

# AquaDrain T<sup>+</sup>

Combined load-bearing, drainage, filter and protection system for direct adhesion method laying of outdoor floor coverings.

## DESCRIPTION

High-performance, capillary passive surface drainage system for tile, natural stone and slab coverings in outdoor areas when combined with a recommended adhesive from BAL. For full application advice and technical drawings please refer to Part A Technical Design Guide or contact the BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE .

## Product Properties and Benefits

- A complete support, drainage and protection systems for external areas.
- Rapidly drains off seepage water and provides 3-dimensional water management. .
- Prevents the development of puddles and surface pooling by diverting the water into the drainage mat. Inhibits rising trapped moisture thereby avoiding discolouration of the surface of moisture-sensitive materials including natural stone, ceramic and concrete coverings. Also helps reduce risk of efflorescence. Guarantees the fastest possible drying out of the covering and the bedding layer. Ensures efficient drainage for barrier-free/low door connections in a system using AquaDrain® TM drain grates.
- Note: Can reduce footfall noise up to 33 dB when used as part of a total construction, test report BL 01-07515; Construction Acoustics Laboratory, University of Rhein-Main dated 05.04.2015

## Suitable Coverings:

- Natural stone tiles min 400 mm x 400 mm x 30mm
- Concrete slabs min 400 mm x 400 mm x 30 mm
- Ceramic tiles (extruded) min 400 mm x 400 mm x 35mm
- Porcelain tiles min 600 mm x 600 mm x 20mm
- Natural stone/concrete paving min. 200 mm x 100 mm x 60 mm.

## PRODUCT INFORMATION

**Composition:** AquaDrain® T+ drainage rolls consist of non-rotting plastic (Polypropylene) with channel-like profiles lengthwise and across, on the upper and lower side, pressure resistant, in 8mm and 16mm thickness.

**Colour:** Green

**Pack sizes:** 10 m rolls

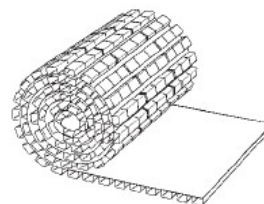
**Sheet Width:** 1m plus 50mm overlapping

**Sheet Thickness:** 8mm and 16 mm

**Roll Weight:** approx. 9kg.

## Additional Information:

- Static pressure tolerance: 2,000kg/m<sup>2</sup>
- Contact area: approx. 66%
- Height of structure: depending on type of construction
- Store sheets on the lengthwise side, as the fleece projects by 50 mm. Rolls must NOT be stored on this edge. Do not store in direct sunlight. Protect against pressure and moisture.
- Drainage performance: see page 2.



## DRAINAGE PERFORMANCE

According to DIN EN ISO 12958 "Determination of water flow capacity within the plane" (Item 5.1a), 08/2010. SKZ-TeConA GmbH Würzburg test reports 114506/15 T+ 8 mm; 113226/14-II T+ 16 mm

## TEMPERATURE RESISTANCE

-30°C to 70°C (up to 80°C brief periods) **N.B** Tiling should not be carried below 5°C

### Gradient Fall Drainage Performance (meters per second)

#### AquaDrain® T+ 8 mm

i = 1,0	= 100 %*	5,04 l/(m x s)
i = 0,1	= 10 %*	1,51 l/(m x s)
i = 0,015	= 1,5 %	0,53 l/(m x s)

#### AquaDrain® T+ 16 mm

i = 1,0	= 100 %*	10,33 l/(m x s)
i = 0,1	= 10 %*	3,16 l/(m x s)
i = 0,015	= 1,5 %	1,17 l/(m x s)

## INSTALLATION INSTRUCTIONS

NOTE: For further information on installation please refer to Part B Installation Guide or contact BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE.

### Substrates/Concrete

Falls should be between 1 -2 % and equivalent to (SR1)

#### Surface regularity (SR):

Surface Regularity is defined as the deviation in height of the surface of a flooring layer over short distances in a local area. In simpler terms, it is the 'flatness' or 'measure of unevenness' of the surface.

Substrates must be load-bearing, firm and not resilient or compressible.

· i.e. any thermal insulation needs to have a pressure resistance of > 200 kPa.

· Should be in a fall of  $\geq 1.0$  % unless the top covering requires a greater fall.

· Falls of 2.5% or greater may require slip-proofing to be measured and set up on site, in particular in free or exposed edge areas.

Falls of 1% or less:

Falls of less than 1 % can cause the following:

- Higher water loading
- More risk of encouraging water to the building.
- Pooling or ponding of water
- Water staining of porous covering materials.
- Increased risk of ice formation.
- Void formation.

