

Fildrain Type 6

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. 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 Fildrain Type 6 consists of a narrow fin drain with a perforated or slotted corrugated plastic pipe sleeved into it. The pipe carries the flow to an outfall. Fildrain replaces the expensive and difficult traditional wide wrapped stone filled trench (**Fig 1**). **Fildrain Type 6** is normally positioned from the top of the subbase to the specified depth below the capping layer and often backfilled to ground level with drainage stone or as specified (**Fig 2**).

There are 2 methods of installation: a) to lay the **Fildrain** against the side of the earthworks, cut and backfill against it; b) to lay the **Fildrain** in a trench excavated through the capping layer. The following instructions are relevant to both methods in principle.

Supply

- **ABG Fildrain Type 6** standard rolls with draw string each 50m long with available depth/roll weights: 0.3m/16kg; 0.45m/23kg; 0.6m/30kg; 0.75m/38kg; 0.9m/45kg; 1.1m/54kg (**Fig 3**).
- **ABG Jointing tape**

Equipment required

- Excavator and narrow trenching bucket
- Sharp knife
- Perforated Drainage pipe (supplied by others)
- Pipe jointing collars (supplied by others)

Instructions

Step 1

Usually the main surface water sewer is installed with junctions at gully positions prior to laying the **Fildrain**. Set out the line of the **Fildrain** with the horizontal and vertical tolerances allowed, taking into account possible trench overbreak on the capping layer.



Fig 1: Fildrain Type 6 replaces stone filled trench



Fig 2: Quick installation backfilled with as dug material



Fig 3: Delivered in wrapped handle-able rolls which can be easily rolled across the site. The pipe is supplied by others.

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Step 2

Excavate the trench to the required depth and width for a length at least equal to the length of fildrain roll or the spacing of the outfalls. The trench is usually cut with a rounded invert to eliminate the use of bedding stone. The fildrain is usually laid at a constant depth. The normal method of trench excavation is to use an excavator with a narrow bucket, alternatively automated trenching machinery may be used.

Step 3

Roll or carry the **Fildrain** in the bags to the trench. Do not remove the protective bags from the **Fildrain** rolls until ready to install as this protects it from Ultra Violet Light.

Unroll the **Fildrain** alongside the trench and cut to length using a sharp knife. After unrolling, the draw cord is attached to the pipe which is then inserted into the **Fildrain** sleeve using the built in draw cord. (Fig 6) No special fittings are required for **Fildrain Type 6**; only the pipe is jointed by standard pipe fittings. (Fig 5) Only the pipe needs to be connected between lengths using standard couplings. The vertical edges of the **Fildrain** can be connected together but all exposed edge must be sealed over with **ABG Jointing Tape** to prevent soil ingress. (Fig 7)

Lift the **Fildrain** into place in the trench or side of the excavation, taking care to avoid disturbing the edge of the trench.

Hold the **Fildrain** vertically against the trench side so that the top is at the same level as the top of the subbase. (Fig 8) Usually the **Fildrain** is placed against the capping layer side of the trench.

Step 4

Backfill is normally suitable as dug material. Place the backfill in layers and compact each layer using suitable narrow compaction equipment. (Fig 9). The top 300mm of backfill should be placed as filter stone where shown on the contract drawing to permit surface water to enter the **Fildrain** if required. The **Fildrain** must project at least 100mm into the filter stone to enable the water to flow from the stone into the **Fildrain**. (Fig 10). This is normally only required where **Fildrain** is installed adjacent to a carriageway.

Any over break on the capping layer/subbase should be filled with self-compacting free flowing material.

Step 5

To accommodate crossing pipes, gully connections or ducts, simply cut a rectangular hole through the **Fildrain**, all edges should be sealed with **ABG Jointing Tape**.



Fig 4: Excavate trenches place fill close to trench for easy backfill



Fig 5: Jointing of pipes with collar. Slide Fildrain to cover joint



Fig 6: Unroll Fildrain along trench side (note draw cord)



Fig 7: Sealing of edges using ABG Jointing Tape



Fig 8: Hold Fildrain to the side of the trench manually or with ties

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Notes

1. **Fildrain Type 6** core is double dimpled and accepts water on both sides, it does not matter which way the material is placed in the trench.
2. In the unlikely event that the **Fildrain** geotextile covering is damaged either before or after installation it can be repaired using a patch of fresh clean geotextile of similar type to the original, taped in position over the hole. If the central core has been damaged then this should be cut out and a new piece of **Fildrain** inserted and securely taped in position with **ABG Jointing Tape**.
3. As a general rule, no gaps should be left anywhere in the textile through which soil could enter. All gaps should be taped.
4. Extra height can be achieved by joining an extension piece of fin above the first. Ensure there is continuity in the core and all geotextile edges are taped.

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.



Fig 9: Backfill in layers and compact



Fig 10: Filling in layers and compacting