

HYDRANET™ CONDUCTIVE GEOCOMPOSITE

HANDLING, STORAGE, AND INSTALLATION GUIDE

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INTRODUCTION

HydraNet™ Conductive Geocomposite provides unprecedented electric leak location functionality combined with a drainage medium. This unique geocomposite allows for a wide range of different electric leak location methods to suit your project and provide the highest possible level of quality control.

Layfield manufactures HydraNet™ Conductive Geocomposite by laminating our Geovolt® conductive geotextile to one side of the project-specified geonet. A geotextile can be laminated to the other side of the

geonet if required. This provides a great deal of flexibility with the various drainage and filtration properties of the finished material.

MANUFACTURING

HydraNet™ Geonet is manufactured in North America, using state-of-the-art counter rotating dies and the highest quality resin. HydraNet™ Geonet is manufactured with the addition of carbon black to stabilize against degradation from UV exposure.

PACKAGING

Upon completion of the lamination process, the HydraNet™ Conductive Geocomposite is wrapped in an opaque wrap to prevent exposure to UV and for protection from the weather, dust, etc.

Each roll is tagged so that the following information is available at all times from the manufacturer:

- Manufacturer's Name
- Product Identification
- Roll Number
- Roll Weight
- Roll Dimensions

SHIPPING

HydraNet™ Conductive Geocomposites rolls are shipped in original packaging. In the event the packaging is damaged during shipment, repairs should be made to ensure protection against UV and weather. Care should be used during the off-loading to ensure that the machinery used does not penetrate packaging.

STORAGE

Storage of the rolls prior to installation should be in an area where they are not in standing water. For storage longer than 30 days, rolls should be elevated off the ground with tires, pallets or 2x4's to prevent water from saturating the bottom row. The stack should then be covered with a material that will give additional protection from the elements. Should the product be exposed to excessive dust, the product should be washed prior to installation.

SITE PREPARATION:

The design engineer will determine how and where the HydraNet™ Conductive Geocomposite is to be used. With any application, care should be used in placing HydraNet™ Conductive Geocomposite so that it is not damaged by stones or other protrusions that may compromise the functionality of the product.

PLACEMENT:

- HydraNet™ Conductive Geocomposite installation will commence after the geomembrane/ subgrade has been installed/ constructed, tested and approved by the Engineer. The underlying surface (geomembrane and/or soil) shall be cleaned and free of excessive dirt and debris. Where underlying surface is soil, care should be taken to prevent puncture of geotextile portion of the HydraNet™ Conductive Geocomposites from rocks and stones. Precautions shall also be taken to prevent damage to underlying geosynthetic layers during placement of the HydraNet™ Conductive Geocomposites.
- The HydraNet™ Conductive Geocomposite side with conductive surface should face up.
- The HydraNet™ Conductive Geocomposites roll should be installed with the machine (intended flow) direction parallel to the slope. If necessary, the HydraNet™ Conductive Geocomposites shall be positioned by hand after being unrolled to minimize wrinkles.
- To prevent movement during installation, all HydraNet™ Conductive Geocomposite shall be weighted with sandbags or the equivalent. Such sandbags shall be installed during placement and shall remain until replaced with cover material. Sandbags should be on hand at all times and placed on edges not seamed to prevent uplift from the wind.

- For slope applications, the rolls should be placed in an anchor trench so that pull out or slippage is prevented. The rolls should be rolled from top to bottom and hand tightened to remove any wrinkles. The anchor trench should be in accordance with the Design Engineer's requirements.
- Each continuous panel of HydraNet™ Conductive Geocomposite shall be extended through the bottom of the anchor trenches, transition areas, and/or pipe drain collection trenches prior to collection pipe or gravel placement. There are to be no end panel seams in these transition areas, only side to side panel (seams oriented perpendicular to pipe trench) seams.
- The HydraNet™ Conductive Geocomposite maybe temporarily anchored with sand bags within anchor trenches and transition areas. Anchor trench compacting equipment shall not come into direct contact with the HydraNet™ Conductive Geocomposites.
- Metal ties or hog rings must not be used to attach the panels. The metal ties can cause false positives during electrical leak testing.
- Welding of the HydraNet™ Conductive Geocomposites to HDPE liner or any other geomembrane is not recommended.

