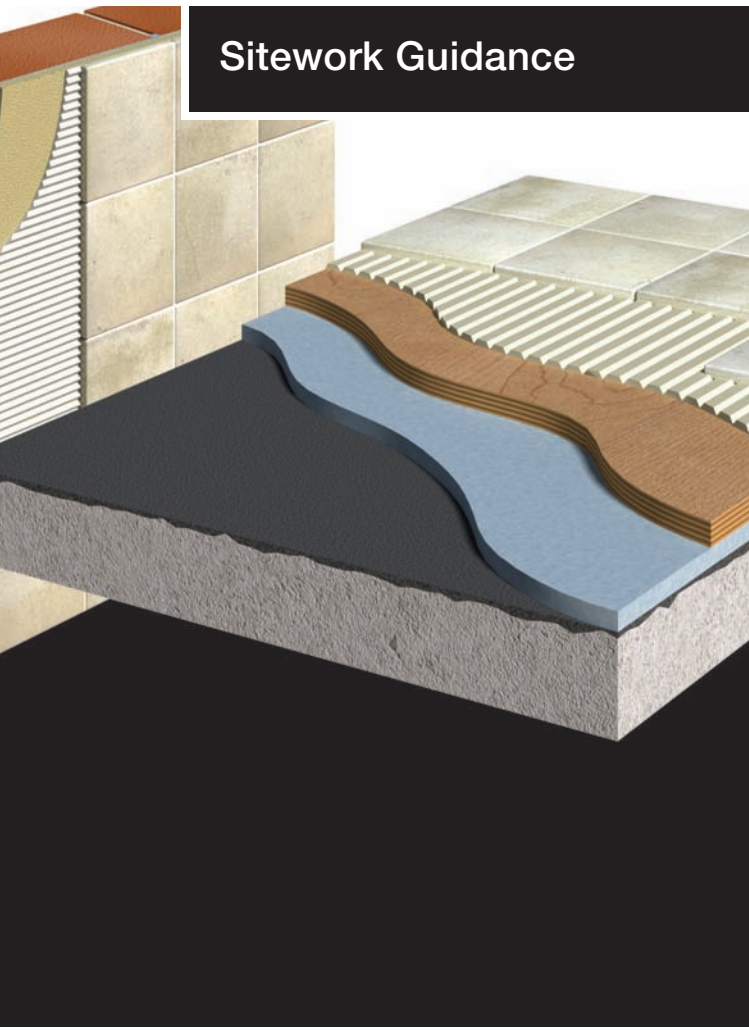
professional fixing guide

Sitework Guidance



www.bal-adhesives.com

adhesives and grouts

trust BAL to get it right

BAL is the UK's leading brand of adhesives, grouts and ancillary products for professional tile fixers. Whatever the tile material, whatever the tiling background, and whatever the function of the tiled environment, there is a BAL solution that you can completely trust for quality and lasting performance.

Helping you

This Guide is your compact reference to Best Practice on site. It includes advice about preparing various backgrounds and bases for tiling, and on mixing and using BAL products to achieve high quality results.

For a handy reference to all BAL products, guidance on selecting the right ones for each specific task, and reminders of key factors influencing that decision, see our companion booklet **BAL professional fixing guide PRODUCT SELECTION.**

Unique 25-year guarantee

Used correctly, BAL products won't let you down. That very reassuring fact is now fully confirmed via our unique 25-year product guarantee.

Unrivalled BAL experience

You can also rely on BAL to support you with expert advice if ever you may need it. No other brand can offer you the benefits of so much experience and expertise.

contents

PREPARATION

General

Basic principles/Tile types 4-5
Wall tiling weights/Priming 6

Background/base types

For WALL tiling 7-10
For FLOOR tiling 11-16

Other preparation

Waterproofing 17
Movement joints: general 18
Movement joints: for internal/external WALLS and FLOORS 19

APPLICATION

Equipment

Trowels/tools 20-21
Mixing 22

Usage

Good Practice notes 23

Problem-solving

Frequent queries 24-25

PROFESSIONAL SUPPORT SERVICES

Fixer Focus/Powerspec/Website 26
BAL Training 27
BAL Technical Advisory Service 27

BAL tips

the benefits of experience

Throughout this **SITEWORK GUIDANCE** *booklet– and its* **PRODUCT SELECTION** *companion – you'll find useful and helpful tips. While many of these will be recognised by most professionals, they are included to help everyone get the benefits of BAL's experience – and get it right, every time.*

general preparation

Basics

Before starting any tiling project, ensure that the background/base is:

- Sufficiently flat
- Clean and dry
- Free from any contamination
- Suitable for the intended service conditions
- Sufficiently strong and rigid to support the tiling finish

BAL tips

making it flat – fast!

If you discover a plaster/brick/block WALL that is not sufficiently flat:

- *Make good with* **BAL Quickset Render**

If it's a concrete or screeded FLOOR that is uneven:

- *Make good/level with* **BAL Multibase** *or* **Acrybase** *or* **Quickset Cement**.

All these products are rapid-setting, so there's only minimal delay to your starting the tiling work.

For wet environments

- *In wet areas:* tank out with **BAL WP1 Shower Kit/WP1 Waterproofing System**
- *In intermittently wet areas (e.g. domestic showers):* an epoxy grout may be used to provide additional protection

BASES *only*

- Prevent pooling of water by levelling out or creating falls in the floor prior to tanking, with **BAL Acrybase** (for anhydrite screeds) or **BAL Fastflex**

Existing movement joints *(see also pages 18-19)*

- Fill movement joints with **BAL Microseal** silicone sealant

NOTE: Do NOT use with calcium carbonate-based materials: e.g. marble, limestone.

tile types

Ceramic and other tile types vary according to material, production method, water absorption level, size, thickness and weight.

These differences – individually and in combination – can have a direct influence on choice of a suitable adhesive and on installation procedures.

Porous tiles may have water absorption levels in excess of 10%. At the other extreme, porcelain tiles typically absorb less than 0.5% of moisture.

Always check that the correct adhesive and grout are selected to suit the material of the tiles to be fixed.

In addition to information in the **BAL professional fixing guide: PRODUCT SELECTION**, *packaging for all BAL adhesives and grouts clearly identifies for which tile types the product concerned is suitable.*

Tile material notes

The following should be noted about individual tile types:

Glazed ceramics: Not generally suitable for exterior or heavy traffic floor areas.

Unglazed ceramics: Typically used in commercial/industrial situations – and more suited to wet areas. Stain and frost-resistant.

Mosaics: Typically supplied on sheets. Usually glazed. If unglazed, seal with a suitable sealant before installing. *Check with tile manufacturer.*

Porcelain tiles: Very low water absorption level, so they need special adhesive formulation to ensure good adhesion/ bonding. BAL products suitable for use with porcelain tiles are identifiable via the **Porcelbond Plus** mark. For indoor and outdoor use.

Fully vitrified tiles: Also with low water absorption levels, though typically not quite as low as porcelain tiles. However, they do need an adhesive capable of achieving good adhesion/bonding without relying on porosity of material.

