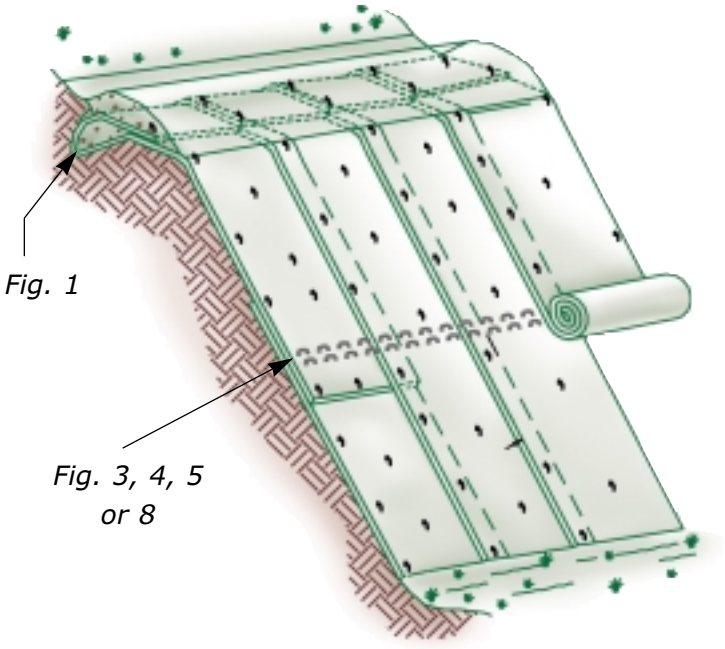
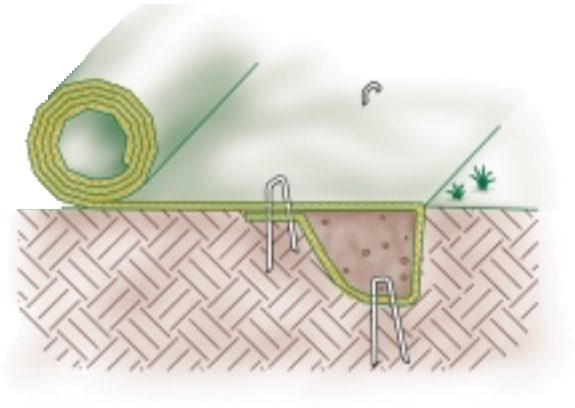
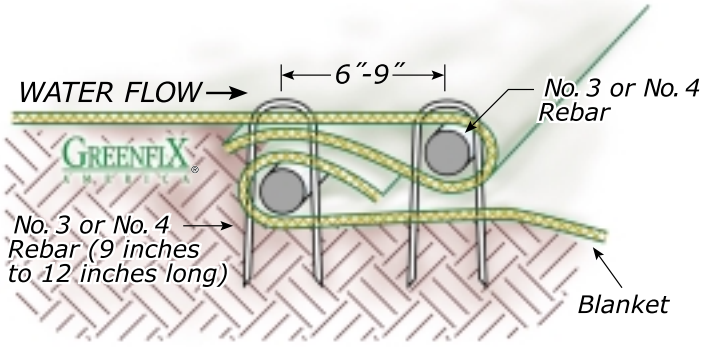


Typical Slope Installation

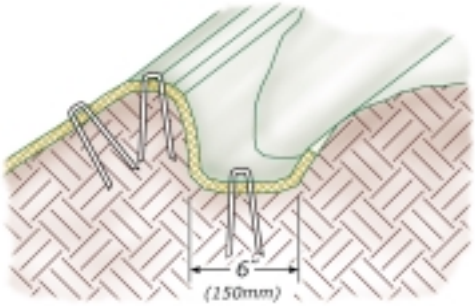


Initial Anchor Trench (Fig. 1)

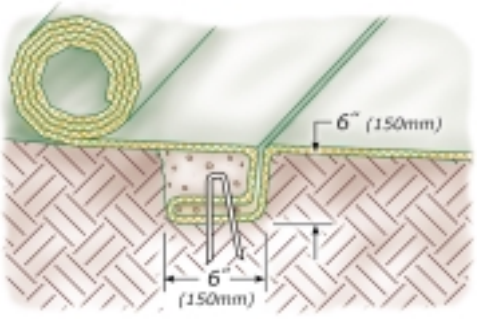


Alternate Steep Slope Anchoring Method (Fig. 4)