SEAMS AND OVERLAP:

Each component of the HydraNet™ Conductive Geocomposite (geotextile(s) and geonet) shall be secured or seamed to the like component at overlaps.

A. GEONET COMPONENT

Adjacent edges of geonet along the side length (parallel to machine direction/flow direction) of the HydraNet™ Conductive Geocomposites panels should be overlapped a minimum of 4-inches or as recommended by the Engineer, see Figure 1. These overlaps shall be joined by tying

the geonet cores together with white or yellow plastic fasteners. These ties shall be spaced at a maximum of every 5 feet along the roll length.

Adjoining geocomposite rolls (end to end) along the roll width shall be shingled down in the direction of the slope, with the geonet portion of the top geocomposite overlapping the geonet portion of the bottom geocomposite a minimum of 12 inches or as recommended by the Engineer across the roll width, see Figure 2. Geonet shall be tied every 12 inches across the roll width and every 6 inches in the anchor trench or as specified by the CQA Engineer or the Design Engineer.

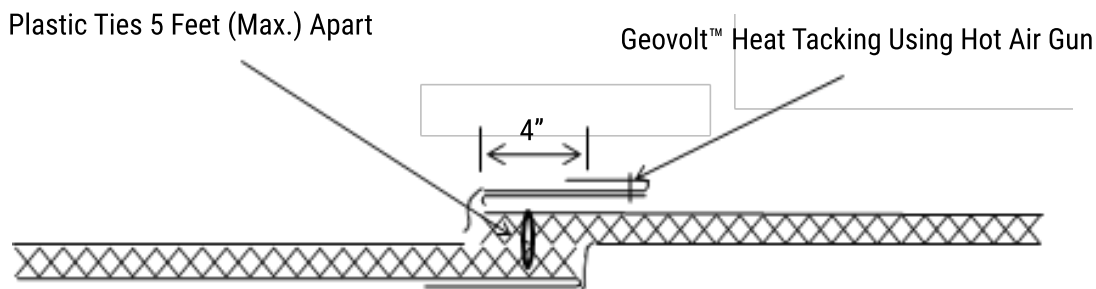


Figure 1. Overlap Along Roll Length (Machine Direction)

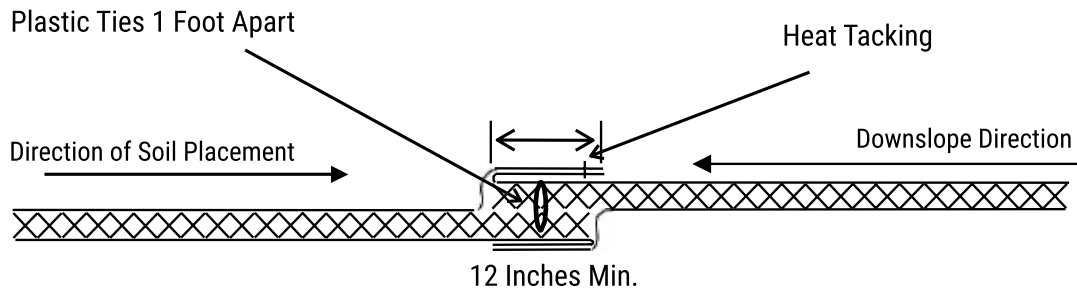


Figure 2. Overlap Along Roll Width

B. GEOVOLT/GEOTEXTILE COMPONENT

The bottom layer of geotextile (if any) shall be overlapped unless the Engineer specifies differently.

The top layers of geovolt shall be heat bonded using a hot air gun as per engineer's direction. Geovolt®/Geotextiles shall be overlapped a minimum of 1 inch prior to seaming or heat bonding, if heat bonding is to be used, care must

be taken to avoid burn through of the Geovolt®. Open flame torch is not recommended.

It is important that the top layers of Geovolt® be overlapped to the adjacent and adjoining rolls.

Electrical Leak testing: Refer to Geovolt® Install guide available on the website.

WARNING: The test methods described in this guide could use high voltages, resulting in the potential for an electrical shock or electrocution hazard. The electrical leak survey should be performed by a competent professional using specialized test equipment specifically designed for the task. Test equipment should be used following the manufacturer's instructions and executed following the applicable ASTM standard.

DISCLAIMER

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