

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

Pozidrain is a thin, preformed sub-surface water drainage or gas vent geocomposite consisting of a HDPE cusped core laminated to a geotextile on one or both sides. The geotextile on the studded dimple side of the core is a filter drainage geotextile and the geotextile on the flat side is to provide enhanced interface shear strength. The geotextile flap extends beyond the black core. Usually fluid entry is only possible from one side of **Pozidrain** (Fig. 1 & 2). Typical applications are landfill and mining containment and capping, cut-off trenches, capillary breaks, gas vents etc.

Supply

Pozidrain is supplied in cylindrical rolls typically 4.4m or 5.5m long x 0.8m diameter and may weigh up to 500 kg. Each roll unwinds to cover an area of 4.4m or 5.5m wide x the roll length. Rolls labelled REV and identified with blue tape are reverse wound.

Equipment Required

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

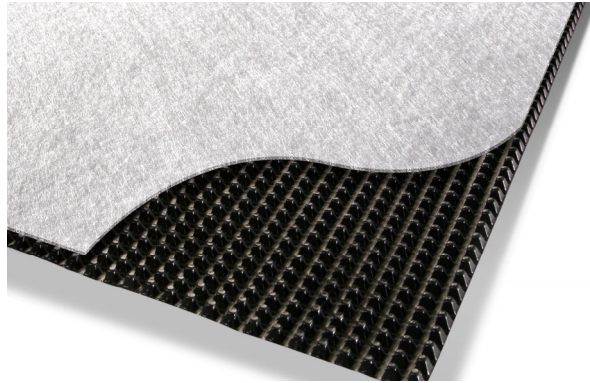


Fig. 1: Pozidrain—Fluid entry from above

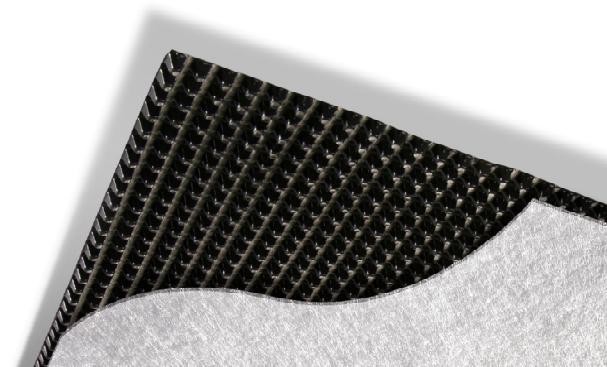


Fig. 2: Pozidrain—Fluid or gas entry from below

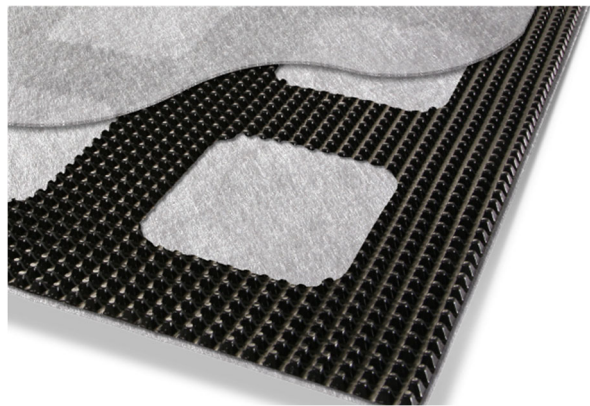


Fig. 3: Pozidrain G



Fig. 4: Pozidrain rolls stacked

Setting out

Step 1

Pozidrain is supplied in rolls wrapped for protection against UV light. Do not remove the wrapper until ready to install. Single use slings may be provided for the safe off-loading of rolls. These slings are designed for single use to remove the rolls from the delivery vehicle to an appropriate site storage location. Store on a firm base and do not stack more than six rolls high. Inspect all rolls for damage/defects during offloading and immediately report to **ABG** if found.

Step 2

Roll or carry **Pozidrain** rolls to the place of work, using suitable lifting equipment that does not damage the product. Do not drag the rolls as this could cause damage to the geotextile covering. Avoid contact with machine buckets. Lift the rolls with a boom or pole & frame through the centre tube, or by means of lifting straps around the roll.

Step 3

Pozidrain maybe laid onto a GCL, CCL or HDPE barrier. Alternatively, the formation on which **Pozidrain** is to be laid should be firm, free of roots and sharp objects and be graded smooth so that there are no ruts or ridges greater than 50mm high. **Pozidrain** will bend to follow stepped or benched ground profiles.

Step 4

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

Step 5

Identify the side of **Pozidrain** that is intended for the primary inflow of fluid or gas. It is essential that this is laid as shown on the drawings. The rolls will unwind when rolled out with the drainage side uppermost (**Fig. 5**). For fluid or gas entry from below, the drainage side needs to be on the underside. This can be achieved by ordering the product reverse wound (identified by REV at the end of the product code and a blue tape on the packaging), alternatively, the standard roll can be unwound from a boom.



