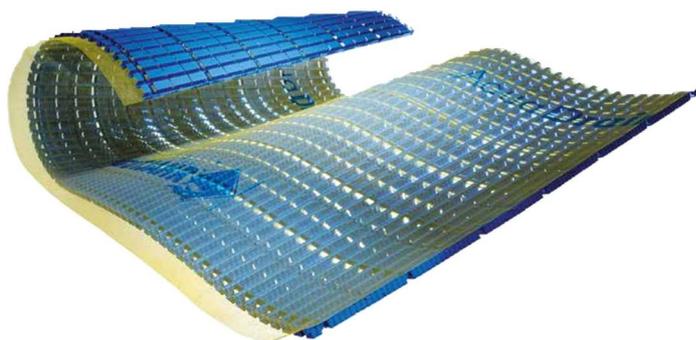


# Aqua Drain® EK

## Capillary Passive Surface Drainage

For the fixed installation of coverings in drainable bedding mortar/screed.



The combined support, drainage, filter and protection system for the laying of outdoor pavements in drainable bedding mortar.

### Application area

For walkable outdoor surfaces in private and public areas, z. e.g. on (roof) terraces, balconies.

### Types of pavement

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

### Substrates

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

### Features

- High-performance, capillary-breaking surface drainage system
- Mesh fabric laminated on top with calcification protection
- Compensates for the insufficient water drainage capacity of single-grain mortar in the horizontal plane
- Ensures drainage in all directions
- Prevents rising accumulated moisture
- Ensures fastest possible drying of pavement and bedding layer (drainage mortar)
- Bridges puddle formation within the drainage mats
- Temperature resistance: -30 °C to +70 °C
- Ensures backwater-free drainage in conjunction with drain grates at low or barrier-free door connections, after DIN 18531-1:2017-07, 6.8

### Impact sound improvement

Up to +30 dB

### Load capacity

AquaDrain EK 8 mm / 16 mm  
2.000 kg/m<sup>2</sup>

### Drainage services

Gradient	100 %	10 %	1,5 %
AquaDrain® EK 8 mm	4,35	1,35	0.50 l/(m*s)
AquaDrain® EK 16 mm	9,33	2,98	1.16 l/(m*s)

### System accessories

- AquaDrain® UB universal tape, covers head end lugs (without fleece overhang)
- AquaDrain® RD edge insulation strip with SK foot, covers connections to rising components (walls, profiles, etc.), prevents force-fit clamping of the covering
- AquaDrain® TR reinforced separating layer, PE film with integrated mesh reinforcement for improved flatness, laid directly as a sliding layer on PE-compatible waterproofing levels, according to DIN 18531-2:2017-07, 5.4

### Delivery form

Roll: 1 m x 10 m  
plus 5 cm fabric overhang on the long side

### Notes on transport and storage

On the long side of the AquaDrain® EK rolls, the mesh overhangs by 5 cm. Rolls must not be stored on this edge. The products must be protected from sunlight and moisture during storage and transport.

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## Substrates

### Bonded substrates

- Concrete, screed
- No direct laying on gravel substrates

### Insulations

- Compression-resistant thermal insulation, applied to the substrate without hollow layers and, as far as possible, not resilient or compressible.
- Pressure load capacity  $\geq 120$  kPa (if the generally accepted rules of technology require a higher value, this applies)

### Waterproofing

- All types of waterproofing according to DIN 18531 ("Waterproofing of roofs as well as balconies, loggias and arcades"), Parts 1 to 5 are permissible.
- DIProtec® SDB Plastic QuickSeal Membrane
- DIProtec® KSK bitumen cold self-adhesive membrane
- AquaDrain® surface drainage meets the requirement for the use of protective layers on waterproofing levels according to DIN 18531-2:2017-07, 5.7 ("Substances for protective layers")
- Separating layers according to DIN 18531-2:2017-07, 5.4 ("Materials for separating layers or separating layers") may be required on waterproofing levels, e.g. PE film  $\geq 0.2$  mm, glass fleece  $\geq 150$  g/m<sup>2</sup>. AquaDrain® TR, separating layers with integrated grid reinforcement, meet this requirement.

### Subsoil slope

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

- The subgrade slope should be  $\geq 1.0\%$ .
- Slope formations  $> 2.5\%$  may require slip protection to be dimensioned on site, especially at free and open edge areas.
- Slope formations  $< 1\%$  favor standing water on the subgrade:
  - They have higher flatness requirements to eliminate counter slopes.
  - They can have a negative effect on the pavement structure, z. e.g. prolonged moisture stains in natural and artificial stone and frost action in the pavement structure.
- Barrier-free door connections and transitions must always be designed with a minimum gradient of  $> 1\%$ .

