

# Ground Terraces

## Part B: Installation Guide



Enjoy problem-free ground terrace systems with Gutjahr System Technology from BAL – market leaders in full tiling solutions.

This step-by-step guide explains in detail how to install the innovative new system, ensuring the installation lasts the test of time.

**GUTJAHR**  SYSTEM TECHNOLOGY  
exclusively from **BAL**

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## Simple installation for trouble-free external tiling

For several years, large format ceramic and natural stone tiles on balconies and terraces have grown in popularity.

Thanks to modern colours, surfaces and almost limitless size formats, external areas radiate elegance and luxury.

However unlike inside tiling, external coverings on balconies, terraces or patios must resist rain, frost and heat. A major risk to the structural integrity of a balcony, terrace or patio is water penetrating the covering structure.

If surface water penetrates below external ceramic, porcelain or natural stone tiling and cannot drain away quickly enough, long-term problems such as frost damage, efflorescence, natural stone staining, warping or even weed-growth may occur.

Gutjahr System Technology from BAL is specifically designed to address these problems by providing rapid, permanent drainage of the covering structure.

Easy to install, and available as a part of a full system for tiling including waterproofing, uncoupling, drainage, adhesives, grouts and sealants, BAL external tiling systems provide simple, safe and strong solutions for new builds and renovations.

This installation guide has been produced according to DIN requirements, British Standards and in accordance with practical and theoretical knowledge of the BAL Technical Advisory and Specification Service (TAS).

Please note before application consider BS 5385-3: 2014 - 6.8.1.4 Balconies and roof terraces –

*“Balconies and terraces should be checked for anticipated static/dynamic loading demands. All materials selected for use in balcony and terrace construction should be checked for suitability prior to their installation. The tile selected for installation should be sufficiently slip resistant and be suitable for the anticipated traffic. Consideration to the environmental surroundings of the balcony or terrace should be given and only suitable materials selected for construction based on the impact posed by the location i.e. marine environments.”*



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## On-call, on-line and on-site support

The expertise behind the market-leaders in full tiling solutions is always on hand to support contractors and fixers whether on the phone, online or on the road.

The BAL Technical Advisory and Specification Service (TAS) provides FREE assistance, advice and specifications for all aspects of tiling.

In addition, BAL has a nationwide team of Product Support Technicians offering practical knowledge and on-site project advice and training.

Call:

**0845 600 1222**

Email:

**[info@bal-adhesives.com](mailto:info@bal-adhesives.com)**

## On-site support

As further assistance at all stages of the project BAL's specialist Product Support Technicians provide UK-wide coverage and are on hand to give practical, experience-based consultations and support on-site.

## On-line support

Log-in today for:

- Products details, download literature including Technical Data Sheets, Materials Safety Data Sheets
- Free M40/M20/M10 specification support
- Case studies and gallery
- Training requests

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For full installation guidance see the accompanying document "Ground Terraces. Part A: Technical Design Guide."

Please note this is an installation guide only, for a full method statement, please contact BAL TAS.

## External living in all weathers

With so many usable areas externally where tiles and stone are installed, there is a necessity to protect and ensure longevity so that they continue to promote the benefits of their use. These important extensions of our usable living areas should be well constructed, functional and remain as usable as the internal spaces that we occupy frequently. To have these available to us all year round requires that the tiled coverings used are durable, hard wearing and all weather.



# Ground Terraces 1 – Standard Drainage Screed Installation

## Installation Guidance

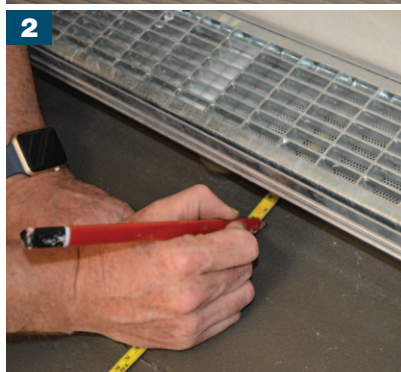
Ensure that a DPM (Damp Proof Membrane) exists in the ground bearing assembly and the bonded screed must be clean, dry, sound and flat with a 1-2% fall. These should be checked prior to any installation of **AquaDrain® EK** and **ProFin® V55** finishes. The assembly should be fully protected from inclement weather prior to and during works. Other finishes and construction heights are available, speak to BAL Technical Advisory Service for guidance.

