SYNTEC, LLC
4800 Pulaski Highway
Baltimore, Maryland 21224 • USA
Phone: 410-327-1070 • Toll Free: 1-800-874-7437 Fax: 410-327-1078
www.synteccorp.com

SYNTEC GEOSYNTHETICS EVOLVED

Handling and Storage

Drainage geocomposite rolls shall be shipped to the jobsite in a manner not to damage the rolls. The rolls shall be stored away from dirt, mud, and excessive heat. Refer to ASTM D4873 (Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples) for more detailed handling and storage of geosynthetics.

Placement

1. The Contractor and the Installer shall handle all geocomposite materials in such a manner as to ensure it is not damaged in any way. Precautions shall also been taken to prevent damage to underlying layers during placement of the geonet/geocomposite.

2. The Tenflow geonet core consists of a circular aperture side and a cuspated side. The side with the circular apertures should be placed against the soil, while the cuspated side should be placed against the geomembrane.

3. The geocomposite roll should be installed down the slope, and precautions taken to minimize wrinkles. The Tenflow tri-planar geocomposite directs flow predominately in the machine direction (along the roll length) and thus should be installed in the intended direction of flow. This is generally directly down slope unless the Engineer specifies an alternative drainage path.

4. In the presence of wind, all geocomposite materials shall be weighted with sandbags or the equivalent. Such sandbags shall be installed during placement and shall remain until replaced with specified overlying material.

5. If there are any obstructions (such as outlet pipes or monitoring wells) while deploying the geocomposite, the geocomposite shall be cut to fit around the obstruction. Care should be taken as to make sure there is no gap between the obstruction and the geocomposite, to prevent any soil particles from migrating into the geonet core.

Seams and Overlaps

The geonet and each component of the geocomposite (geonet & geotextile(s)) will be secured or seamed to the like component at overlaps.

Geonet:

Adjacent edges of geonet along the roll length of the geocomposite should be overlapped 3 inches, see Figure 1. These overlaps shall be joined by tying the geonet cores together with white or yellow cable ties (minimum tensile strength of 50 lbs) or use beads of white polyethylene (preferred color to differentiate with black colored geonet) extrudate “welding” into both geonet cores. These ties or beads shall be spaced every 5 feet along the roll length. The ties should be placed along the cross machine direction, i.e., tying the two layers across the longitudinal ribs. It should be noted that due to the structure of the geonet, a complete interlocking of the two overlapped geonet layers can occur.

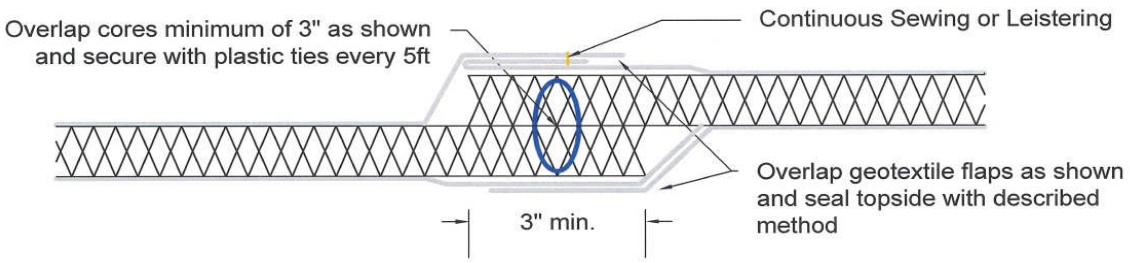

Figure 1. Overlap along roll length

Adjoining geocomposite rolls (end to end) along the roll width should have the geonet overlapped a minimum of 8 inches across the roll width, see Figure 2. Geonet should be tied every 12 inches across the roll width or as specified by the Engineer.

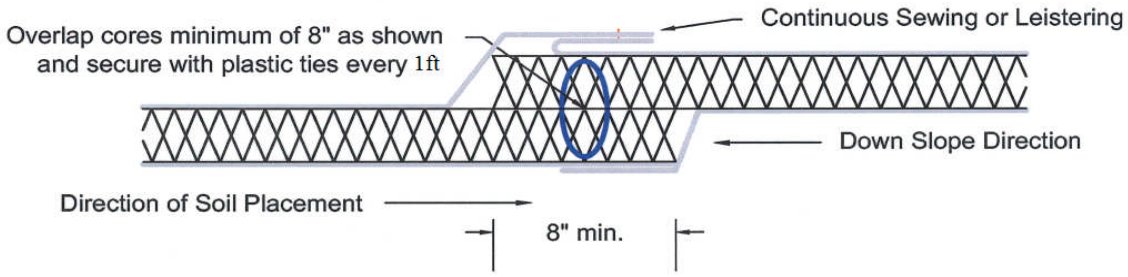

Figure 2. Overlap along roll width

Geotextile:

The bottom layer of geotextile (if any) shall be overlapped, or at the discretion of the Engineer may need to be sewn together. The top layers of geotextiles shall be sewn together, or at the discretion of the Engineer may be heat bonded or wedge weld. 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 geotextile. It is important that the geotextiles be joined continuously to the adjacent and adjoining rolls as to prevent any fugitive particle migration into the geonet core flow channels.

Repairs

Prior to covering the deployed geocomposite, each roll shall be inspected for damage. Potential repair techniques will be addressed separately for just geotextile damage and for geonet damage on the geocomposite.

Geotextile Damage:

Syntec recommends patching small holes with an 8” x 8” geotextile piece. Apply the spray adhesive (Note: 3M Hi- Strength 90 adhesive is the recommended adhesive.) to one side of the 8x8”textile patch. Center and apply the 8”x 8” textile patch over the small holes in the geotextile. Firmly press 8”x 8” textile patch over repair area. If the damaged area of the geotextile is greater than this patch size, a bigger patch is recommended instead of using a multitude of 8” x 8” patches. If the geotextile is damaged beyond 50 percent of the width of the roll, a full width piece of geotextile shall be cap-striped over the damaged area as recommended above and seamed to the adjacent panels.

Geonet Damage:

Damage to the geonet portion of the deployed geocomposite shall be patched by placing a geonet or geocomposite patch extending 12 inches beyond the edges of the damaged area. The patch shall be secured to the original geonet by tying every 6 inches with approved tying devices. If the damage on the geonet portion of the deployed geocomposite is more than 50 percent of the width of the roll, this entire full width section shall be cut out, and the two portions of the geonet (end to end) shall be joined as explained above.

Cover Soil Placement

1. Placement of the cover soil shall proceed immediately following the placement of the geocomposite and its consequent approval by the responsible party. Geocomposites usually shall be covered within 14 days.

2. No construction equipment shall operate directly on the geocomposite. The use of lightweight machinery (i.e. general low ground pressure machines such as ATV’s to facilitate deployment) is allowed. The specified cover material shall be spread utilizing wide track equipment. The cover soil shall be placed on the geocomposite from the bottom of the slope proceeding upwards and in a manner which prevents instability of the cover soil, minimize wrinkles, or damage to the geocomposite.