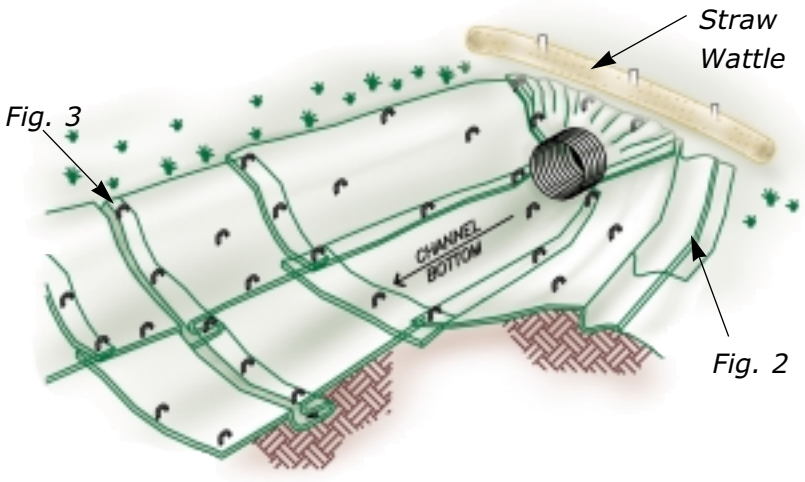
Tensile forces are applied to full material width.



Longitudinal Anchor Trench (Fig. 2)



Intermittent Check Slot (Fig. 3)



Typical Channel Installation

Recommended Installation Guidelines

Subgrade - The first installation step is to make sure that the subgrade is properly prepared. Once the subgrade has been verified to be properly graded and compacted and generally free of ruts and projecting stones or clods, the blanket can be deployed. Generally, normal construction equipment should not cause significant rutting of the subgrade.

Other Layers - In some systems, another material such as mulch may underlie the blanket and therefore be placed first. When situations require the blanket to be laid on top of another material, care must be taken to prevent disruption of or damage to the underlying materials. Never use normal construction equipment directly on top of blanket.

Seeding - In temporary, degradable systems, seed is generally spread on or drilled or sprigged into the subgrade prior to unrolling of the blanket. Many long-term, nondegradable systems are unrolled, and filled with soil prior to seeding.

Positioning and Anchoring - In all cases, each blanket should be unrolled as close as possible to its intended final position to minimize the need for dragging which can dislocate underlying materials or dig up or disturb the prepared subgrade and/or seeding. Staking, pinning or stapling blankets to secure their position is commonly done with a frequency and at the relative locations required to assure stability on the terrain in question.

Wind - Large panels of blankets can be lifted up by gusts of wind if not properly secured. Deployed materials are most vulnerable prior to anchoring. Wind displacement can cause damage such as tearing or less obvious, but equally as problematic, damage such as loss of fibers. Identified damage should be patched. Liberal use of temporary weights such as dirt mounds or sandbags is the most common strategy to avoid wind pick-up.

Field Joining and Anchoring

Proper installation of blankets is critical. Blanket panels are joined side to side and end to end by overlapping or "shingling" in the direction of flow. Overlaps are typically secured by staking, pinning, or stapling at regular spacings along the overlap. Longitudinal overlaps must be a minimum of 3" along the overlap length. Blanket ends may be spliced by overlapping 1' (in the direction of water flow) with the upstream blanket placed on top of the downstream blanket. This overlap should be anchored at 1' spacing across the width of the blanket.

Typically blankets are anchored with 11 ga. U-shaped staples, 6" or 8" long depending upon the looseness or compaction of the soil. Proper anchoring of rolled blankets also includes the following practices:

• Terminal trenches (typically 6 inches wide by 12 inches deep) are made at the top and bottom (crest and toe) of all covered slopes and at the end of all lined channels.

• Intermediate trenches, or "check slots" (typically 6 inches wide by 6 inches deep) or two closely spaced rows of anchors may be used transverse to flows at intermittent points down a slope or along a channel to prevent continuous flows beneath the blankets.

