEC

A unique computerised online specification system for the design and installation of ceramic, mosaic and natural stone tiling.

Visit www.powerspeconline.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. 10 year anti-fungal guarantee subject to regular cleaning.

Contact BAL Marketing Department for full details.

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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