Natural stone: Some light-coloured stone tiles may be susceptible to staining. Exercise care when using coloured grouts *(see page 25)*. The wear capability of stone varies widely, depending on type – some hard, some softer. May require sealing. *Check with tile manufacturer.*

Marble: If semi-translucent, *white* tile adhesive should be used. Grey adhesive can show up as shadows in some cases.

Quarry tiles: Must have a rigid base. Not recommended for areas requiring complicated cuts. Soaking the tiles in water is advised before fixing so that water from the adhesive bed is not absorbed too quickly.

Slate: These tiles can vary slightly in size and thickness. It is important that there be NO voids in the supporting adhesive bed.

Terrazzo: Highly durable, but can be slippery when wet. Should be dipped in water for a few seconds to get back wet before placement on the adhesive bed.

Terracotta: Can have a white powdery surface deposit. This is normal with certain types. Treat with an efflorescence remover, allow to dry, and apply a suitable impregnating sealer. Not frost resistant – so unsuitable for exterior use.

Glass: Some types are not suitable for use close to heat sources or in wet areas. *Check with tile manufacturer.*

wall tiling weights

Tiling wall substrates	Maximum weight* of tiling per m²
Gypsum plaster	20kg/m²
Gypsum plasterboard direct (i.e. without a plaster skim)	32kg/m²
Plywood (WBP)	Up to 30kg/m²
Lightweight tile-backer boards**	Up to 40kg/m² dependent upon type/ thickness of board
Glass reinforced cement sheets**	Up to 50kg/m² dependent upon type/thickness of board
Gypsum fibre boards**	Approx. 35- 40kg/m²

Typical weight equivalents

20kg/m²: ceramic tiles up to 8mm thick (max.) or natural stone tiles up to 7mm thick (max.).

32kg/m²: ceramic tiles up to 12.5mm thick (max.) or natural stone tiles up to 10mm thick (max.).

For other weight limits: check limit against declared tile weight per m² PLUS 2-4kg/m² allowance for adhesive and grout.

primer guide

Key substrates/backgrounds to be primed using **BAL Prime APD** or **BAL Primer** :

TWO coats neat

- Calcium sulphate screed
- Anhydrite screed
- Gypsum plaster▼§
- Plasterboard▼§
- Tongue-and-groove floorboards

ONE coat

- Lightweight blockwork

ONE coat

(diluted 1:1 with clean water)

- Gypsum plaster▼‡

ONE coat

(if required i.e. surface is dusty/friable)

- Cement:sand render
- Concrete
- Cement:sand screed

Substrate/base recommended to be primed using **BAL Bond SBR**:

ONE coat neat

- Plywood laid over underfloor heating

The following substrates do not require priming on the face of the substrate/background that will receive tiles:

- Lightweight tile backer boards
- Calcium Silicate boards
- Fibre-reinforced cement sheets#
- Plywood/Chipboard#

* Tiles PLUS adhesive & grout

** Seek further advice/guidance from board manufacturers

§ If using cementitious adhesives

‡ If using ready-mixed dispersion adhesives

▼ **BAL Bond SBR** may be used instead as primer – diluted 1:2 with clean water if using BAL *cementitious* adhesives (or 1:4 if using BAL *ready-mixed dispersion* adhesives).

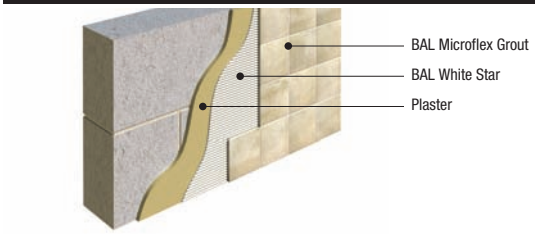
Apply ONE coat of neat **BAL Bond SBR** to the reverse side and edges.

BAL tips

second coat priming

When TWO coats of primer are required, it's Good Practice to apply the second coat at 90° to the first coat – i.e. one coat horizontally, and one vertically. Always allow each coat to dry.

gypsum plaster



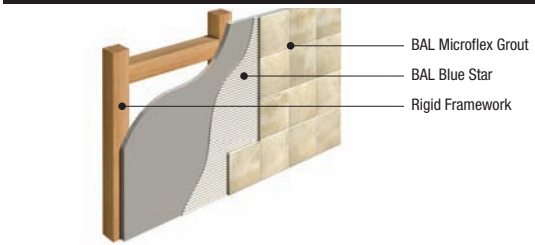
Max. tiling weight: **20kg/m²** incl. adhesive and grout

- Allow new plaster to dry for min. 4 weeks
- Ensure finish coat is free of contaminants
- Make good any defective areas

If plaster has polished/ shiny surface

- Brush with stiff bristle brush
- Prime with **BAL Prime APD** OR **BAL Bond SBR** *(see primer guide page 6)*
- Allow to dry

gypsum plasterboard



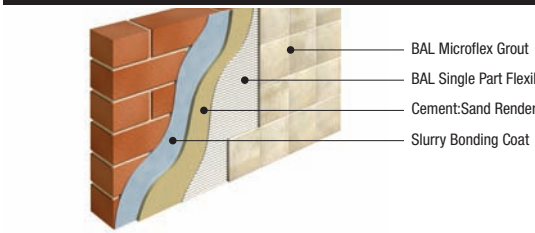
Max. tiling weight: **32kg/m²** incl. adhesive and grout

- Check that boards are securely fixed, ideally at 300mm centres, and are rigid
- Ensure no protruding fixings

If using BAL cementitious adhesives

- Prime with **BAL Prime APD** OR **BAL Bond SBR** *(see primer guide page 6)*
- Allow to dry

cement:sand rendering



- Allow new rendering to dry for min. 2 weeks

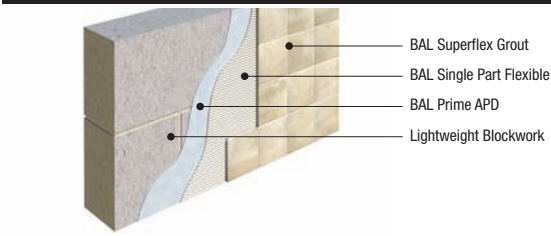
If swimming pool: allow min. 3 weeks.

If render contains **BAL Quickset Cement:** allow 24 hours to dry.

If render is **BAL Quickset Render:** allow 3 hours to dry.

- If required, prime with **BAL Prime APD** *(see primer guide page 6)*

lightweight blockwork/walling



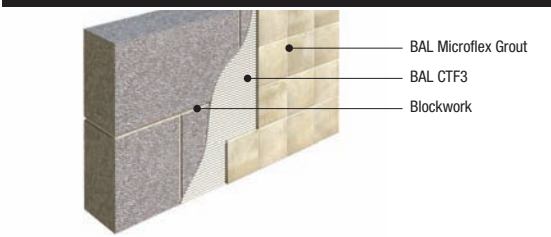
NOTE: Only suitable for internal dry environments unless rendered.

- Allow new block mortar to dry for min. 6 weeks before rendering/plastering

If direct fixing tiles, wall MUST be smooth-faced.

