

General Advice

These instructions should be read in conjunction with the contract specification and drawings. They are intended to provide guidance in normal installation situations and are addressed to the installer on site. If there are any questions related to the design, unusual installation challenges, or any doubt, consult the ABG Technical Design Team for further advice. The installation must be conducted by a qualified and experienced contractor, following the ABG construction drawings and all instructions outlined in the Design document. Read all instructions before commencing construction.

Description

Leakdrain (Fig 1.) is a thin, high strength, high performance pre-formed leak detection and recovery geosynthetic drainage layer consisting of an HDPE cusped core. Leakdrain is laid between primary and secondary geomembrane liners (**Fig. 2**) to form a blanket (horizontal, sloping or vertical) to collect and transmit leakage through the primary liner into collection pipes and subsequently to recovery pumps. Leakdrain also assists in the protection of geomembrane liners from physical damage. Typical applications are as a leak detection, drainage and recovery layer in landfill basal containment, mine waste lagoons and leachate ponds, etc.

Supply

Leakdrain is supplied in rolls that weigh between 150-500kg and are 1.1m or 2.2m wide. The rolls are wound onto a plastic tube with the dimple side facing inwards (reverse rolling available on request). Slings are rarely necessary for the safe off-loading of rolls (but may be ordered at extra cost) and are designed for single use to remove the rolls from the delivery vehicle (**Fig. 3**) to an appropriate site storage location. Store on a firm base and stack no more than five rolls high. Check rolls for damage / defects upon delivery and report any damage to ABG.

Equipment Required (Fig. 4)

- Usual PPE, safety knives, lifting equipment for suitable safe working load (pole or spreader beam).
- Sandbags for temporary ballast of joints.
- Extrusion welder and welding rod, or 75mm butyl tape, for jointing (where required).

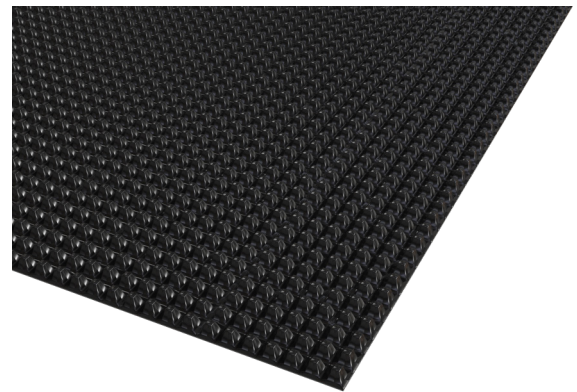


Fig. 1: Leakdrain

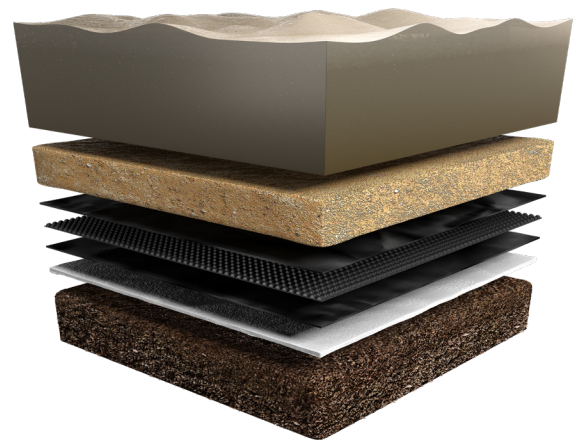


Fig. 2: Leakdrain layer configuration (example)



Fig. 3: Leakdrain delivery (example)



Fig. 4: Equipment required

Site Preparation and Setting Out

Step 1

Lift and carry the rolls to the place of work using a spike/pole or spreader beam (**Fig. 5**) and pole through the centre tube or using lifting straps around the roll (using suitable equipment that does not damage the product). Do not drag the rolls. Avoid contact with machine bucket.

Step 2

The **Leakdrain** should be installed with the drainage (dimpled) side either facing upwards (**Fig. 6**) or downwards as shown on the project drawings. **Leakdrain** will bend to follow stepped ground profiles.

