

# TerraMaxx® PF

## Installation system with AquaDrain® T+

For the point-by-point fixing of self-supporting panels.



The combined support, drainage, filter and protection system for point-fixed installation of self-supporting slabs on AquaDrain® T+.

### Field of application

Accessible outdoor surfaces in private and public areas, such as (roof) terraces and balconies.

### Covering types

Suitable coverings are those recommended by the covering manufacturer for the respective area of application and the respective type of covering installation.

- Moisture-sensitive paving slabs (natural/concrete paving stones) must be checked for longer-lasting discoloration due to localized moisture formation on the paving surface.
- The covering size is  $\geq 30$  cm edge length.

### Substrates

- Bonded substrates, concrete surfaces with or without waterproofing
- Old tiles, old coatings

### Properties

- High-performance, capillary-breaking surface drainage
- Special fleece with low flow resistance
- Reduces rising damp
- Bridges the formation of puddles within the drainage mats
- Temperature resistance:  $-30$  °C to  $+70$  °C
- Ensures backflow-free drainage of drain grates at low or barrier-free door connections, in accordance with DIN 18531-1:2017-07, 6.8
- Fixation of the covering, thus no migration of the coverings
- Complete assembly from 31 mm incl. covering
- Can be used as a closed-joint covering with MorTec® SOFT
- Arrangement of field boundary joints for the subdivision of bearing surfaces in combination with MorTec® SOFT not required
- Dressing installation possible

### Load capacity

Surface load-bearing capacity up to 2,000 kg/m<sup>2</sup>; cannot be driven on

### Impact sound improvement

Up to +30 dB (T+ 8/16)

### Drainage services

Gradient	100 %	10 %	1,5 %
AquaDrain® T+ 8 mm	5,04	1,51	0.53 l/(m*s)
AquaDrain® T+ 16 mm	10,33	3,16	1.17 l/(m*s)
AquaDrain® T25	>10	4,14	1.57 l/(m*s)

### System accessories

- AquaDrain® T+/T25: capillary-passive surface drainage
- TerraMaxx® PF-FM special fixing compound: for spot fixing of self-adhesive coverings on AquaDrain® T+
- MorTec® SOFT: Special joint filler with fine-grain structure for elastic, stress-reduced joints in large-format outdoor coverings
- AquaDrain® UB universal tape: covers the ends of the head ends (without fleece overhang) and the connections of the drainage mats to ProFin® DP profiles
- AquaDrain® RD edge insulation strips with self-adhesive base: covers connections to rising components, prevents the covering from being clamped in place by force
- AquaDrain® TR reinforced separating layer: PE film with integrated mesh reinforcement for improved flatness, laid directly as a sliding layer on PE-compatible waterproofing layers, in accordance with DIN 18531-2:2017-07, 5.4

### Delivery form

Roll: 1 m x 10 m plus 5 cm fleece overhang (T+ 8/16) and 10 cm fleece overhang (T25)

### Notes on transportation and storage

The special fabric protrudes 5/10 cm on the long side of the AquaDrain® T rolls. Rolls must not be stored on this edge. Shelf life, especially for the fixing compound, approx. 12 months unopened in dry rooms.

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## Substrates

### Bonded substrates

- Concrete, screed
- No direct laying on gravel substrates

### Insulations

- Pressure-resistant thermal insulation, applied to the substrate without cavities and as non-springy or compressible as possible
- Pressure load capacity  $\geq 120$  kPa (if the generally recognized rules of technology require a higher value, this applies)

### Sealings

- In principle, all types of sealing are permitted in accordance with DIN 18531, part 1-5, except for waterproofing with point and step-like height offset  $> 3$  mm
- Di Protec<sup>®</sup> SDB plastic quick sealing membrane
- Di Protec<sup>®</sup> KSK bitumen cold self-adhesive membrane
- Aqua Drain<sup>®</sup> surface drains meet the requirement for the use of protective layers on waterproofing levels in accordance with DIN 18531-2:2017-07, 5.7 ("Materials for protective layers")
- Separation layers in accordance with DIN 18531-2:2017-07, 5.4, may be required on waterproofing levels, e.g. PE film  $\geq 0.2$  mm, glass fleece  $\geq 150$  g/m<sup>2</sup>. Aqua Drain<sup>®</sup> TR separation layers with integrated grid reinforcement meet this requirement.

### Underground gradient

Water lenses on the substrate level may only be partially present. In order to reliably prevent rising moisture in the covering bedding level (capillary break), the drainage mats should be 4 mm thicker than the water puddle depth.