## Edge Finishes/Heights

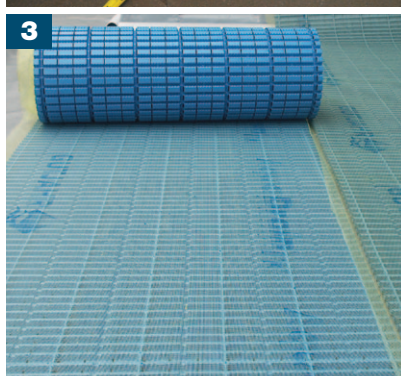
**ProFin® V55 = 55mm**



1 Apply one coat of **BAL TANK-IT** waterproof coating onto the sloped and bonded screed and apply the tanking at the wall to floor junctions ensuring that the height of the return is in line with current industry standards. The waterproofing can also be applied over the front façade to encourage water into the soak-aways. Please refer to **BAL TECHNICAL DATA SHEET** for application information. Allow 30 mins drying time before applying the second coat.



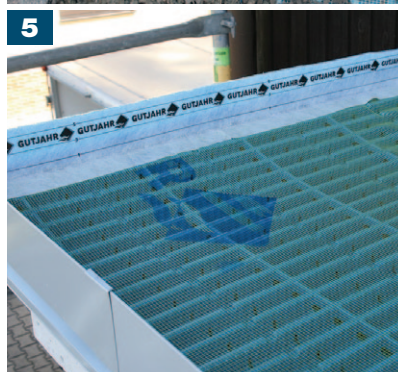
2 Loose lay PE Foil or plastic sheet (0.2mm thick) and measure and mark the depth of the **AquaDrain® FLEX** drain grate.



3 Roll out the **AquaDrain® EK**, matting and cut to size using industrial scissors. Ensure that the waterproofing layer is not cut or damaged.  
**NOTE:** For best results, roll out the mat with the drainage channels facing the direction of the fall. Always ensure that the self-adhesive tape on the mat is facing outwards to allow the next mat run to abut neatly. (**NOTE:** Use **AquaDrain® SK** to join any roll ends.)



4 Place the plastic **AquaDrain® Lochwinkel** Screed Angle profile 70/50 where the **AquaDrain® FLEX** will meet the drainage mortar.



5 Once the matting is laid, install the self-adhesive **AquaDrain® Edge** insulation strip around the perimeter of the floor and movement joints (not included for **ProFin® V55**) and Screed Angle (**Lochwinkel**). This provides movement between the profiles and drainage mortar, (**BAL QUICKSET CEMENT** and 3-6mm aggregate), refer to **BAL QUICKSET CEMENT TECHNICAL DATA SHEET** for mixing instructions.



6 Using 50mm thick timber batons/rules on the **AquaDrain® EK**, apply the mixed drainage mortar in between the batons. Flatten until you reach the height of the timber batons. Once flattened, using a screeding bar, rule off to remove any excess mortar to provide a flat (50mm) bed of drainage mortar. When used over 50mm, introduction of a reinforcing mesh should be considered.

### Important Points:

- Do not penetrate the waterproofing.
- Sloped screed must be SR1.
- Movement joints should be incorporated at <3m intervals.
- Minimum tile thickness 10mm porcelain, 20mm natural stone/pavers.
- Use stainless steel edge profiles for installations in exposed coastal locations.
- Consider structural movement joints must continue through whole assembly including membrane and matting.



