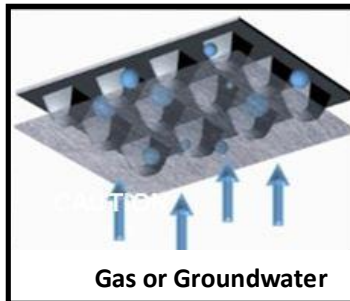
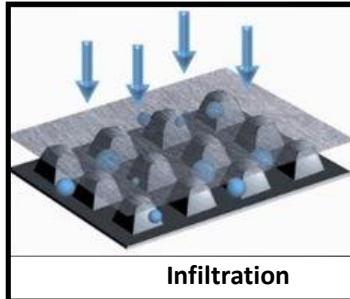


Installation Manual

Description:-



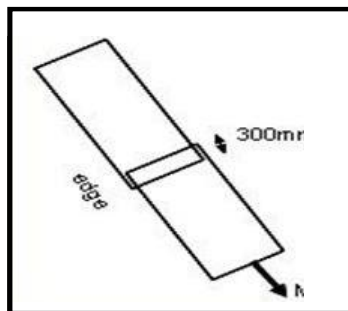
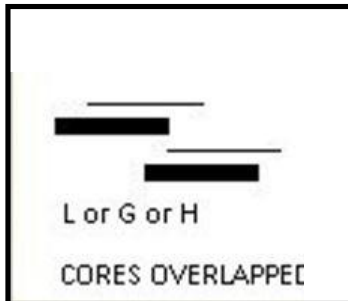
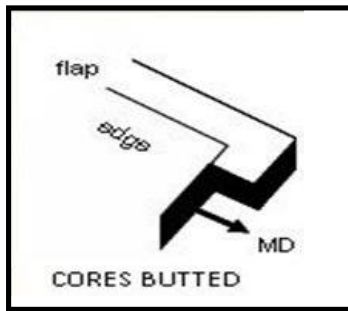
POZIDRAIN is a thin, high strength preformed drainage (or gas vent) geocomposite consisting of a HDPE cusped core laminated to a geotextile filter. The geotextile is laminated either onto the dimpled side or in many cases both sides of the drainage core. It is important to identify the side that is intended for the primary inflow of water or gas and to ensure that this faces the correct direction as shown on the drawings. This will mean that for ground water, gas venting, etc the Pozidrain may have to be turned over after unrolling unless the Pozidrain has been ordered reverse wound. Pozidrain when laid forms a blanket (horizontal, sloping or vertical) to collect and transmit water or gas from the surrounding ground into adjacent ditches or pipes. Pozidrain also protects geomembrane liners from physical damage by the backfill. Pozidrain must finally be covered. In certain applications Pozidrain forms a void and physical barrier that stops the capillary rise of water. Typical applications are landfill containment and capping, cut-off trenches, capillary breaks, gas vents, highway embankments, drainage at the rear of reinforced earth walls & slopes, etc.

Caution:-

Multi-layer lining systems on steep slopes require stability at each interface and special attention is given to their design and this must be respected in the installation. Measures must be taken to prevent silt or dirty site water, heavy rainfall or other water run-off from flowing directly onto or into the Pozidrain during construction.

Instructions:-

1. Roll or carry (using suitable lifting equipment that does not damage the Pozidrain) the Pozidrain rolls to the place of work. Do not drag the rolls as this could cause damage to the geotextile covering of the Pozidrain. **AVOID CONTACT WITH MACHINE BUCKET.** Lift the rolls with a spike/pole or spreader beam and pole through the centre tube or by means of lifting straps around the roll. **NOTE:** Pozidrain rolls can weigh 250-1000kg, are up to approx. 4.8 metres long and approx. 1 metre diameter.
2. The Pozidrain must be installed with the geotextile filter layer facing the direction of water or gas inflow. When there is textile on both sides of the Pozidrain, the studded side should face the main inflow of gas or water (See diagrams in section above). Pozidrain will bend to follow stepped ground profiles.
3. The formation on which the 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.
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. Generally, the same conditions apply to Pozidrain installation as for geomembrane installation. Pozidrain is designed to be laid so that the major flow of water is along the roll length. Each roll has ID label on the wrapper and ID is marked on roll end.
5. Plan only to lay as much Pozidrain as can be backfilled that day, to avoid uplift in strong winds and water surcharge by heavy rainfall directly on Pozidrain. Unused rolls may be used as ballast on flat areas. If no geomembrane or Pozidrain is not impermeable then can be secured temporarily by approx 300mm pins.
6. On steep 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.