- Prime with **BAL Prime APD** *(see primer guide page 6)*
- Allow to dry

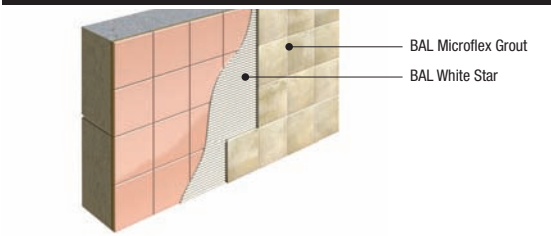
dense concrete/block walling



- Allow new block mortar to dry for min. 6 weeks before rendering/plastering

If direct fixing tiles, wall MUST be smooth-faced.

existing glazed tiles/bricks



- Check that

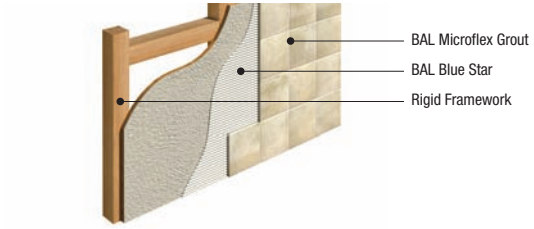
– existing tiles/bricks are securely bonded to their substrate, and in sound clean condition

– underlying background/ walls can support two layers of tiles

If existing tiles are NOT sound

- Remove any loose tiles
- Make good with 1:3 cement:sand mortar applied over a slurry bonding coat (Portland cement 2:1 with **BAL Bond SBR** by weight)

fibre-reinforced cement sheets



NOTE: Use moisture resistant boards.

- Seal reverse side and board edges with **BAL Bond SBR**

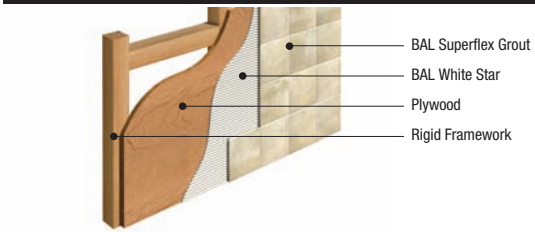
NOTE: Do NOT seal or prime board surfaces to be tiled.

Max. tiling weight (dependent on board type/thickness): ▼**50kg/m²** incl. adhesive and grout.

- Screw boards to seasoned timber framework (or other suitable proprietary framework) at 300mm centres – or as recommended by board manufacturer
- Ensure boards are securely fixed and rigid

▼ Check with individual board manufacturer.

plywood/chipboard/calcium silicate boards



NOTE: Use moisture resistant or exterior grade boards.

- Seal reverse side and board edges with **BAL Bond SBR**

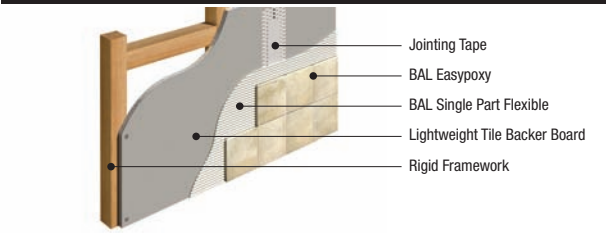
NOTE: Do NOT seal or prime board surfaces to be tiled.

Max. tiling weight (dependent on board type/thickness): ▼**30kg/m²** incl. adhesive and grout.

- Screw boards to seasoned timber framework (or other suitable proprietary framework) at 300mm centres – or as recommended by board manufacturer
- Ensure boards are securely fixed and rigid

▼ Check with individual board manufacturer.

lightweight tile backer boards onto rigid framework



NOTE: Check with board manufacturer that tile backer boards are suitable.

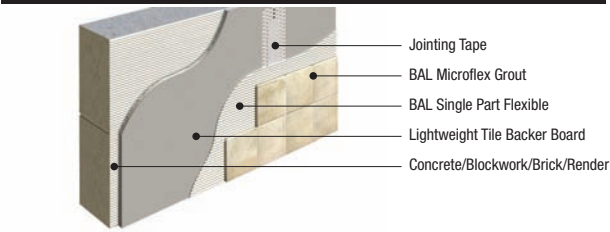
Do NOT seal or prime board surfaces to be tiled.

Max. tiling weight (dependent on board type/thickness): ▾**40kg/m²** incl. adhesive and grout.

- Screw boards to seasoned timber framework (or other suitable proprietary framework) at 300mm centres – or as recommended by board manufacturer
- Ensure boards are securely fixed and rigid
- Ensure no protruding fixings
- Use appropriate tape over joints

▾ Check with individual board manufacturer.

lightweight tile backer boards onto concrete/blockwork/brick/render



NOTE: Check with board manufacturer that tile backer boards are suitable.

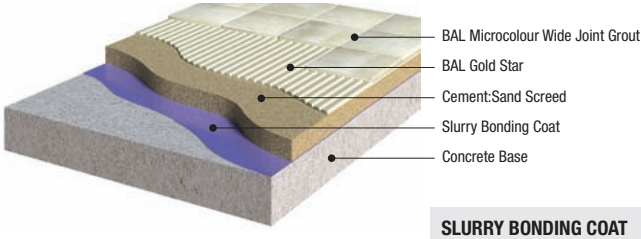
Do NOT seal or prime board surfaces to be tiled.

Max. tiling weight (dependent on board type/thickness): ▾**40kg/m²** incl. adhesive and grout.

- Fix boards to walls using adhesive (e.g. **BAL Single Part Flexible** or **BAL Rapidset Flexible**) as recommended by board manufacturer
- Ensure boards are securely fixed and rigid
- Use appropriate tape over joints

▾ Check with individual board manufacturer.

cement:sand screed



For newly-laid screed

- Allow screed to dry for min. 3 weeks – or 24 hours if screed is **BAL Quickset Cement**

If fixing with **BAL Green Screed** *adhesive,* allow 24 hours drying time.

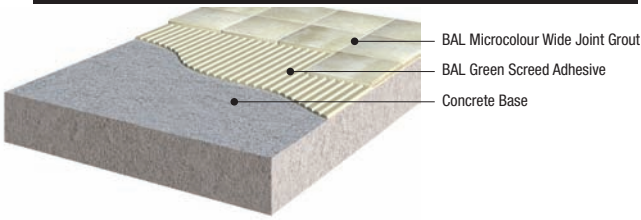
For existing screed

- Cut out all loose or hollow parts
- Apply slurry bonding coat
- Make good with EITHER 1:3 cement:sand mortar OR **BAL Pourable Thick Bed** (or **PTB Flexible**)

SLURRY BONDING COAT

- **BAL Quickset Cement** 2:1 with **BAL Bond SBR** (pre-diluted 1:1 with water)
- Portland cement 2:1 with **BAL Bond SBR** by weight
- OR **BAL Pourable Thick Bed** (or **PTB Flexible**) 2:1 with **BAL Bond SBR** by weight

concrete base



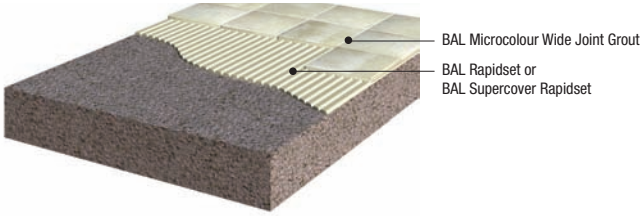
For newly-laid concrete

- Allow concrete to dry for min. 6 weeks

If fixing with **BAL Green Screed** *adhesive,* allow 1 week drying time.

