Deckdrain - Horizontal

Installation Guide

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 ABG for further advice. In all situations, responsibility for installation remains with the Installer.

Description

ABG Deckdrain is a high performance, high strength pre-formed drainage layer comprising a cuspated HDPE core bonded to a geotextile filter. The geotextile is laminated onto the dimpled side of the core, but occasionally a second geotextile is also laminated to the flat side. It is laid with the flat side of the drainage core against the structure and the geotextile filter facing the soil backfill (Fig. 1). **Deckdrain** is applied to horizontal slabs to form a drainage and protection layer. It creates a void for the collection and transmission of excess rainwater into adjacent drainage outlets or collector pipes and also provides protection to all types of waterproofing membrane. It can also be applied directly to concrete, brick, rock, or similar structural surfaces. Its main applications are as a lightweight drainage layer for service reservoir roofs (Fig. 2) and green roof / podium gardens. **Deckdrain** must be covered with soil following installation. For vertical applications see separate **Deckdrain Walls** Install doc.

Fig. 1: Deckdrain geocomposite with cuspated drainage core and integral filter geotextile. Deckdrain is installed with the textile facing upwards, as shown above

Fig 2: Rolls of Deckdrain are quickly laid directly onto waterproofing on concrete roof slabs

Health, safety & environmental

Refer to site specific safety guidance. **Deckdrain** should be ballasted during installation to prevent wind uplift (don't lay more than can be covered at any one time). Collect offcuts to be disposed of in accordance with the site waste disposal rules. Standard **Deckdrain** contains a UV stabiliser which means 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 3 days. Prolonged exposure will cause some loss of strength. Contact ABG for details of enhanced UV resistance products.

Supply, storage and handling

Deckdrain is supplied in rolls, packed in opaque plastic bags for protection against UV light (Fig. 3).

Fig. 3: Deckdrain is supplied in rolls, packed in opaque plastic bags for protection against UV light

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Packaging should not be removed until the product is ready to use. Rolls can be lifted by hand (2 persons required for larger rolls).

Equipment and materials required (Fig. 4).

- **Deckdrain** is available in a large variety of dimensions (e.g. largest roll size 2.2m wide x 25m long with a core thicknesses upto 52mm). Rolls weigh approx. 40 - 75 kg and are between 0.6 - 1.3m in diameter
- Narrow roll of 500mm wide geotextile for edge detailing
- Sandbags or other suitable method for temporary ballast
- Jointing tape to hold the geotextile in position
- Sealant for special joint details as required
- Safety knife & gloves

Fig. 4: Materials required; Deckdrain, roll of geotextile, ballast, jointing tape & mastic, safety knife & gloves

Installation Method

Step 1 - Carry or roll the **Deckdrain** from the storage area to the place of work (do not drag the rolls since this may damage the product). If construction plant is being used to lift the rolls, ensure that the **Deckdrain** is not damaged by bucket teeth etc.

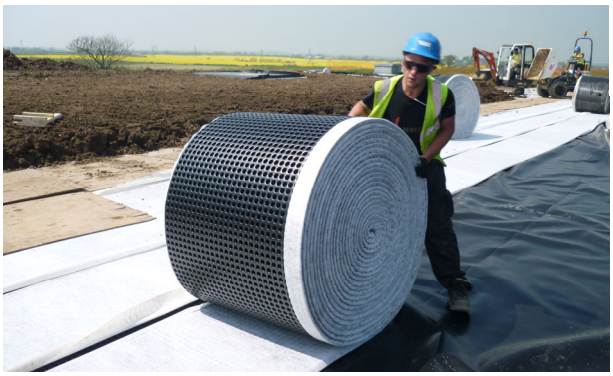

Fig 5: Install Deckdrain with geotextile facing upwards

Step 2 - Deckdrain is designed to be laid with the geotextile on the dimpled side facing the direction of water inflow (usually from the backfill). Note that there is a geotextile flap on one edge of the roll (Fig. 5).

Fig. 6: Cut Deckdrain to length using a safety knife

Step 3 - Rolls can be cut to length with a sharp knife (Fig. 6). The flap can be overlapped and fixed to adjoining rolls with mastic or jointing tape.

Step 4 - The next roll should be placed in a similar way to the first and such that the dimpled plastic cores butt together. The geotextile extends beyond the width of the dimpled HDPE core at one side to create an overlapping flap (Fig. 7).

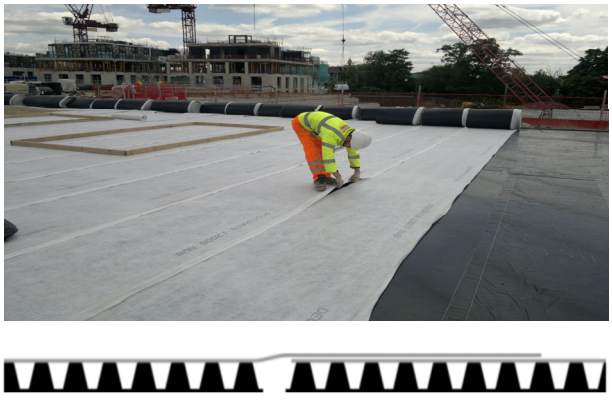

Fig. 7: Butt Deckdrain cores together and overlap geotextile flap

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Step 5 - Unroll the first roll of **Deckdrain** into position such that the geotextile flap laps up onto a side wall.