7 Place the **ProFin® V55** within the drainage mortar to the height required to allow for a flush finish once the tile/stone is bedded in adhesive.



8 Once the drainage mortar has been laid, mix up **BAL STONE & TILE PTB** as per the relevant **BAL TECHNICAL DATA SHEET**.



9 Apply a thin layer of adhesive over the whole back of the tile/stone using **BAL STONE & TILE PTB** adhesive. Apply a cone of adhesive using 10mm notched trowel. A rubber mallet can be used to bed the tiles onto the drainage mortar whilst still wet.



10 Once the adhesive is dry after 3 hours, clean down the surface and leave to dry before mixing cement based grout such as **BAL MICROMAX2**. Refer to **BAL TECHNICAL DATA SHEET** for information on mixing and application.



11 Apply the **BAL MICROMAX2** and compact into each of the joints.

**NOTE:** grouting must NOT be applied around the perimeter edge or where profiles or drainage systems meet. A silicone sealant must be used for any connections between different surfaces.



12 Once the grout is dry after a minimum of 3 hours, **BAL MICROMAX SEALANT** or **MorTec® SOFT** can be used to apply a soft bead of sealant around the perimeter edge, intermediate joints at 3m intervals and where the tile/stone meets the **AquaDrain® FLEX** and edge profiles i.e. **ProFin® V55**. Refer to **BAL TECHNICAL DATA SHEET** for further information.



## Ground Terrace 2 – Thin, Lighter Weight Drainage Screed Assembly

### Installation Guidance

Ensure that a DPM exists in the ground bearing assembly and the bonded screed must be clean dry sound and flat with a 1–2% fall. These should be checked prior to any installation of **AquaDrain® EK** and **ProFin® V22** finishes. The assembly should be fully protected from inclement weather prior to and during works. Other finishes and construction heights are available (such as ProFin® DP11 with ProFin® BL24 or ProFin® V55), speak to BAL Technical Advisory Service for guidance.

### Edge Finishes/Heights

ProFin® V22 = 22mm



1 Apply one coat of **BAL TANK-IT** waterproof coating onto the sloped and bonded screed and apply the tanking at the wall to floor junctions ensuring that the height of the return is in line with current industry standards. The waterproofing can also be applied over the front façade to encourage water into the soak-aways. Please refer to **BAL TECHNICAL DATA SHEET** for application information. Allow 30 mins drying time before applying the second coat.

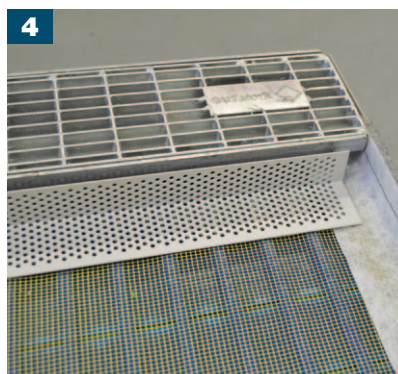


2 Loose lay PE Foil or plastic sheeting (0.2mm thick) on to the primary waterproofing. It is always good practice to measure and mark the depth of the **AquaDrain® TM** drain before laying the **AquaDrain® EK** drainage sheets.

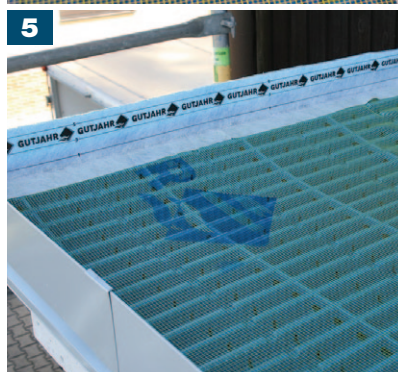


3 Place the **AquaDrain® EK 8mm** sheets down and cut to size using industrial scissors. Ensure that the waterproofing layer is not cut or damaged.