- Before tiling, mechanically remove laitance from concrete surface (e.g. grit blasting)

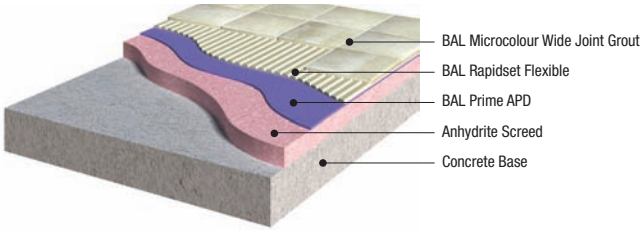
asphalt base



NOTE: Mastic asphalt should be suitable type (e.g. flooring grade).

- Check that asphalt is
  - sound, with a natural float finish
  - laid on a firm rigid base
  - a sufficiently regular surface to suit bedding depths of adhesive
- Remove any surface contaminants

anhydrite screeds



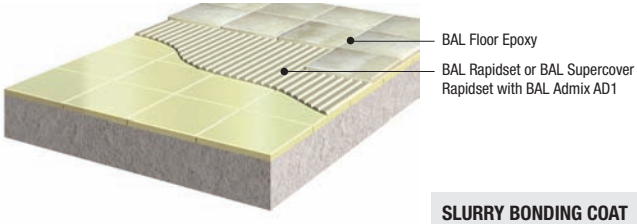
- Allow screed to dry out in accordance with manufacturer's instruction
- Mechanically abrade top surface to remove weak/dusty surface layer(s)

In internal dry areas

- Remove all dust
- Prime with **BAL Prime APD** *(see primer guide page 6).*

  If moisture ingress possible, tank with **BAL WP1 Tanking System**

existing ceramic/quarry tile/ terrazzo/natural stone base



- Ensure existing tiles are securely bonded to their substrate, and in sound, clean condition

If existing tiles are NOT sound

- Remove any loose tiles
- Remove any unsound adhesive residue without damaging the base
- Apply slurry bonding coat
- Make good with
  - EITHER 1:3 cement:sand mortar
  - OR **BAL Pourable Thick Bed** (or **PTB Flexible**)

SLURRY BONDING COAT

- **BAL Quickset Cement** 2:1 with **BAL Bond SBR** (pre-diluted 1:1 with water)
  - OR the selected tile adhesive 2:1 with **BAL Bond SBR** by weight
  - OR **BAL Pourable Thick Bed** (or **PTB Flexible**) 2:1 with **BAL Bond SBR** by weight

tongue & groove floorboards

- Check that boards are dry and free from varnish
- Ensure all boards are securely fixed and rigid: all screwed down to supporting joists at 300mm centres
- Ensure no protruding fixings
- Prime with **BAL Prime APD** *(see primer guide page 6).*

* Pre-diluted 1:1 with water – to be placed as convenient.

plywood overlaid tongue & groove floorboards

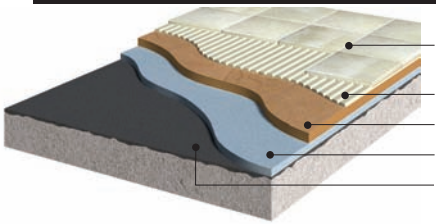
NOTE: plywood should be WBP or marine grade 15mm min. thickness.

- Check that existing floorboards are dry, securely fixed and acceptably level
- Seal plywood reverse side/edges with **BAL Bond SBR**

NOTE: Do NOT seal plywood surfaces to be tiled.

- Lay sheets with staggered cross joints, and 0.5-1mm gap between boards
- Screw down sheets at 300mm centres ensuring screw heads are flush with the surface

floating chipboard/plywood floors



NOTE: timber sheets should be water resistant or exterior grade.

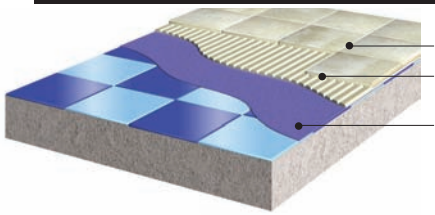
- If concrete base is not flat, level it as required with **BAL Multibase** or **BAL Acrybase**
- Check insulation has sufficient strength to support tiling load
- Seal timber reverse side/edges with **BAL Bond SBR**

NOTE: do NOT prime or seal timber surfaces to be tiled.

- Ensure timber sheets are
  - dry and rigid with no protruding fixings
  - tongue & groove edged
  - glued and well-bonded (with joints kept to minimum)
- Leave min. 15mm gap between board edges and walls/ floor penetrations
- Fill gaps with insulation strip
- Ensure finished floor is stable and capable of carrying anticipated trafficking/loading without excessive deflection/movement

* Pre-diluted 1:1 with water – to be placed as convenient.

existing vinyl tile/sheet base



- Ensure existing vinyl tiles/sheets are securely bonded to their substrate, and in sound clean condition

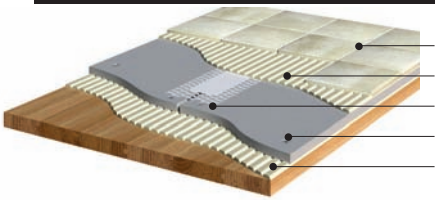
If existing tiles are NOT sound

- Remove any loose tiles
- Make good with a levelling compound, e.g. **BAL Acrybase**, dependent on underlying substrate

- Remove all traces of grease/polish

NOTE: Priming is NOT necessary if using a flexible cementitious adhesive e.g. **BAL Rapidset Flexible**, or **BAL Single Part Flexible**.

lightweight tile backer boards (min. 10mm thick) onto timber floors



- Prime timber floors with **BAL Prime APD** *(see primer guide page 6)* before attempting to fix backer board
- Lay *first* 3-6mm bed of **BAL Rapidset Flexible** onto timber

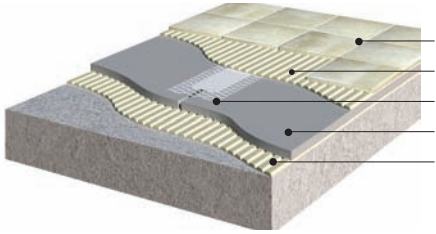
- Before this has set, screw down tile backer boards at 300mm centres
- Ensure no protruding fixings
- Check that tile backer boards are securely fixed and rigid

NOTE: Do NOT seal or prime board surfaces to be tiled.