Step 6 - Continue laying further rolls in a similar manner to create a continuous blanket. It is advisable to consider loading the rolls with sandbags or other ballast if working on an exposed site, since wind can easily lift the lightweight rolls of **Deckdrain** (Fig. 8).

Step 7 - At the far wall, a 500mm wide geotextile strip is used to form the flap between the geotextile and along the wall (Fig. 9).

Step 8 - Deckdrain can be cut and sealed around columns, pipes and other penetrations.

Step 9 - When installing Deckdrain over drainage outlets, cut a section to the width of the drain and place it upside down over the cover. Butt up to adjacent cores and overlap with geotextile and seal using jointing tape (Fig. 10).

Step 10 - For reservoir roof corner edge details, cut the Deckdrain to finish level with the edge of the horizontal slab and at the top of the wall. Vertical sections are secured using stick pins or by temporarily holding in place using timber supports. To prevent any gaps and soil ingress from blocking the Deckdrain, use an additional geotextile strip to cover the corner join using jointing tape to seal in place (Fig. 11).

Step 11 - The collected water is usually discharged from **Deckdrain** into adjacent drainage outlets in the roof slab, downpipes or to collector pipes as shown on the site drawings.

Step 12 - Before backfilling, inspect the installation to make sure that there are no gaps in the geotextile where soil can enter the core. Ensure that water can exit freely from the **Deckdrain**.

Fig 8: Deckdrain is butt-jointed and the geotextile overlap prevents soil ingress at the seams

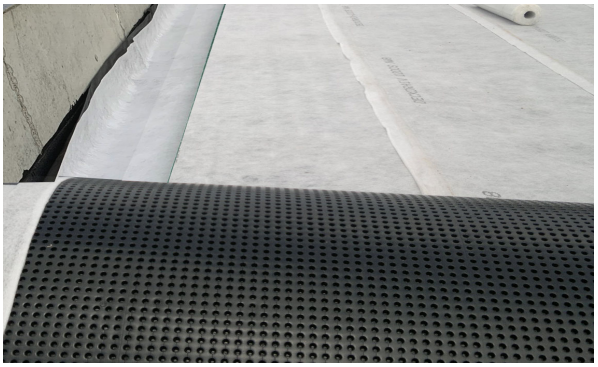

Fig 9: Use 500mm wide geotextile to overlap up the side of any roof walls

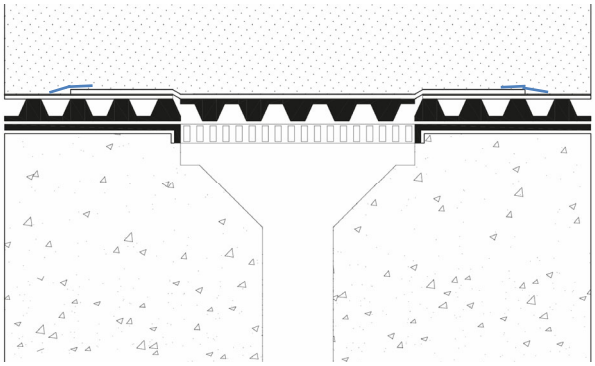

Fig 10: Cut section of Deckdrain to width of drain and place upside down over the drain cover. Overlap with geotextile and fix in place using jointing tape

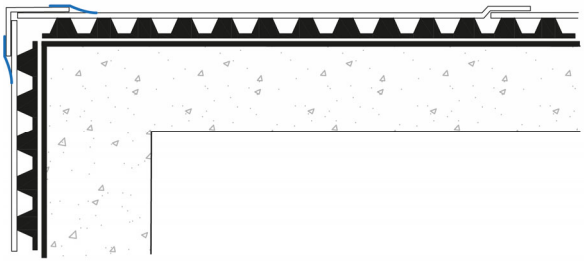

Fig. 11: Overlap geotextile on top of adjacent Deckdrain cores and butt cores together at roof base / wall corners using NW8 geotextile strip and seal with jointing tape

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Step 13 - Backfill material is usually good quality topsoil of minimal thickness.

Step 14 - Non-load bearing walls and planters can be built onto **Deckdrain** if a suitable concrete footing is cast (Fig. 12).

Step 15 - At least 150mm of backfill material should be maintained over the **Deckdrain** where mechanical plant is working. Temporary access routes for mechanical plant should be protected with boards. If the geotextile or cuspated drainage core has been damaged then this should be cut out carefully, so as not to damage the underlying liner, and a new piece inserted.

Fig. 12: Non-load bearing walls and planters can be built off Deckdrain if a suitable concrete footing is cast.

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