- The substrate gradient should be  $\geq 1.0$  %.
- Slopes  $> 2.5$  % may require a slip protection system to be dimensioned on site, especially at free and open edge areas.
- Gradients  $< 1$  % favor standing water on the substrate level:
  - They have higher requirements for evenness in order to eliminate counter-slopes.
  - They can have a negative effect on the flooring structure, z. e.g. long-lasting moisture stains in natural and artificial stone and frost effects in the covering structure.
- Barrier-free door connections and transitions must always be designed with a minimum gradient of  $> 1$  %.

## Processing instructions

### Laying the drainage mat

1. Lay Aqua Drain<sup>®</sup> TR separating layers over the entire surface of the waterproofing layer with an overlap of 5 cm. Drain slot openings on drain end profiles must not be covered by separating layers.
2. Aqua Drain<sup>®</sup> T+/T25 rolls are laid with the fleece side facing upwards. The drainage channels should preferably point in the direction of the main drainage channel.
3. The overlapping fleece lamination on the long sides covers joint areas between the sheets so that no substances (TerraMaxx<sup>®</sup> PF-FM fixing compound, dirt particles) can get into the drainage channels.
4. Joint areas of attached partial surfaces without longitudinal overlapping and the ends of the mat joints are covered and connected with the self-adhesive Aqua Drain<sup>®</sup> UB universal tape.
5. Aqua Drain<sup>®</sup> T+/T25 must be laid with an 8-10 mm expansion joint to all rising components. To secure the movement The Aqua Drain<sup>®</sup> RD edge insulating strip with self-adhesive base must be bonded to Aqua Drain<sup>®</sup> T+/T25 to ensure that the subsequent covering structure is free from moisture and to protect against the ingress of material behind/under the surface drainage. The perforation of the self-adhesive base guarantees the permeability of seepage water into the surface drainage. For low installation heights, e.g. when using the Pro Fin<sup>®</sup> DP30 edge profile, the expansion joint between Aqua Drain<sup>®</sup> T+/T25 and the edge profile is executed with the Aqua Drain<sup>®</sup> UB tape instead of the Aqua Drain<sup>®</sup> RD edge insulation strip.

During the work, the drainage in the area of transportation routes etc. must be protected with boards/sheeting.

### Edge profiles on free pavement edges

Type and application can be found in the corresponding product links.

#### Drain end profiles with existing waterproofing

- Pro Fin<sup>®</sup> V22, V55
- Pro Fin<sup>®</sup> KL60, KL80, KL-H 61/92, KL-H 92/150

#### Drain and eaves end profiles with waterproofing still to be installed

- Pro Fin<sup>®</sup> DP11, 17, 21 base profiles in combination with Pro Fin<sup>®</sup> BL24, 49, 69 clip-on covers
- Pro Fin<sup>®</sup> DP30
- Pro Fin<sup>®</sup> RA



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### Drainage gratings for low or barrier-free door connections

- Aqua Drain<sup>®</sup> FLEX
- Aqua Drain<sup>®</sup> BF-FLEX
- Aqua Drain<sup>®</sup> KR/KR-U box channel system
- Aqua Drain<sup>®</sup> DR drain gratings
- Aqua Drain<sup>®</sup> TM drainage grating
- Aqua Drain<sup>®</sup> VARIO



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### Laying the covering

- The fixing point size is at least 15 x 15 cm, with a maximum distance of 20 cm.
- Fixing point thicknesses of 3 to 30 mm are possible for compensation.
- To rule out tilting and leverage effects, the fixing points are arranged directly at the edges/corners of covering panels.
- The back of the panels must be provided with a full-surface adhesive contact layer of TerraMaxx® PF-FM fixing compound and into the fixing compound using the fresh-in-fresh laying method.
- The areas of the fixing points on the drainage mat are also provided with a scratch coat of TerraMaxx® PF-FM fixing compound.
- Consumption data for TerraMaxx® PF-FM special fixing compound: 1.2-1.4 kg powder per m<sup>2</sup> and mm layer thickness x % contact area.  
With a fixing point thickness of ø 6 mm, approx. 3.0-4.0 kg/m<sup>2</sup> are required for a 33 % bearing surface, and approx. 4.5-6.0 kg/m<sup>2</sup> for a 50 % bearing surface.

### Covering joints

Floor covering grouting with MorTec® SOFT:

- The joint chambers must be scraped free of fixing compound step by step up to the upper edge of the drainage mat level during the laying of the covering.
- Once the flooring surface is ready for foot traffic, it is grouted with MorTec® SOFT.

Open covering joints:

- It is possible to keep the joint chambers open, in which case it is not necessary to scrape the flooring joints.
- However, expansion joints (8-10 mm) must be arranged in accordance with the applicable rules of technology.