**NOTE:** For best results, place the sheets with the drainage channels facing the direction of the fall. Always ensure that the self-adhesive tape on the sheet is facing outwards to allow the next sheet run abut neatly to the first. (**NOTE:** Use **AquaDrain® SK** to join any sheet ends).



4 Place the powder coated steel **AquaDrain® Lochwinkel** Screed Angle profile 30/40 where the **AquaDrain® TM** will meet the drainage mortar.



5 Once the sheets are laid, install the self-adhesive **AquaDrain® Edge** insulation strip around the perimeter of the floor onto the edge profiles (not included for ProFin® V22) movement joints, and Screed Angle (**Lochwinkel**). This allows movement between different materials i.e. the profiles and **MorTec® DRAIN epoxy drainage screed**, refer to **TECHNICAL DATA SHEET** for mixing instructions.



6 When not using the **ProFin® BL24/BL49**, place the **ProFin® V22/V55** within the drainage screed to the height required to allow for a flush finish once the tile/stone is bedded using a **BAL Flexible Tile Adhesive**.



7 After the sheets are laid and all of the profiles are installed, the **MorTec® DRAIN** epoxy drainage screed can be mixed and used to screed at a minimum thickness of 25mm. Refer to **BAL TECHNICAL DATA SHEET** for mixing instructions.

### Important Points:

- Do not penetrate the waterproofing
- Sloped screed must be SR1
- Movement joints should be incorporated at <3m intervals
- Minimum tile thickness 10mm porcelain, 20mm natural stone/pavers
- Use stainless steel edge profiles for installations in exposed coastal locations



8 Using 25mm thick timber batons/rules placed on the AquaDrain® EK sheets, apply the mixed MorTec® DRAIN epoxy drainage screed in between and flatten until you reach the height of the timber batons. Flatten, using a screeding bar, rule off to remove any excess mortar to provide a flat (25mm) bed of drainage screed.



9 Once the MorTec® DRAIN has been laid, mix up BAL RAPIDSET FLEXIBLE FIBRE. Refer to BAL TECHNICAL DATA SHEET on mixing.



10 Apply a thin layer of adhesive over the whole back of the tile/stone using BAL RAPIDSET FLEXIBLE FIBRE adhesive. Apply a cone of adhesive to the back of the tile using a 10mm notched trowel. A rubber mallet can be used to bed the tiles into the MorTec® DRAIN, whilst still wet.



11 Once the adhesive is dry after 3 hours, clean down the surface and leave to dry before mixing the cement based grout such as BAL MICROMAX2 grout. Refer to BAL TECHNICAL DATA SHEET for information on mixing and application.



12 Apply BAL MICROMAX2 grout to the face of the tile and compact into each of the joints.

**NOTE:** grouting must NOT be applied around the perimeter edge or where profiles or drainage systems meet. A silicone sealant must be used.



13 Once the grout is dry after a minimum of 3 hours, a silicone sealant such as BAL MICROMAX SEALANT or MorTec® SOFT can be used to apply a soft bead of sealant around the perimeter edge and where the tile/stone meets the AquaDrain® TM and edge profiles i.e. ProFin® V22. Sealant should also be applied to intermediate movement joints at 3m intervals Refer to BAL TECHNICAL DATA SHEET for further information.



## Ground Terraces 3 – Thin Drainage Assembly

### Installation Guidance

Ensure that a DPM exists in the ground bearing assembly and the bonded screed must be clean dry sound and flat with a 1-2% fall. These should be checked prior to any installation of **AquaDrain® T+** and edge profiles. The assembly should be fully protected from inclement weather prior to and during works. Other finishes and construction heights are available (such as ProFin® DP11 with ProFin® BL24 or ProFin® V55), speak to BAL Technical Advisory Service for guidance.