- Use appropriate tape over joints

▾Check the suitability of the tile backer board with the manufacturer.

lightweight tile backer boards onto concrete floors



If newly-laid concrete

- Allow concrete to dry for min. 6 weeks
- Apply *first* 3-6mm bed of **BAL Rapidset Flexible** onto concrete

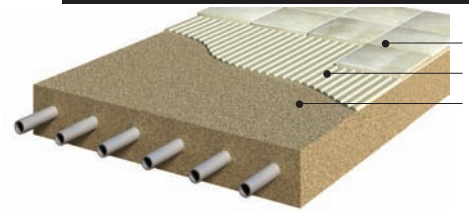
- Before this has set, place tile backer boards into position
- Use appropriate tape over joints
- Allow adhesive to set before tiling begins

NOTE: Do NOT seal or prime board surfaces to be tiled.

- Check that tile backer boards are stable, level and rigid

▾Check the suitability of the tile backer board with the manufacturer.

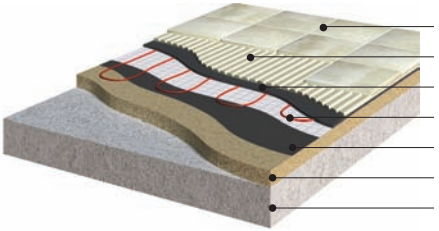
heated screeds
(integral underfloor heating)



For newly-laid screed

- Allow screed to dry for min. 3 weeks – or 1 week if screed is **BAL Quickset Cement**
- Screed may then be gradually heated up – each day max. 5°C higher, up to 25°C – and maintained at that level for 3 days. Then allowed to cool to room temperature
- Heating to be turned off for 24 hours prior to tiling – or, in cold weather, reduced to below 15°C

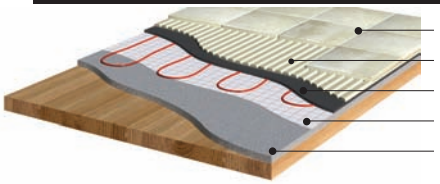
under tile heating
on cement:sand screeds



- Base must be
  - flat enough to allow tiling
  - suitable for anticipated service conditions
  - strong/rigid enough to support tile finish
  - free from contamination
- *If new base,* allow to dry: concrete min. 6 weeks; screed min. 3 weeks
- Prime highly absorbent cement:sand screed with **BAL Prime APD** *(see primer guide page 6)*
- *If base is not flat,* level it with **BAL Multibase** or **BAL Acrybase** as required

▾ Check the suitability of matting with the manufacturer.

under tile heating
over timber floors

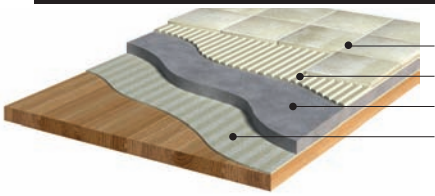


- New timber base should have noggings between joists at 300mm centres
- Overlay floorboards with
  - tile backer boards (min. thickness 10mm OR
  - plywood (min. thickness 15mm)
- Screw boards/plywood to both noggings and joists at 300mm centres

If using plywood, prime with **BAL Bond SBR** *(see primer guide page 6)*

▾ Check the suitability of matting and the tile backer board with the manufacturer.

impact sound-deadening insulation

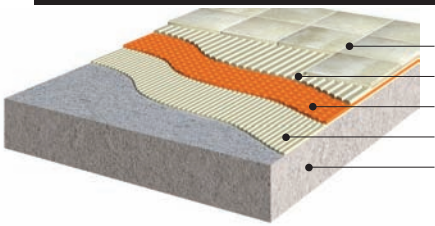


NOTE: BAL Acousti-Bond should be used with approved matting systems to achieve requirements of Building Regulations 2000: Part E – Resistance to the passage of sound.

- Lay matting on flat, rigid base with no protrusions
- Spread suitable flooring adhesive over base
- Bond matting as per manufacturer's instructions

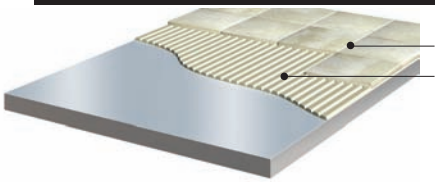
For information on approved systems, contact BAL Technical Advisory Service *(details on back cover)*.

uncoupling membrane



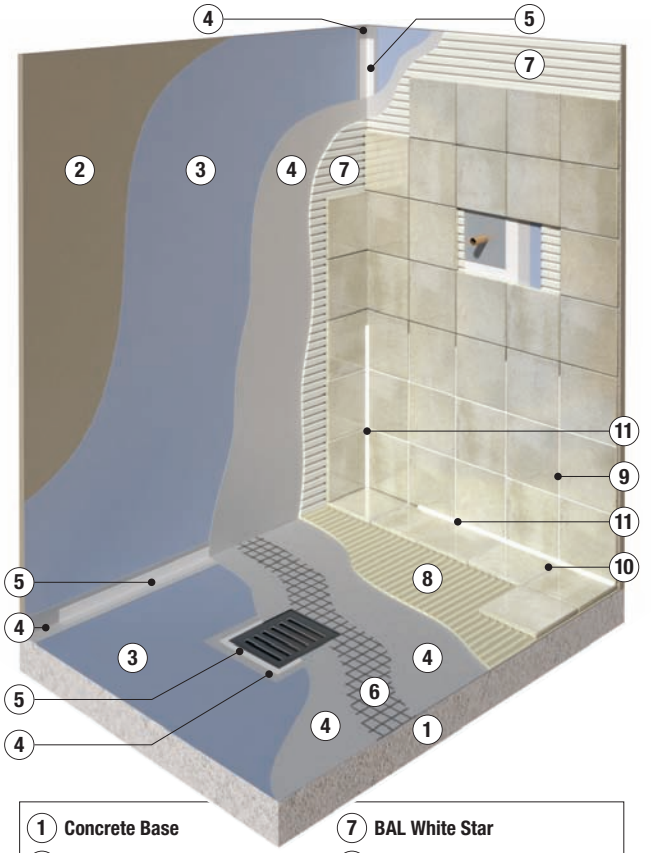
- Check that substrate is
  - dry, sound, firm and rigid
  - level, with a regular surface to suit bedding depths of adhesive
- Lay 2-3mm bed of **BAL Rapidset Flexible** onto base
- Before this has set, lay uncoupling membrane on adhesive bed

steel background/base



- Check that surface is:
  - firm and rigid
  - free from deflection
  - contaminant-free

waterproofing/tanking system



1 **Concrete Base**	7 **BAL White Star**
2 **Plasterboard**	8 **BAL Single Part Flexible**
3 **BAL Prime APD**	9 **BAL Microflex Grout**
4 **BAL WP1 Waterproof Coating**	10 **BAL Microflex Wide Joint Grout**
5 **BAL WP1 Polyester Tape**	11 **BAL Microseal Silicone Sealant**
6 **BAL WP1 Polyester Matting**	

- Prime all surfaces with **BAL Prime APD** or **BAL Primer** and allow to dry
- Apply **BAL WP1 Coating** reinforced with **BAL WP1 Polyester Tape** at:
  - internal/external corners of walls, partitions, upstands, columns etc.
  - pipe penetrations, drainage channels and outlets
  - junctions of different background/base materials
  - cracks/joints in background/base
- Apply **BAL WP1 Coating** over each piece of **Tape**
- Apply **BAL WP1 Coating** to WALLS, and then to FLOOR area

For wet areas (e.g. showers) and areas likely to be subject to some vibration/deflection (e.g. timber bases)

- Reinforce with **BAL WP1 Polyester Matting**
- Bed **Matting** into coating and apply second layer of **BAL WP1 Coating** on top
- Check that tanking system is applied free from voids
- Allow membrane to dry for min. 24 hours before tiling

movement joints

Movement joints

Tiling stresses – causes and effects

Tiling can be affected by:

- stresses in the substrate including drying shrinkage, deflection and moisture movement
- thermal and moisture changes in the tiled area

This can result in tiles losing adhesion, bulging and/or cracking.