## TerraMaxx® PF in combination with MorTec® SOFT

### Field sizes/spacing of expansion joints with large formats for ceramic, natural and artificial stone coverings

It is not necessary to arrange field movement joints to subdivide covering surfaces.

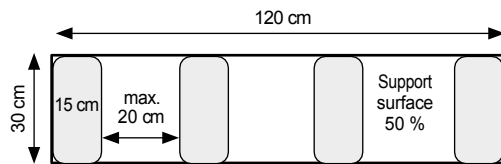
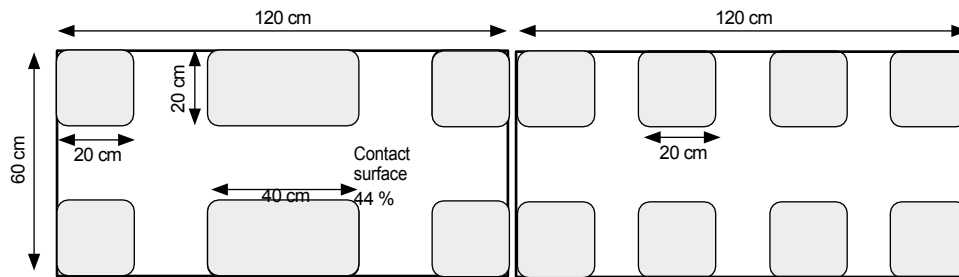
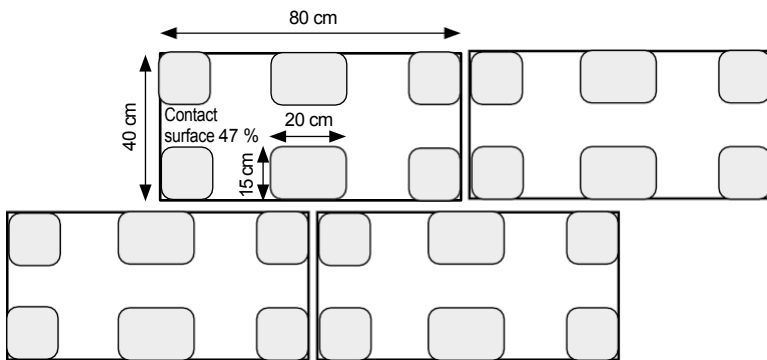
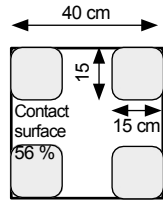
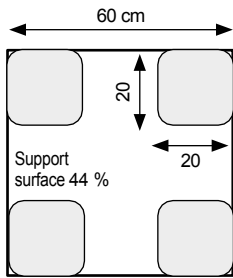
Movement joints (10 mm) to rising components:

Masonry, doors and windows, upstands of DP/BL profiles, built-in parts, etc.

- The covering joint widths are always at least  $\geq 3$  mm.  
- For covering tiles with space edges, the joint width at the narrowest point of the joint chamber is always at least  $\geq 3$  mm.
- Expansion joint profiles are not permitted; the stress relief of thermal length changes is achieved solely through the combination of TerraMaxx® PF with MorTec® SOFT.
- The joint chambers within the covering fields must always be scraped free of adhesive mortar and cleaned before applying MorTec® SOFT.
- The covering tiles can be laid regardless of size, color and joint pattern (e.g. also bonded laying).
- Mechanical cleaning should be avoided when maintaining/servicing the flooring surfaces; high-pressure water jet cleaning and automatic brushing machines can lead to a reduction in joint strength.
- Further instructions and information on processing can be found in the MorTec® SOFT technical data sheet.

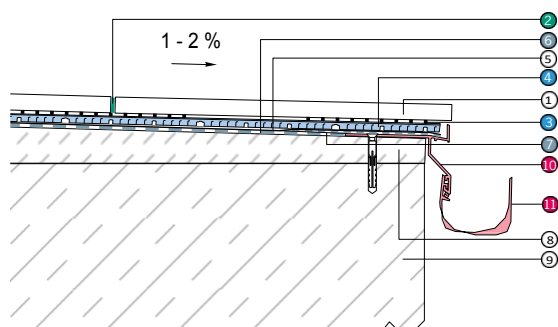
## Fixing point arrangement

Examples of the arrangement of the fixing points, fixing point sizes and contact area in %.  
 The fixation point size is at least 15 x 15 cm, the distance between the fixation points is max. 20 cm.