## Processing information

### Laying the drainage mat

1. Lay AquaDrain® TR, reinforced separating layer on the waterproofing level over the entire surface with an overlap of 5 cm. Drain slot openings on drain termination profiles must not be covered by separating layers.
2. AquaDrain® EK rolls are laid with the mesh side facing up.
3. The longitudinally overlapping mesh covers joint areas between the sheets so that no substances (drainage mortar, dirt particles) can get into the drainage mat.
4. Joint areas of attached partial surfaces without longitudinal overlapping as well as the head ends of the mat joints are covered and connected with the self-adhesive AquaDrain® UB universal tape.
5. AquaDrain® EK must be installed with an 8 to 10 mm expansion joint to all rising structural components. To ensure freedom of movement of the subsequent covering structure and as protection against material ingress behind/underneath the surface drainage, the AquaDrain® RD edge insulation strip with SK foot must be bonded to AquaDrain® EK. The perforation of the self-adhesive foot guarantees the permeability of seepage water into the surface drainage.

During the work, protect the drainage in the area of transport routes, etc. with boards/shuttering panels.

### Formation of free pavement edges

Edge profiles at free pavement edges  
Type and application can be found in the corresponding product links.

#### Drainage end profiles for already existing waterproofing

- ProFin® V22, V55
- ProFin® KL60, KL80, KL-H 61/92, KL-H 92/150

#### Drainage and eaves termination profiles with waterproofing still to be installed

- ProFin® DP base profiles with 11, 17 or 21 mm in combination with ProFin® BL clip-on panels with 24, 49 and 69 mm
- ProFin® RA edge trim profiles



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### Drain grates for low or barrier-free door connections

- AquaDrain® FLEX
- AquaDrain® BF-FLEX
- AquaDrain® KR/KR-U box drain system
- AquaDrain® DR drain grates



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### Laying the covering

The placement of base and bedding layers of drainage mortar/

-The installation of screeds and the laying of coverings is carried out in accordance with the usual manufacturer's guidelines and the relevant data sheets.

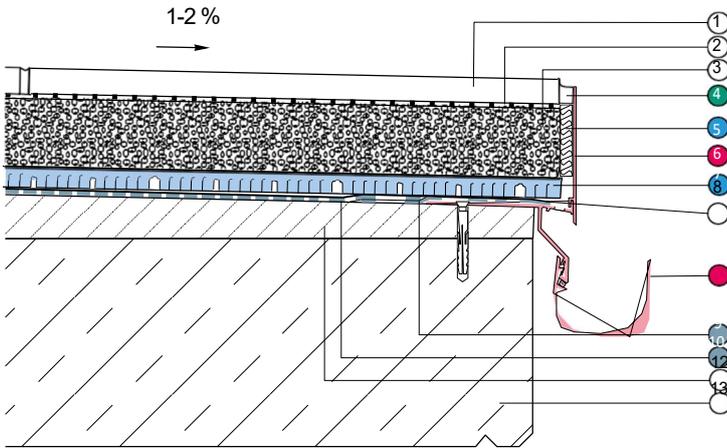
### Joints

Pavement joints

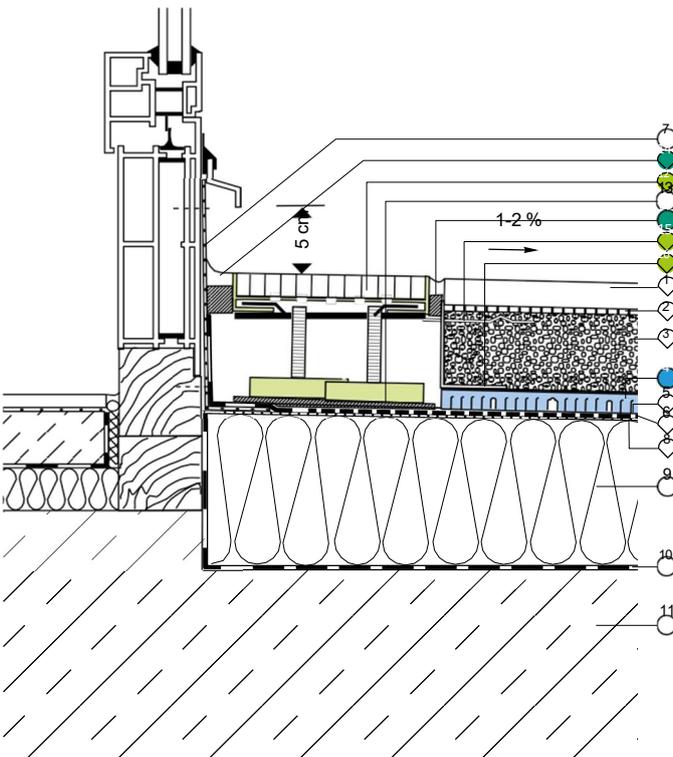
- The pavement joints are formed in accordance with the regulations or manufacturer's specifications.
- MorTec® SOFT, the stress-relieving joint filler, is available for large-format pavement slabs in areas that can only be walked on.