7. On steep slopes, it is easiest to commence laying from the top of the slope and allow the roll to unfold gently down the slope. HOWEVER, BACKFILLING MUST ALWAYS COMMENCE FROM THE BOTTOM OF THE SLOPE UPWARDS unless a geogrid has been designed and installed to take the forces.
8. Unroll the first roll of Pozidrain into position (allowing enough material to fold into the anchor trench if required). Where the direction of inflow is from below, the Pozidrain will need to be turned over or unwound from a frame unless the REV version has been ordered. Inspect the Pozidrain for integrity and reject the roll if the lamination has been damaged. Standard Pozidrain jointing is with the cores butt jointed and the geotextile flap overlapping onto the adjacent sheet. The weight of backfill material keeps the overlap in place. Pozidrain with L or G or H in the code has a plain HDPE selvedge or drainage core that extends beyond the textile edge, in which case the core/selvedge should be overlapped (see detail), and may if required be joined using ABSEAL Butyl or Bitumenous tape or welded using hot wedge or extrusion welding. In all situations the "built-in" geotextile edge flap overlaps onto the textile of the adjacent roll. Pozidrain that has small strips of core within the textile (eg (55/55) in the code) can be placed with a 150mm overlap using the offset textile.
9. On windy or exposed sites sheets must be held down by sandbags, windrows of cover material, sewing, stapling (if the lining operation permits), adhesive or jointing tape. Hot air tack bonding of the textile overlap may be used where required and heating time, required temperature and equipment setting should be appropriate to the product supplied and weather conditions. The parameters and settings should be adjusted every day accordingly and trials using offcuts of material are advised. Heating equipment should be in good working order and it should not be left unattended.
10. Subject to site safety procedures, rolls can be cut to length using a sharp knife or disc saw. When applicable, the end of a roll should be overlapped min 300 mm onto the next roll such that water or gas can flow out of the end of the top roll and onto the drainage side of the roll below. Lay further rolls to create a continuous drainage layer.
11. A trapezoidal anchor trench or pull-out trench as shown on the drawings (at least 0.6 m x 0.6 m) should be constructed at the top of steep slopes to securely locate the Pozidrain. Long steep slopes are constructed with intermediate berms and anchor trenches (usually including an intermediate collection pipe). Run-off water from geomembrane areas or completed slopes above the Pozidrain must not be allowed to flow into the Pozidrain or over the surface of the cover soil on the slope below.
12. On steep slopes the rolls must be continuous from top to bottom i.e. THERE MUST BE NO JOINTS ON THE SLOPE BETWEEN BERMS.
13. Keep the interface between the Pozidrain and the geomembrane free from contamination by mud and stones to prevent damage to the geomembrane and possible loss of stability on steep slopes.
14. Use 4.4 or 4.55 metre wide Pozidrain rolls to cover a large area. Lengths of Pozidrain in 2.2 metre wide widths are available to reduce waste material on tapered corners.
15. Outfalls for the water or gas collected by the Pozidrain consist of a perforated pipe laid in a gravel or filter stone trench. Usually the Pozidrain is laid down into and across the base of the trench, so that water or gas can escape out of the Pozidrain surface through the stone into the pipe. If, however, the Pozidrain has to be laid over the top of gravel outfall trenches then the impermeable central core of the Pozidrain must be perforated to allow the water or gas to escape into the trench. On steep slopes, the toe collector drain must be constructed prior to any placement of soil cover material. Ensure outfalls cannot freeze.
16. Before backfilling make sure there are no gaps in the geotextile cover where soil or clay could enter into the drainage core of the Pozidrain. Ensure that water or gas can exit freely from the Pozidrain.

17. On steeply sloping sites, the backfill must be placed from the toe upwards by excavator bucket unless a geogrid has been designed and installed to take the forces. On the upper parts of slopes the thickness of the backfill material must not exceed the design thickness. Temporary haul routes should follow the berms and must not be allowed to traverse the slope. Heavy traffic must not travel on the outer portions of the berms that are supported by the cover soil.
18. For drainage from above, the backfill material is usually relatively free draining and a wide range of materials are suitable. To prevent damage to the Pozidrain, material should be well graded with a layer thickness at least twice the maximum stone diameter. The particle size must be compatible with the geotextile pore size. On steep slopes the backfill must have sufficient shear strength and be free draining unless the designer has assumed saturated conditions. The backfill should be compacted as specified and the whole slope length covered before rain is expected, see Caution Note. When drainage is from below, e.g. when Pozidrain is used below compacted mineral liners (CCL's), the backfill material on top of the Pozidrain should be free from large stones, have sufficient shear strength when compacted as specified and may be placed as a sloping veneer layer or in horizontal layers.
19. Mechanical plant should not operate directly on the Pozidrain. A minimum 150 mm layer of fill should be placed and maintained under tracked vehicles, which should not slew or turn tightly. Unless a geogrid has been designed and installed to take the forces; dozers must not push the covering material downhill. They should travel up and back down slopes smoothly. **HEAVY EQUIPMENT MUST NOT BE USED ON CRITICAL SLOPES** unless the forces have been assessed in the design of the slope. Haul roads across Pozidrain are best avoided but on flat areas if essential they should comprise at least 400mm of well graded fill.
20. In the unlikely event that the Pozidrain 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 so as not to damage the underlying liner and a new piece of Pozidrain inserted. Seek advice on steep slopes.
21. If trenches have to be excavated through Pozidrain after backfilling, the following method may be used (except on steep slopes). Excavate carefully through the backfill to expose the Pozidrain approx. 1 metre wider than the width of the trench to be excavated. Cut out and remove the Pozidrain equal to the width of trench to be excavated below. Excavate the trench as required. Backfill the trench to the level of the Pozidrain. Cut a replacement strip of Pozidrain approx. 1 metre wider than the trench. Slide this under the main Pozidrain blanket on the up slope and lay it over the Pozidrain blanket on the down slope side of the trench. Complete the backfill. On steep slopes the continuity of the Pozidrain must be maintained.
22. Standard Pozidrain contains a UV stabiliser so that it can be exposed to sunlight for up to 14 days in temperate climates. Exposure should be limited to 3 days in climates with extreme sun. Prolonged exposure will cause some loss of strength. Please contact our technical department for specific advice and details of special enhanced UV resistance Pozidrain (Code UV), suitable for up to 1 year exposure.
23. There are no known COSHH hazards associated with the installation of Pozidrain but care should be taken when cutting; be aware that cut edges can be sharp and could flick up in windy conditions. Please request COSHH information sheet

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