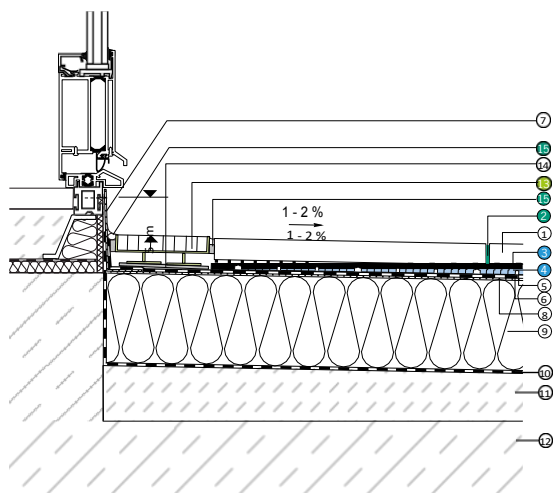
## Balcony edge with drainage end profile

Floor covering fixed in points to AquaDrain® T+ using the TerraMaxx® PF method



1. Ceramic elements, concrete/natural stone - recommended by the manufacturer for elevated construction methods
2. Elastic joint filler MorTec® SOFT
3. Fixing points made from TerraMaxx® PF-FM special fixing compound
4. AquaDrain® T+ drainage mats (8 mm)
5. AquaDrain® TR separating layer with integrated grid reinforcement, in accordance with DIN 18531, Part 2
6. DiProtect® SDB quick sealing membrane
7. DiProtect® AB-K plastic sealing tape
8. Gradient bonded screed
9. Balcony cantilever slab
10. ProFin® DP11 drainage end profile
11. ProRin® BR balcony channel

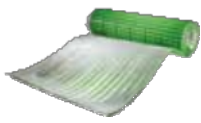
## Low door connection with drain grate Floor covering using the TerraMaxx® PF method on AquaDrain® T+



1. Covering (ceramic elements, concrete/natural stone - recommended by the manufacturer for elevated construction)
2. Closed joints with MorTec® SOFT
3. Fixing points made from TerraMaxx® PF-FM special fixing compound
4. AquaDrain® T+ / T25 drainage mats (8, 16 or 25 mm)
5. AquaDrain® TR separating layer with integrated grid reinforcement, in accordance with DIN 18531, Part 2
6. Waterproofing according to DIN 18531, z. e.g. plastic sealing membranes
7. Wall connection with composite sheet, screwed on
8. If required: Vapor pressure equalization layer
9. Pressure-resistant thermal insulation, applied to the substrate without cavities. Compressive load capacity  $\geq 120$  kPa in the construction method shown with MorTec® SOFT joints (if the recognized rules of technology require a higher value, this applies)
10. Vapor barrier
11. Gradient bonded screed
12. Reinforced concrete ceiling
13. AquaDrain® TM drainage grating, height-adjustable
14. Load-distributing intermediate plate
15. Elastic joint made of neutral cross-linking sealant, e.g. MorTec® SOFT, on AquaDrain® SL joint tape

## System accessories

AquaDrain® T+ rolls, 8/16 mm	AquaDrain® T25 rolls, 25 mm	AquaDrain® UB universal tape	AquaDrain® RD edge insulation strips with SK foot
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TerraMaxx® PF-FM special fixing compound	MorTec® SOFT special joint filler	AquaDrain® TR separating layer with integrated grid reinforcement
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## Material

### AquaDrain® T+ drainage rolls

Consist of channel-like, pressure-resistant, rot-proof plastic (PP), profiled lengthwise and crosswise as well as on the top and bottom, in 8 or 16 mm thickness.

### AquaDrain® T25 drainage rolls

Consist of highly pressure-resistant film with star-shaped, conical studs made of rot-proof plastic (polypropylene) in 25 mm thickness. The special fabric of AquaDrain® T+/AquaDrain® T25 is laminated on the top and has a low flow resistance.

### TerraMaxx® PF-FM special fixing compound

Special cementitious formulation, plastic-modified, water-repellent, low chromate according to TRGS 13

- Mixing ratio: 7.5-8.5 liters of water / 25 kg bag
- Processing temperatures: from +5° C to +30° C
- Working time: approx. 60 minutes at +20° C and 50 % relative humidity
- Through-drying: approx. 4-6 hours at +20° C and 50 % relative humidity
- Walkability of the flooring: 1 day after laying, at +20° C and 50 % relative humidity
- Shelf life, unopened: approx. 12 months in dry rooms

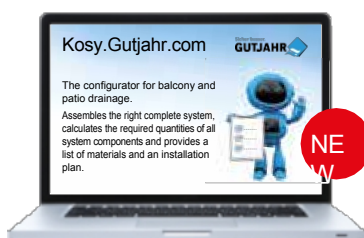
You can find further components for the complete systems that you can implement with TerraMaxx® PF by scanning the QR CODE or in the current price list.



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The currently valid versions of the technical data sheets and the current installation instructions can be found at <https://www.gutjahr.com/downloads/>



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