Fig. 5: Pozidrain rolling out



Fig. 6: Pozidrain placed on steep slope



Fig. 7: Pozidrain basal drainage application

A) Butt Joint



B) Overlap



Fig. 8: Single Textile Pozidrain Edge Joint Options

A) Butt Joint



B) Overlap



Fig. 9: Double Textile Pozidrain Edge Joint Options

Installation

Step 1

Unroll the first roll of **Pozidrain** into position (allowing enough material to fold into the anchor trench if required). Note the roll ID on the label and the end of the roll for the CQA plan.

Step 2

The next roll should be placed such that the black drainage cores are either overlapped or butted together along the edge (Fig. 8 & 9). The geotextile edge flap overlaps onto the textile of the adjacent roll. The flaps may be held down by sandbags, sewing, adhesive, tack welding (with great care), jointing tape or staples (if lining operations permit).

Step 3

On steep slopes, it is easiest to commence laying **Pozidrain** from the top of the slope and allow the material to unroll gently down the slope.

Step 4

Continue to lay rolls to create a continuous layer. Subject to site safety procedures, rolls can be cut to length using a safety knife or disc saw. Offcuts may be re-used but waste pieces must be disposed of according to the site waste management plan.

Step 5

A trapezoidal anchor trench will be required at the top of steep slopes to securely locate **Pozidrain**. Long steep slopes should be constructed with intermediate berms and anchor trenches. Such details are normally provided in the contract drawings. On steep slopes the rolls must be continuous from top to bottom - there must be no end joints on the slope between berms.

Step 6

On shallow slopes, the end of one length of **Pozidrain** may be continued onto the next length of **Pozidrain** by overlapping the ends by 500mm (like roof tiles) in the downslope direction (Fig. 11).



Fig. 10: Geotextile flap overlap

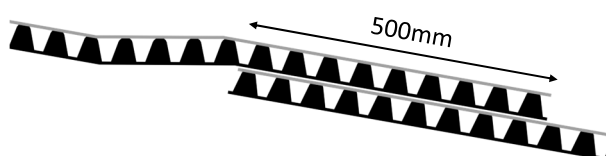


Fig. 11: End Jointing of rolls on shallow slopes

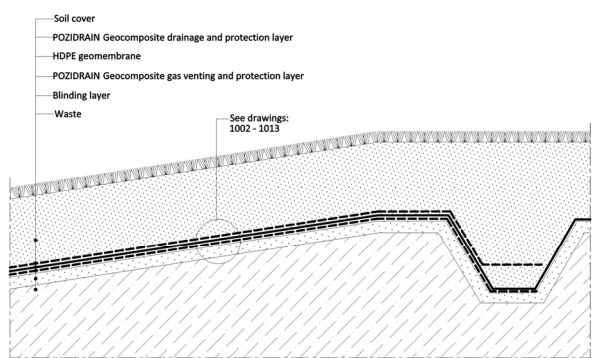


Fig. 12: Pozidrain laid in anchor trench

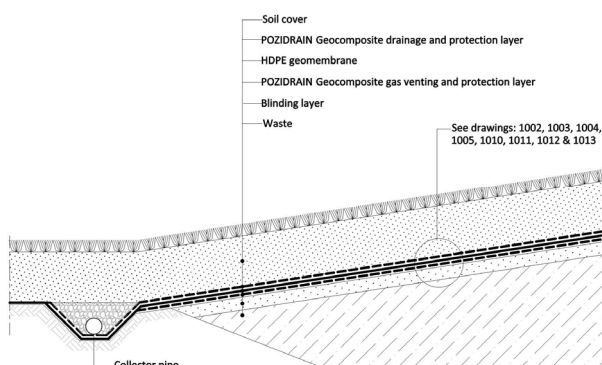


Fig. 13: Collector pipe outfall trench

Pozidrain S, SD, GS, GSD

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 from **Pozidrain** into the ground collection trench.

Step 8

Backfilling must always commence from the bottom of the slope upwards, unless a geogrid has been designed and installed to take account of the additional forces.

Step 9

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

Step 10

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

Step 11

In the event that **Pozidrain's** geotextile cover is damaged either before or after installation, small areas can be repaired using a patch of similar textile at least 300mm larger than the damaged area. If the dimpled drainage core has been damaged, this should be cut out carefully and a new piece of **Pozidrain** inserted together with an over-size patch of geotextile.



Fig. 14: Placing cover soil

Notes

1. There are no known COSHH hazards associated with the installation of **Pozidrain**, but refer to the MSDS and take care when cutting.
2. Plan only to lay as much **Pozidrain** as can be covered in a 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. **Pozidrain** can be secured temporarily by means of sandbags or small heaps of fill material.
3. The UV exposure limit is stated on the datasheet.
4. On steeply sloping sites, the rolls of **Pozidrain** must be laid up and down the slope, not across the slope and suitable anchor trenches or run-out lengths must be used.
5. On steeply sloping sites there must be no joints in the **Pozidrain** between berms.
6. **Pozidrain** can be unrolled progressively up a steep slope with the rolls held in place on the slope using large wooden chocks or wedges and possibly by cables.
7. Outfalls for the water or gas collected by **Pozidrain** may consist of a perforated pipe laid in a gravel / filter stone trench. **Pozidrain** may discharge to a toe ditch (Fig. 13) or upwards to a gas venting stack.

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.

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