### Installation:

#### Selection of appropriate mat thickness: 8mm or 16mm

1. AquaDrain® T+ rolls are laid with the fleece side upwards.
2. The overlapping laminated fleece covers the joints between the lengths, making sure that no material (chippings/ gravel levelling layer, dirt particles) can enter the drainage channels.
3. Other joint areas overlapping and the front ends of the mat joints are covered and adhered with self-adhesive AquaDrain® SK joint covering tape.
4. To join all adjacent and rising construction elements, AquaDrain® T+ is to be laid stress-free with an 8 mm-10mm expansion joint. To ensure freedom of movement of the subsequent covering structure and to protect against the entry of matter behind/underneath the surface drainage, the AquaDrain® RD edge insulation strip with self-adhesive foot is to be applied to AquaDrain® T+ .The perforation of the self-adhesive foot ensures the transfer of seepage water into the surface drainage.

While the work is being carried out, the drainage system is to be protected with walk boards in the areas of transport pathways.

**Always check the suitability of the covering with the manufacturer.**

For seals on balconies/patios/roof terraces according to BS 5385 Part 3 – 5.5 Separating Layers and G.8 Separating Layer (unbonded method), e. g. made of PE membrane with a minimum thickness of 0.125mm should be used for most conditions.

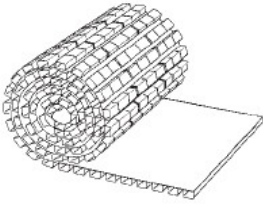

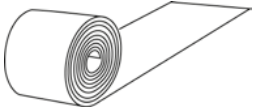
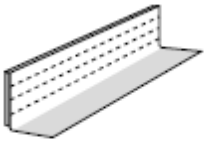







**Laying of tiles/stone/slabs/paving coverings**

Please refer to Part B Installation Guide or contact BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE.

**Open edge areas with drip edges**

1. **Surface seal not yet present:**
  - a. Exposed covering edges should be bordered with the ProFin® DP drain and drip profile. The cross-section of the covering construction can be masked by the ProFin® BL push-in facing plate.
  - b. For easier assembly, use a suitable Multi-Purpose Construction Adhesive and Sealant to fix the drain end profile. The fixing strips should be arranged with spacing of approx. 300mm between strips, running in the direction of the substrate fall.
  - c. The system profiles must each be bolted through the outer most punched hole. Other bolts should be placed at approx. 500mm intervals.
  - d. Edging end profiles are to be installed in the joint area (ProFin® profiles every 3 m) with a spacing of 1 mm– 2mm between. The gap is covered with ProFin® V profile connectors. For field limit joints, this edging profile is to be laid with an expansion joint of approx. 8mm –10mm.

## OPTIONAL SYSTEM COMPONENTS

<p><b>AquaDrain T+ drainage mat</b></p> 	<p><b>DiProTec AB-KV sealing tape</b></p> 	<p><b>AquaDrain SK joint tape</b></p> 	<p><b>AquaDrain Edge insulation tape</b></p> 
<p><b>AquaDrain TM drain grate</b></p> 	<p><b>ProRin BR guttering</b></p> 	<p><b>ProFin DP edge profile and BL facing plate</b></p> 	<p><b>ProFin V22/55 drip/drain edge profile</b></p> 
<p><b>BAL Stone and Tile PTB</b></p> 	<p><b>MorTec SOFT silicone sealant</b></p> 	<p><b>BAL Tank-it</b></p> 	

**N.B** Please consult BAL Technical Advisory and Specification Service (TAS) or a member of the BAL specification support team for a full and comprehensive product specification to meet your project requirements.

## **TECHNICAL ADVISORY SERVICE**

For free expert guidance on use of this product, or any aspect of tiling, contact the BAL TECHNICAL ADVISORY AND SPECIFICATION SERVICE on Tel: 01782 591120 or 0845 600 1 222 or Fax: 01782 591121.

## **SHELF LIFE**

**No shelf life when stored under correct conditions.s.**

Protect from frost, damp and sunlight.

## **6 YEAR GUARANTEE**

Since 1990, GUTJAHR has been the only manufacturer to offer extended warranties for its drainage systems, e.g. 6 years for balconies, patios and outdoor steps with AquaDrain® drainage.

No liability can be accepted for any loss or damage arising from incorrect use of products or poor workmanship, over which BAL has no control. *Contact BAL Marketing Department for full details.*

## **CONDITIONS OF SALE**

Sold subject to the Company's Conditions of Sale. *Available on request. For sales and technical queries, contact:*

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NOTE: BAL reserves the right to update instructions, technical data and other information at any time without notice.