Planning details

Planning details for conventional drainage mortar, 50 mm layer thickness



1. slab coating
2. bonding bridge or contact layer, toothed over the entire surface
3. sufficiently load-bearing load distribution layer (min. 50 mm) from single grain mortar
4. elastic joint made of neutrally cross-linking sealant, z. e. g. MorTec® SOFT
5. AquaDrain® RD edge insulation strips
6. ProFin® DP base profile + ProFin® BL clip-on orifice plate
7. AquaDrain® EK capillary-passive surface drainage 8 or 16 mm)
8. aquaDrain® TR, separation layer with integrated mesh reinforcement, according to 18531-2:2017
9. Di Protec® KSK-AB waterproofing tape
10. Di Protec® KSK cold self-adhesive membrane, alternatively Di Protec® SDB plastic rapid sealing membrane
11. ProRin® BR balcony gutter
12. Gradient bonded screed
13. Balcony cantilever slab



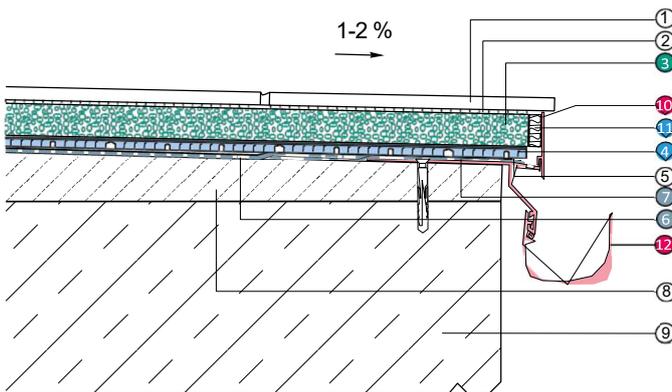
1. slab coating
2. bonding bridge or contact layer, toothed over the entire surface
3. sufficiently load-bearing load distribution layer (min. 50 mm) from single grain mortar
4. AquaDrain® EK drainage mats (8 or 16 mm)
5. AquaDrain® TR, separating layer with integrated Mesh reinforcement, according to 18531-2:2017
6. waterproofing according to DIN 18531, z. e. g. plastic waterproofing membranes
7. wall connection with composite sheet, screwed on
8. if required: vapor pressure compensation layer
9. compression-resistant thermal insulation, free of hollow layers applied to the substrate.  
Pressure load capacity  $\geq 120$  kPa (if the recognized rules of technology require a higher value, this applies).
10. Vapor barrier
11. reinforced concrete ceiling
12. aquaDrain® flex grate, height adjustable
13. load-distributing intermediate plate
14. Elastic joint made of neutrally cross-linking sealant, z. e. g. MorTec® SOFT, on AquaDrain® SL joint tape
15. AquaDrain® Mortar Anchor
16. AquaDrain® perforated angle