The solution

Movement joints, extending through tiling and its bed, can counteract this problem. They should be placed wherever movement is likely to occur *(see opposite page 19)*. Building designers should assess degree of stress likely and consider all factors including background type and bed.

Movement joints should be correctly formed according to requirements of **BS 5385**.

BAL tips

making effective movement joints

Width

- To be sufficient to permit sealant to accommodate expected degree of movement

Fill

- Compressible back-up material*, topped up to final level with sealant
- Ideally, sealant should NOT bond to this back-up material as this would restrict sealant movement, increase stress, and probable sealant failure
- Sealant should only adhere to opposing faces of joint, allowing it to compress/stretch more freely

Perimeter joints

- Min. 6mm in cross-section: fill with **BAL Microseal**

NOTE: Do NOT use with calcium carbonate-based materials e.g. marble, limestone.

Intermediate joints

- If heavy-trafficked, may need to be filled with harder-wearing, more durable sealant type or suitable pre-formed strip

* e.g. cellular rubber/plastic, cellular polyethylene fibre boards. Alternatively, use bond-breaker material such as PTFE tape.

For interior WALL tiling

Install in accordance with **BS 5385-1** (clause **3.5.2**).

- Locate joints
  - Over existing and/or structural movement joints
  - Where tiling abuts other materials
  - Where tiling is continuous across junctions of different background materials
  - In large tiled areas, at internal vertical corners and at 3m-4.5m centres, both horizontally and vertically
  - Where stresses are likely to be concentrated (e.g. at changes of alignment)

Walls subject to significant thermal change or vibration

- Install movement joints at more frequent intervals

For exterior WALL tiling

Install in accordance with **BS 5385-2** (clause **10**).

- Locate joints
  - Over existing and/or structural movement joints
  - Where cladding abuts other materials
  - Where tiling is continuous across junctions of different background materials
  - At storey heights and approx. 3m-4.5m intervals vertically*
  - External angles, vertically within 0.25m-1m from angle, and symmetrically where possible

* Ideally, locate over joints in structural background and at structural material changes (e.g. *horizontal:* top and bottom of floor slab; *vertical:* internal corners and at junctions with columns).

For interior/exterior FLOOR tiling

Install in accordance with **BS 5385-3** (clauses **6.8** and **7.1.6**).

- Locate joints
  - Over existing and/or structural movement joints
  - Around floor perimeter, and where tiling abuts columns, kerbs, steps and plant fixed to the base

Large floor areas

- Divide area to be tiled into bays with perimeter joints
- Max. size for each bay: 10m x 10m

Suspended floors

- Reduce bay size
- Provide additional joints over supporting walls or beams

Floors subject to significant thermal change

- Divide into bays max. 40m^2 in area – with edge length max. 8m

APPLICATION – Equipment

trowels/tools

Get it right by ensuring you have the correct trowel for the job. It can often be vital to a successful installation.

In addition to trowels, and depending on the specific project task, other tools are typically required. The BAL range also includes:

- Mixing Bucket
- Grout Float
- Gauging Trowel
- Hand Sponge
- Sponge Board
- Washboy

wall tiling

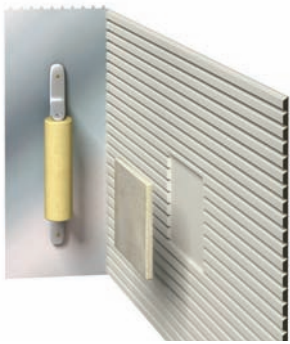
BAL Round Notched Trowel

Edge profile: 6mm round notches at 12mm centres.

Coverage: approx. 70%.

Use for: thin-bed fixing, interior dry areas.

Tiles: most ceramics/marble/ natural stone WALL tiles.



BAL Thin Bed Solid Bed Trowel

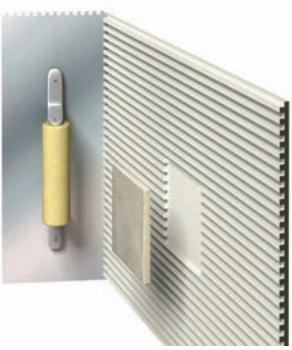
Edge profile: 10mm tapering notches, 5mm deep, at 12.5mm centres.

Coverage: approx. 100% at 2-3mm depth.

Use for: solid-bed fixing on all flat wall surfaces incl. interior wet areas and hygiene critical areas.

Tiles: most ceramics/marble/ natural stone WALL tiles.

wall/floor tiling



BAL Mosaic Trowel

Edge profile: 4mm square notches at 8mm centres.

Coverage: approx. 90%.

Use for: thin-bed fixing.

Tiles: mosaics/WALL and FLOOR tiles up to 100x100mm.

BAL Thick Bed Solid Bed Trowel

Edge profile: 20mm round notches, 10mm deep, at 28mm centres.

Coverage: 100% achievable at 3-4mm bed depth.

Use for: solid-bed fixing.

Tiles: most WALL and FLOOR tile types (with recessed/keyed back patterns).

floor tiling

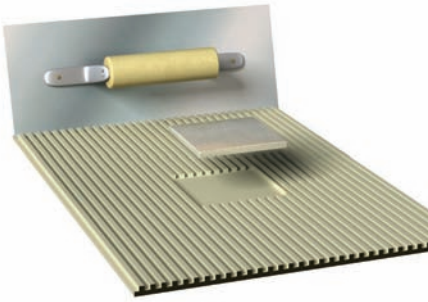
BAL Solid Bed Tipped Trowel

Edge profile: 3mm notches at 6mm centres – with 3mm protruding tips above notches to ensure 4mm solid bed.

Coverage: approx. 100%.

Use for: BAL two-part adhesive systems.

Tiles: most FLOOR tiles.



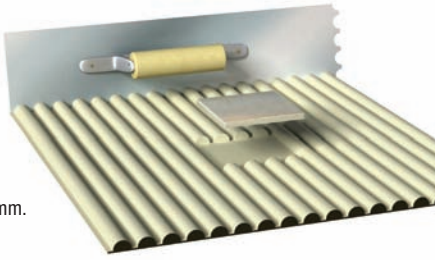
BAL Large Format Trowel

Edge profile: 20mm round notches, 13mm deep, at 28mm centres.

Coverage: approx. 100%.

Use for: fixing larger tiles.

Tiles: FLOOR tiles over 300x300mm.



mixing

IMPORTANT: These are general mixing notes only – see individual product packs for specific mixing instructions.

