

Fildrain 7D, 7DH and G

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.

Description

Fildrain 7D, 7DH and G are preformed water drainage or gas vent geocomposites consisting of a HDPE cusped core laminated to a geotextile filter on both sides. When laid, **Fildrain** forms a blanket to collect and transmit water or gas from the surrounding ground into adjacent ditches or pipes.

Supply

- **Fildrain 7D, 7DH and G** are supplied in rolls

Equipment Required

- Appropriate PPE
- Sharp knife
- Sand bags or fill material for ballasting

Installation

Step 1

Fildrain 7D, 7DH and G is supplied in rolls wrapped for protection against UV light (**Fig 2**). Do not remove the wrapper until ready to install. Slings are provided for the safe off-loading of rolls. These slings are designed for single use in order to remove the rolls from the delivery vehicle to an appropriate site storage location. Store rolls of **Fildrain** on a firm base and do not stack more than six rolls high.

Step 2

The formation on which **Fildrain** is to be laid should be firm, free of roots and sharp objects and should be graded smooth so that there are no ruts or ridges greater than 50mm high (**Fig 4**). **Fildrain** will bend to follow stepped or benched ground profiles.



Fig. 1: Fildrain partially backfilled



Fig. 2: Rolls supplied to site including lifting straps



Fig. 3: Moving rolls around site



Fig. 4: Prepared formation

Fildrain 7D, 7DH and G

Step 3

In choosing the commencing point and direction of laying, consider the outfall positions, the prevailing wind direction, site slope and access point for materials. **Fildrain** is designed to be laid so that the major flow of water is along the roll length (Fig 5).

Step 4

Plan only to lay as much **Fildrain** as can be backfilled that day, to avoid uplift in strong winds and the risk of inundation by silt-laden runoff. Unused rolls may be used as ballast on flat areas. **Fildrain** can be secured temporarily by means of sandbags or small piles of fill material (Fig 6).

Step 5

For installation on slopes, commence laying **Fildrain** from the crest (top) of the slope and allow the material to unroll gently down the slope (Fig 7). For slope applications an anchor trench is required (Fig 8). **Fildrain** must not be laid across the slope. Long slopes are constructed with intermediate berms and anchor trenches with such details normally provided in the contract drawings. On slopes, the rolls must be continuous from top to bottom - there must be no joints on the slope between berms. Backfilling must always be from the toe (bottom) to the crest (top) of the slope (Fig 9).

Step 6

Unroll the first roll of **Fildrain** into position (allowing enough material to fold into the anchor trench if required). The next roll should be placed such that the black drainage cores butt together along the edge. The geotextile edge flap overlaps onto the geotextile of the adjacent roll (Fig 10). The flaps may be held down by sandbags, sewing, adhesive, jointing tape, or (if lining operations permit), staples. Alternatively, the ends of the rolls can be overlapped at least 300 mm onto the adjacent roll so that the water or gas can flow out of the end of the top roll and onto the drainage side of the roll below. Continue to lay rolls to create a continuous layer. Subject to site safety procedures, rolls can be cut to length using a sharp knife.



Fig. 5: Unrolling Fildrain



Fig. 6: Using sandbags to prevent wind uplift



Fig. 7: Unrolling downhill



Fig. 8: Fildrain installed in anchor trench

Step 7

Before backfilling, make sure there are no gaps in the geotextile cover where soil or clay could enter into the drainage core. Ensure that water/gas can exit freely.

Outfalls for the water or gas collected by **Fildrain** may consist of a perforated pipe laid in a gravel/filter trench. For water drainage the **Fildrain** may discharge to a toe ditch.

Step 8

To prevent damage, mechanical plant must not operate directly on **Fildrain**. The first layer of backfill should be at least 150 mm thick or twice the maximum particle dimension and be spread by tracked plant (**Fig 10**). Fill material should be tipped on the advancing layer, not directly onto **Fildrain**, and the fill should be compacted closely behind the spreading operation (**Fig 11**).

Step 9

A minimum cover of 450 mm of acceptable fill is recommended over **Fildrain** before general use by site traffic. Heavy plant must not be used on slopes.

Step 10

In the event that the **Fildrain** geotextile is damaged either during installation, small areas can be repaired using a patch of similar textile at least 300 mm larger than the damaged area. If the dimpled drainage core has been damaged, this should be cut out carefully and a new piece of **Fildrain** inserted along with an over-size patch of geotextile to prevent backfill ingress.

Step 11

There are no known COSHH hazards associated with the installation of **Fildrain** but care should be taken when cutting. Cut edges can be sharp and may flick up in windy conditions.



Fig. 9: Backfilling on a slope



Fig. 10: Site plant operating on layer of backfill



Fig. 11: First layer of backfill laid

Terms and Conditions

Site specific engineering design should be carried out after site investigation has provided all the necessary information.

The assessment of suitable safety factors in relation to each particular project must always remain the responsibility of the design engineer.