Step 3

When choosing the start point and direction of laying, consider the collection positions, the prevailing wind direction, slope of the site and access point for materials. On sloping sites the **Leakdrain** installation should start at the lowest point and work up the slope—not across the slope. **Leakdrain** is designed to be laid so that the major flow of water runs horizontally along the roll length. Each roll has an ID label marked on the end of the roll.

Step 4

Plan only to lay as much **Leakdrain** as can be covered that day to avoid uplift in strong winds. Unused rolls may be used as ballast on flat areas (**Fig. 7**).

Step 5

Leakdrain can be installed in high ambient temperatures and cold conditions.

First stage of application

Step 1

Unroll the first roll of **Leakdrain** into position, allowing enough material to fold into the anchor trench if required (**Fig. 8**). Inspect the **Leakdrain** for integrity and reject the roll if it has been damaged. On windy or exposed sites the rolls may be held down by sandbags.



Fig. 5: Spreader beam carrying Leakdrain roll



Fig. 6: Leakdrain installed dimple side up (example)



Fig. 7: Unused rolls used as ballast on flat areas



Fig. 8: Leakdrain folded into anchor trench

Step 2

Place the next roll so that the edges of each roll butt up closely to one another or overlap by 100mm (**Fig. 9**), or as specified. If the overlap is in line with the slope then place the adjacent rolls in a roof tile manner so that the outflow from the top sheet discharges on the downslope side if the dimples are facing upwards and vice versa. This will ensure continuity of flow.

Step 3

Continue to lay rolls to create a continuous layer. When applicable the ends of the rolls should be overlapped by a minimum of 300mm and adjacent rolls should be overlapped at the edges by a minimum of 100mm. This is to ensure that the liquid can flow between rolls.

Step 4

If required joints should be sealed using either butyl tape, or extrusion welded (**Fig. 10**) where the product has been supplied with a selvedge.

Notes

1. Leakdrain has high long term strength and a short term usable compressive strength sufficient for pedestrian footfall (**Fig. 11**). Vehicular traffic should be avoided.
2. Standard Leakdrain contains a UV stabiliser so that it can be exposed to sunlight for up to 28 days in temperate climates. In climates with extreme sun, exposure should be limited to 7 days.
3. There are no known COSHH hazards associated with the installation of Leakdrain
4. Subject to safety procedures, rolls can be cut to length using a safety knife or disc saw.
5. Keep the Leakdrain free from contamination by mud and stones during installation to prevent damage and to maintain flow capacity.

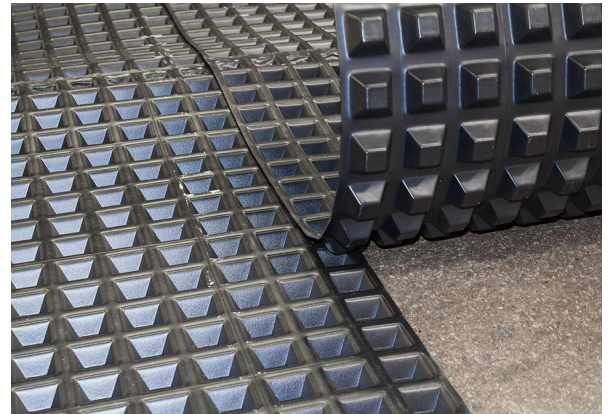


Fig. 9: Overlap detail (example)



Fig. 10: Extrusion welding of joints (where Leakdrain supplied with a selvedge)

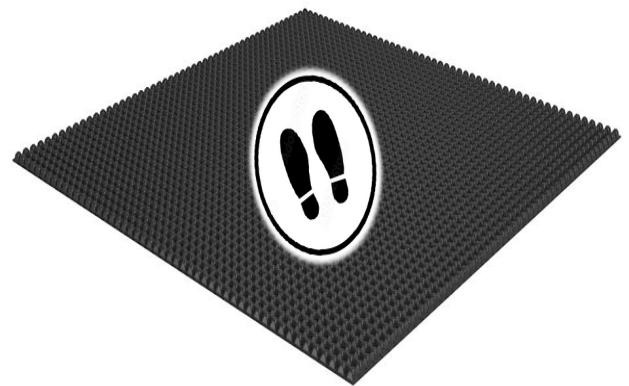


Fig. 11: Sufficient compressive strength to support pedestrian footfall.