General

- All BAL packs (except ready-mixed products) provide:
  - detailed mixing instructions
  - pot life/working times at typical ambient temperature (20°C)

Mixing most* powdered adhesives and grouts

- Mix powder with clean, cold water in the proportions shown until a smooth paste is achieved
- If using an electric drill mixer, blend at slow speed. *Do NOT exceed 300rpm*
- For *cementitious grouts*, wait 2-3 minutes, then briefly mix again. *Do NOT entrain air by mixing at too high speed or over-mixing. NEVER add extra water to mixed grout: this would reduce final strength*

Health & Safety

When using BAL products, ensure you have read and understood the Health & Safety Warning associated with each product concerned. *Panels giving statutory advice and describing Best Practice precautions are included on every pack.*

BAL tips

temperature and working time

Remember to allow for variance in mixed product working time if the ambient temperature is significantly above or below 20°C.

- **Higher** temperatures = **shorter** working time
- **Lower** temperatures = **longer** working time

grouting in more demanding situations

If using these products for grouting in especially demanding situations (EXAMPLE: tiling to single layer timber floors), **BAL Admix GT1** should be diluted 1:1 with water.

Mixing admixtures

The diluted admixture should replace an equivalent volume of the required water in mixing the product.

For adhesives

- **BAL Admix AD1** may be added, diluted 1:1 with water, to:
  - **BAL Gold Star**
  - **BAL CTF3**
  - **BAL Rapidset**
  - **BAL Supercover Rapidset**
  - **BAL Pourable Thick Bed**

For grouts

- **BAL Admix GT1** may be added, diluted 1:2 with water, to:
  - **BAL Grout**
  - **BAL Wide Joint Grout**
  - **BAL Microcolour Grout**
  - **BAL Microcolour Wide Joint Grout**

* NOT applicable to 2-part adhesives, or to 2-part or 3-part epoxy grouts.

usage

IMPORTANT: These are general usage notes only – see individual product packs for specific application instructions/usage information. *Or, if you require more detailed advice and guidance, contact the BAL Technical Advisory Service.*

General

All packs carry instructions for use, including recommended BAL trowel type(s) and other tools to be used for application.

As a general rule, do NOT apply BAL adhesives or grouts in temperatures below 5°C.

Good practice: applying adhesives

- When using adhesive, apply max. 1m² at a time
- Ensure ribs all run in same direction
- Fix tiles before adhesive forms skin (typically 20 minutes). If skin has formed, remove adhesive and apply fresh layer

BAL tips

fixing light natural stone

Certain types of natural stone (e.g. limestone, travertine and some granite) may be susceptible to water staining. Recommendation, if fixing such materials: use a BAL rapid-setting **white** adhesive.

Good practice: applying grouts

- When grouting, work in small areas, using a grout float or squeegee
- Completely fill tile joints, and compact well, ensuring no voids
- Allow grout to dry for approx. 15 minutes before cleaning tile surfaces

BAL tips

checking laid tiles

Occasionally lift a tile to check the adhesive contact area. There should be no voids in solid bed fixing. For **floors**, a hidden void could lead to tiles cracking under loading. Insufficient adhesive contact for **wall** tiles could reduce its capacity to carry the tiles' weight, and cause them to slip or fall.

Coverage

The **BAL professional fixing guide: PRODUCT SELECTION**, and all BAL adhesive, grout and ancillary product packs carry typical guidance to indicate coverage in normal use.

This is stated for *the full pack quantity concerned* – with assumed dimensions stated in each case:

- **For adhesives:** assumed thickness of the adhesive bed
- **For grouts:** assumed size(s) of the tiles PLUS width of the joint

Where applicable, typical coverage is given for different applications/ usage circumstances.

Important timings after installation

Once completed, installations are subject to minimum periods before tiled areas may be used under normal service conditions:

- *Shower installation:* must NOT be used for at least 2 weeks (as required by **BS 5385-4**)
- *Swimming pool installation:* must NOT be filled for at least 3 weeks after grouting
- *Floor tile installation:* wait minimum 24 hours before allowing normal trafficking
- *Underfloor heated tile installation:* heating should NOT be switched on for min. 2 weeks *(see manufacturer's guidelines)*

BAL tips

grouting natural stone or other porous tiles

Before grouting, check potential staining risk by applying grout to small trial areas of tile. If discolouration occurs, or removal of grout from the surface seems difficult, apply **BAL Protective Sealer** – and repeat the trial. The sealer will protect the tile surface and help prevent staining until after grouting is complete.

APPLICATION – Frequent Questions

the top ten questions

Among 50,000+ queries handled annually by the BAL Technical Advisory Service, these are some of the most commonly asked questions – and a summary of the answers:

Q Should plaster walls be primed before tiling?

A Yes. *If using BAL cement-based powdered adhesives,* apply 2 coats of neat **BAL Prime APD** or **BAL Primer** or 2 coats of **BAL Bond SBR** diluted 1:2 with water.

If using BAL ready-mixed adhesives, priming is not necessary UNLESS the plaster is very shiny and dusty. If so, brush surface with stiff bristle brush and prime with **BAL Prime APD** or **BAL Primer** diluted 1:1 with water or **BAL Bond SBR** diluted 1:4 with water.

Q Why have cracks appeared in grout joints?

A Possible reasons:

- Deflection in the substrate
- Moisture expansion in underlying boards that are not water resistant
- Tiles not adequately bonded to substrate
- Grout joints wider than max. recommended width for grout product concerned – resulting in drying shrinkage
- Joints not fully filled, leaving voids underneath grout – so grout not supported.

To increase flexural and (at tile edges) adhesion strength, and reduce water permeability, use **BAL Admix GT1** *(see page 22)* or use a BAL epoxy resin-based *grout.*

Q How to tile over heated screed?

A *See page 15 for base preparation details.*

Then fix tiles with 3-6mm bed of **BAL Single Part Flexible** or **BAL Rapidset Flexible**. When dry, grout with (min. 3mm joint) **BAL Superflex Wide Joint Grout** – or **BAL Wide Joint Grout** with addition of **BAL Admix GT1** (diluted 1:2 with water) or **BAL Microcolour Wide Joint Grout**.

Q Can 600 x 300 mm porcelain tile be fixed to plasterboard wall with ready-mixed adhesive?

A Not advisable. Porcelain tiles have extremely low porosity. Ready-mixed adhesives rely on water loss through the joints, background substrate or tile to achieve full bonding. As the tiles have low porosity and joints are reduced due to the large tile size, ready mix products struggle to set. Instead, prime the plasterboard with neat **BAL Prime APD** or **BAL Primer**, and then use highly polymer-modified adhesive such as **BAL Single Part Flexible** or **BAL Rapidset Flexible**. These set via a chemical reaction.

Q Are there weight restrictions when tiling onto plaster?

A Yes *(See page 6).* As a general rule, remember to allow approx. 2-4kg/m² for weight of adhesive and grouts in addition to the weight of tiles.

Q How to fix ceramic tiles to calcium sulphate/ anhydrite-based screed?

A *See page 12 for base preparation details.*

Protect floor against water ingress (moisture content must be <0.5% by weight or 75% relative humidity before tiling may begin. Measure moisture by hair hygrometer 75%RH *or* CM tester ('speedy moisture tester') *or* oven drying @40°C.