Planning details for thin-layer single-grain mortar **MorTec® DRAIN**

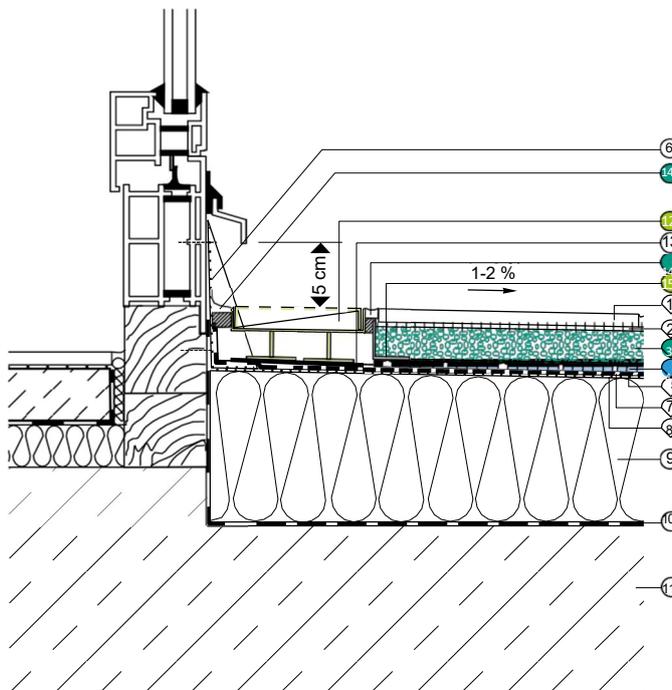
For processing with **MorTec® DRAIN**, please refer to the corresponding technical data and processing instructions under



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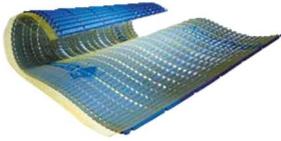
1. Tile flooring
2. Bonding bridge or contact layer, toothed over the entire surface
3. Load distribution layer of **MorTec® DRAIN**, thin-layer single-grain mortar system (min. 25 mm)
4. **AquaDrain® EK** drainage mats (8 or 16 mm)
5. **AquaDrain® TR**, separating layer with integrated mesh reinforcement, according to DIN 18531 Part 2
6. **DiProtect® KSK** cold self-adhesive membrane, alternatively **DiProtect® SDB** plastic rapid sealing membrane
7. **DiProtect® KSK-AB** Waterproofing Tape
8. Gradient bonded screed
9. Balcony cantilever slab
10. **ProFin® DP** Basic profile + **ProFin® BL** clip-on orifice plate
11. **AquaDrain® RD** Edge Insulation Strip
12. **ProRin® BR** Balcony Gutter



1. slab coating
2. bonding bridge or contact layer, toothed over the entire area
3. load distribution layer made of **MorTec® DRAIN**, thin-layer single-grain mortar system (min. 25 mm)
4. **AquaDrain® EK** drainage mats (8 or 16 mm)
5. **AquaDrain® TR**, separating layer with integrated Mesh reinforcement, according to DIN 18531 Part 2
6. wall connection with composite sheet, screwed on
7. waterproofing according to DIN 18531, z. e. g. plastic waterproofing membranes
8. if required: vapor pressure compensation layer
9. compression-resistant thermal insulation, free of hollow layers applied to the substrate.  
Pressure load capacity  $\geq 120$  kPa (if the recognized rules of technology require a higher value, this applies).
10. vapor barrier
11. reinforced concrete ceiling
12. **aquaDrain® TM** drain grate, height adjustable
13. Branch spreading intermediate plate
14. Elastic joint made of neutrally cross-linking sealant, z. e. g. **MorTec® SOFT**, on **AquaDrain® SL** joint tape
15. **AquaDrain®** perforated angle

## System accessories

AquaDrain® EK Rolls, 8 mm and 16 mm



AquaDrain® UB Universal belt



AquaDrain® RD Edge Insulation Strip with SK Foot



AquaDrain® TR, separating layer with mesh reinforcement



## System component

MorTec® SOFT, joint from the tube



MorTec® DRAIN-ZE Drainage Mortar



MorTec® DRAIN-EP thin-layer drainage mortar system



TerraMaxx® PF-FM Fixing Compound



## Material

AquaDrain® EK drainage rolls are made of channel-shaped, longitudinally and transversely as well as top and bottom profiled, pressure-resistant, rot-proof plastic (polypropylene) in 8 and 16 mm thicknesses.

Mesh with low flow resistance

- Mesh fabric, top side laminated with calcification protection
- Mesh size matched to the grain sizes of professional drainage mortar

You can find more components for the complete systems you can execute with AquaDrain® EK by scanning the QR code or in the current price list.



The information contained in this technical data sheet is based on our careful investigations and on our experience. The many substances and materials used in the overall construction as well as the different construction site and processing conditions cannot be checked or influenced by us in detail. Expert knowledge, technically correct judgment and correct product use are the basis for permanently functionally reliable construction work. In case of doubt, carry out your own tests or seek technical advice. In addition to the information in this technical data sheet, the relevant rules and regulations of the responsible organizations and trade associations as well as the respective national standards for the service to be provided must be observed. With the publication of this technical data sheet, all previous data sheets lose their validity.

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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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