### Edge Finishes/Heights

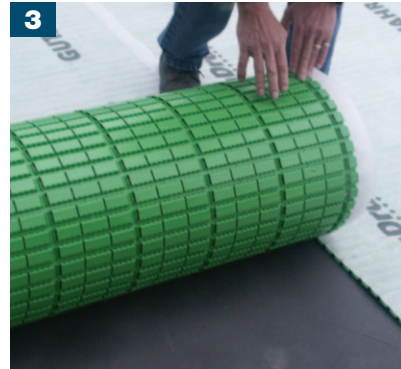
ProFin® V22 = 22mm



1 Apply one coat of **BAL TANK-IT** waterproof coating onto the sloped and bonded screed and apply the tanking at the wall to floor junctions ensuring that the height of the return is in line with current industry standards. The waterproofing can also be applied over the front façade to encourage water into the soak-aways. Please refer to **BAL TECHNICAL DATA SHEET** for application information. Allow 30 mins drying time before applying the second coat.



2 It's always good practice to measure and mark the depth of the **AquaDrain® TM** drain before laying the PE Foil and rolling out the **AquaDrain® T+** drainage mat.



3 Loose lay PE Foil or plastic sheeting (0.2mm thick) on to the primary waterproofed. Roll out the **AquaDrain® T+**, matting and cut to size using industrial scissors or utility knife. Ensure that the waterproofing is not cut or damaged.

**NOTE:** For best results, roll out the mat with the drainage channels facing the direction of the fall. Always ensure that the self-adhesive tape on the mat is facing outwards to allow the next mat run to abut neatly. Use **AquaDrain® SK** to join any roll ends.



4 Lay the **ProFin® V22** edge profile into position on top of the **AquaDrain® T+** (Corner 90° and profile connectors are available).



### Important Points:

- Do not penetrate the waterproofing
- Fixing of balustrades through the primary waterproofing layer should be avoided
- Sloped screed must be SR1
- Movement joints must be <3m intervals
- Minimum tile thickness – 20mm porcelain, 30mm natural stone, ceramic – depending on breaking point.
- Minimum tile dimensions 300mm x 300mm
- Use stainless steel profiles in areas in exposed coastal locations



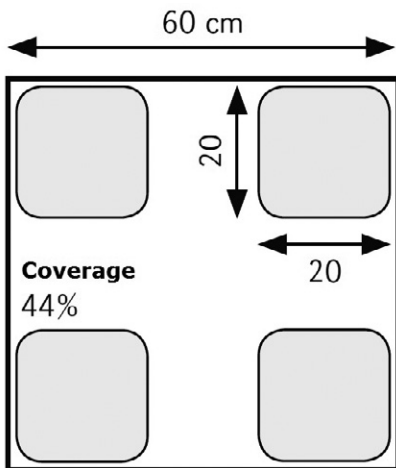
5 Mix up **BAL STONE & TILE PTB** tile adhesive. Refer to **BAL TECHNICAL DATA SHEET** on mixing.



6 Before laying the 20mm porcelain tiles or the 30mm natural stone. Apply pads of adhesive (minimum 4mm thick) at a distance not exceeding 200mm, ensuring all four corners of the tiles are fully supported. Minimum tile dimensions 300mm x 300mm.