Prime with 2 coats neat **BAL Prime APD** or **BAL Primer** and allow to dry.

Then fix tiles with **BAL Single Part Flexible** or **BAL Rapidset Flexible** or, if incorporating underfloor heating, **BAL PTB Flexible**.

Q How long should cement:sand screed be left before tiling?

A 3 weeks for Portland cement (including 7 days cure + 2 weeks continuous drying out in air) *or*

24 hours for screeds incorporating **BAL Quickset Cement**.

If not possible to allow Portland cement:sand screed to dry for 3 weeks, allow min. 24 hours for drying, then tile using **BAL Green Screed Adhesive**.

Q What is the best tile and grout for travertine tiles?

A *To avoid discolouration* on travertine, limestone or other light-coloured stone, the adhesive should be a **white** cement-based adhesive.

Also, *to avoid staining* use a rapid-setting adhesive. Ideal choices are **BAL Rapidset Flexible Adhesive** for walls and **BAL PTB Flexible Adhesive** (white) for floors.

Lay tiles with 3-6mm solid bed onto floors. *Do NOT spot fix, as this may result in shading.*

To avoid migration of materials in solution into the travertine stone, use a grout colour similar to that of the tiles.

To avoid 'picture-framing' effect on very porous stone, seal tiles with a suitable sealer. Also reduce the risk by using cement-based grouts containing a water-retaining agent. **BAL Superflex Grout**, **BAL Wide Joint Grout**, and **BAL Superflex Wide Joint Grout** are all suitable for use with natural stone.

Alternatively, use a rapid-setting grout such as **BAL Microcolour Grout** or **BAL Microcolour Wide Joint Grout**.

Q Can timber floors be tiled?

A Yes – provided that they are capable of carrying the additional load, and are sufficiently stiff. To provide extra rigidity, noggings should be fitted between joists, as recommended in **BS 5385-3**.

Alternatively, fix exterior grade or marine grade plywood (min. 15mm thick) over existing boards. Check that there is adequate ventilation and a damp-proof course.

See page 13 for details of base preparation of timber floors – including those with and without an overlay.

If direct fixing is possible, remove all traces of previous finishes (stain, varnish) before tiling. Lay a solid bed of **BAL Fastflex Adhesive**, ideally 3-4mm thick.

If fixing to an overlaid timber floor, lay a solid bed of **BAL Single Part Flexible Adhesive** or **BAL Rapidset Flexible Adhesive**, ensuring NO voids left underneath tiles.

Q What's needed when tiling a wet room?

A Above all, make sure the walls/floor are suitable for regular wetting. They should be waterproofed/tanked with **BAL WP1 Coating**, reinforced with **BAL WP1 Polyester Tape/Membrane** *(see page 17)*.

Use adhesives suitable for the tile type and substrate. All BAL dispersion (ready-mixed) and cement-based adhesives are compatible with **BAL WP1 Coating**.

If a power shower is being installed, check that the chosen adhesive is suitable.

Grout: *If single-head showers (including power showers),* **BAL Superflex Grout**, **BAL Microflex Grout**, **BAL Superflex Wide Joint Grout** and **BAL Microflex Wide Joint Grout** are suitable.

If multi-head shower and body jets, consider using **BAL Easypoxy Grout**.

fixer focus, powerspec, web

Fixer Focus: keeping you fully informed – first

All professional tile fixers need to keep fully up-to-date with important developments affecting the tiling industry. **BAL Fixer Focus** is our way of ensuring you're among the first to hear about new products and techniques; changes to regulations and standards; and about any other issues that are relevant to your tiling projects.

To register to receive your FREE updates, please call **01782 591100** or email info@building-adhesives.com

Powerspec: on-line selection and specification

Selecting the right tile adhesive or grout for your next project is important – but it needn't be complex or time-consuming.

BAL Powerspec is designed for everyone who has to decide or advise which products are needed for a specific task: including Tile Fixers, Contractors, Architects, Specifiers and BAL Stockists.

It incorporates:

- Easy selection tool – always available with fast accurate information
- Latest technical, safety and product data
- Instant NBS M40 specifications

Powerspec

www.powerspeconline.com

Quote Builder: the professional quotation tool

A professionally-presented quote always impresses potential customers. It confirms that you know your trade, and helps win their confidence.

BAL Quote Builder makes it easy for fixers to produce such quotes – fast. This addition to **BAL Powerspec** enables you to:

- Log-in to your own secure account
- Save your product prices, company details and logo
- Specify any new job in the usual way

It immediately provides a complete specification – including itemised product quantities and your labour rates *(optional)*, as well as other items you wish to include.

Website: information and advice

The BAL website is always available to provide:

- Full information about BAL products and services
- Downloadable literature including Technical Data Sheets and Material Safety Data Sheets
- Stockist locator
- Up-to-date training course programmes and dates
- On-line technical advice

Visit **www.bal-adhesives.com**

BAL training

BAL Training: getting fully qualified

The importance of correct training should never be underestimated. As the UK's most trusted name for professional wall and floor tiling adhesives and grouts, BAL has also set the standards for training quality.

BAL Training courses have won several awards: including recognition from the National Training Awards and, for the first Training Centre in Stoke, 'Centre of Excellence' status from The Tile Association (TTA).

For **apprentices/inexperienced** fixers, BAL training develops skills essential for consistent Best Practice achievement of high quality, lasting installations. It is an important step towards NVQ Level 2 and to earning the CSCS card that is increasingly required for access to building sites:

A range of 5-day wall & floor tiling courses

Comprehensive programmes of presentations, workshops, demonstrations and hands-on practical skills development.

For **experienced** professional tilers, BAL Training is a means to build on existing skills, and to keep fully up to speed with new techniques and new challenges:

A range of specialist courses

Focusing on preparation of walls and floors for advanced projects; and fixing natural stone and larger format tiles.

There are BAL Training Centres in Stoke-on-Trent, Bristol and Manchester. A number of independent training organisations also now provide BAL-Approved Training courses for professional fixers.

To find out more about BAL Training – venues, costs and available course dates:

visit
www.bal-adhesives.co.uk/bal/training.asp

or email
training@building-adhesives.com

or call
01782 591123

BAL Technical Advisory Service

The expertise behind the trusted BAL range of tiling adhesives and grouts is also always on hand to support professional fixers.

The **BAL Technical Advisory and Specification Service** handles approx 50,000 queries annually – providing FREE assistance, advice and specifications for all aspects of ceramic tiling installations.

In addition, a nationwide team of **BAL Product Support Technicians** are available to offer practical knowledge and on-site advice and training.

Call
0845 600 1222
(Calls to this number are charged at local rate)

Alternatively, fax your enquiry to
01782 591121

professional fixing guide

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) 1782 591120 or
Tel: +44 (0) 845 600 1 222
Fax: +44 (0) 1782 591121

Unit 6 Plato Business Park
Damastown Industrial Estate
Damastown, Dublin 15, Ireland
Tel: +353 (0) 1 8222 776
Fax: +353 (0) 1 8222 777

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