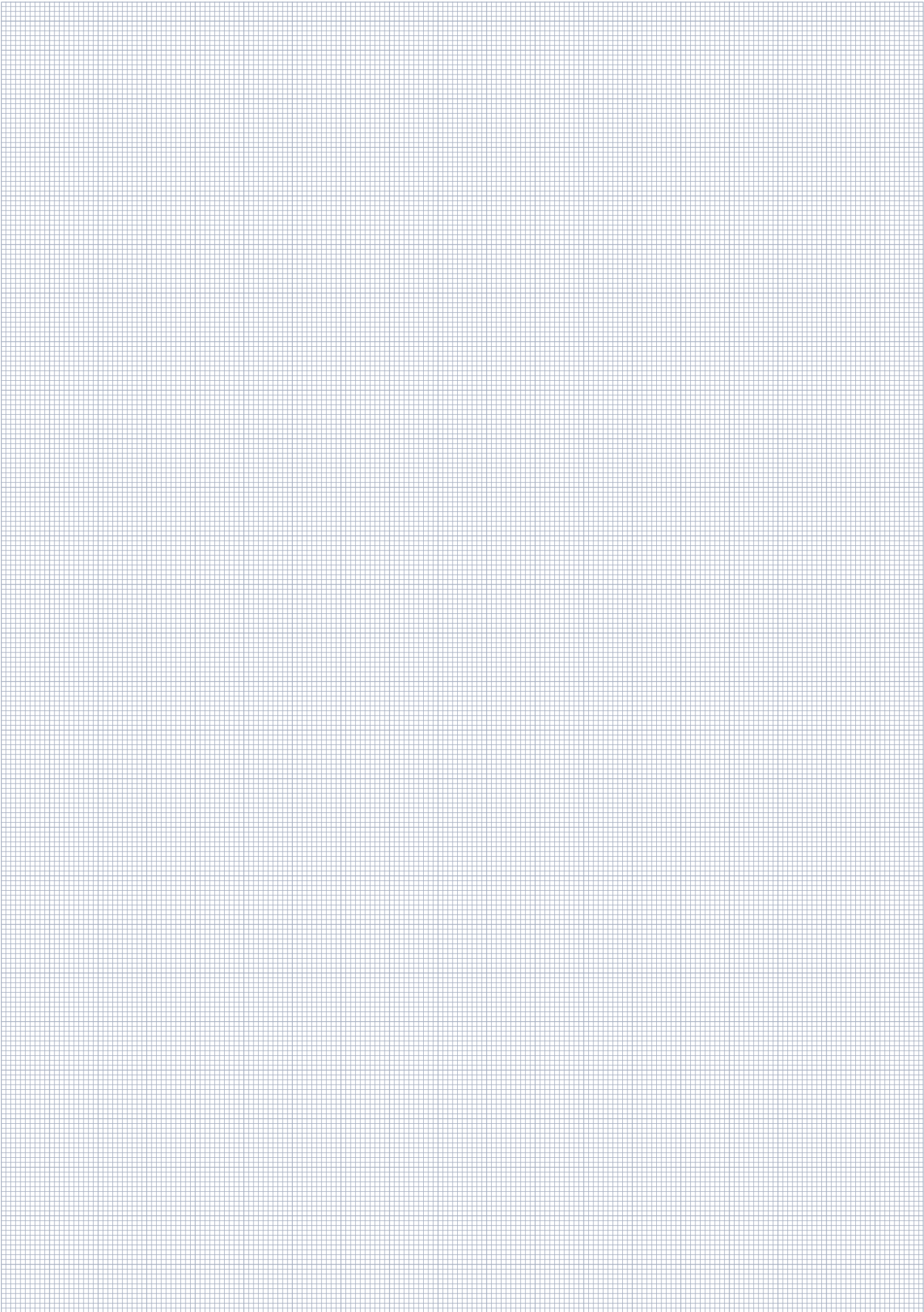


7 Once the adhesive is set, gun apply **MorTec® SOFT sealant** to the open joints of the tiles around the perimeter edge, movement joints, and where the tile/stone meets the **AquaDrain® TM** drain grate and edge profiles i.e. **ProFin® V22**. Also use to fill intermediate joints placed at 3m intervals. Refer to **BAL TECHNICAL DATA SHEET** on application.



## Notes





Note: The customer must verify the suitability of any information, opinion, recommendation or advice ("Information") provided by the Company for the particular application for which any goods are intended to be used and the Company accepts no liability (whether in contract, tort or otherwise) whatsoever for any loss, damage or expense arising from the misuse of any Information it supplies nor for the use of any Information in or for applications which are unsuitable or inappropriate. Building Adhesives Limited operates a continuous research and development programme and reserves the right to alter or to update Information from time to time.  
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