• "Patterning" staking, pinning, or stapling of positioned blankets accomplishes uniform anchoring. The pattern depends on the steepness of the slope or channel as shown in staple guidelines.

Penetrations

It is important that at the point of all penetrations through a blanket additional anchorage be provided. The most common penetration involves a pipe or manhole around which the blanket can be easily cut to fit closely and subsequently anchored. Penetrations and other structure interferences are notoriously prone to concentrated erosion. Therefore, special attention to detail is necessary when any of these features are encountered.

Repairs

If a repair is required because the blanket has been accidentally damaged, a patch of the same base blanket type should be cut to fit over and sufficiently beyond the damaged area to permit joining to or anchoring through the parent blanket.

Backfilling

Blankets which are installed prior to seeding must be subsequently seeded and, when directed, backfilled with soil. These blankets must be of the blanket type, meaning they must have an open structure to facilitate soil filling. Typically, once seeded, same day backfilling is preferred. Depending on the system design, the cover soil may be a special topsoil or simply general backfill. In either case, consideration must be made for the proper placement of the soil layer to completely fill the blanket without overfilling (which may prevent germination) or causing construction damage.

For Installation Assistance:

GREENFIX® AMERICA®

800-929-2184 (760) 348-7600
Fax (760) 348-3097
www.greenfix.com

Supplement To General Installation Guidelines/ Slopes And Channels

Subgrade / Slopes & Channels: On slopes and channels, the site must be shaped to the design specifications (Slope gradient, Density of soil & etc.) The site must be groomed to be free of soil clods, clumps, rocks or equipment imprints of any kind that would prevent the blanket from lying flush against the surface contour.

Seeding / Slopes & Channels: For non soil filled applications on slopes and channels, hydro-seed, board cast or drill seed over prepared soil before blanket is deployed. Make sure to hydro-mulch after seeding and before the blanket is installed to ensure the seed is in direct contact with the soil. Seed mixes with adequate pure live seed ratios must be used to ensure proper germination ratios and successful vegetation establishment. Consult your local distributor or seed supplier to obtain a proper seed mix.

Anchor Trench & Check Slots / Slopes & Channels: Anchor trenches are required to securely fasten the blanket to the subgrade surface. Anchor trenches and intermediate check slots are typically 6-9 inches wide and 6-9 inches deep. The blanket is installed in the trench and fastened to the bottom with staples spaced 1-3 ft. apart. The anchor trenches and checks slots are then back filled and compacted in such a manner not to damage the blanket. (See Slope & Channel Isometric View)

Anchor Trench / Slopes: Anchor trenches should be installed at least 1 ft. beyond the crest of the slope. (See Longitudinal Anchor Trench Fig. 2)

Anchor Trench / Channels: In a channel anchor trenches are installed at the beginning of the channel. (See Initial Channel Anchor Trench Fig. 1 & Longitudinal Anchor Trench Fig. 2)

Check Slots / Slopes: For maximum performance of your product, an intermediate check slot may be required on long slopes that exceed one roll length. Intermediate check slots should be spaced approximately 20 – 60 ft. intervals down the slope depending on the blanket type, slope length and soil conditions. Consult your local distributor or blanket manufacturer directly to confirm the check slot installation procedure. (See Intermediate Check Slot Fig. 3)

Check Slots / Channels: In a channel, check slots are spaced approximately 25 – 60 ft. intervals down stream depending on flow conditions, channel gradient and time to vegetate. (See Intermediate Check Slot Fig. 3 & Cannel Isometric View) Field Joining And Anchoring: The blanket is rolled down the slope or channel loosely to maintain contact with the soil at all times. Side to side overlap between rolls are 3-4 inches minimum and anchored on 2-3 ft. intervals minimum. End to end splice overlap between rolls are 1-3 ft. minimum and anchored with two rows of staples on 1 ft. intervals minimum. Overlaps are shingled in the direction of flow.

Staple patterns will vary depending on application, soil type, slope or channel gradient and etc. (See Staple Pattern Guidelines) A rule of thumb for estimating the amount of staples required for a project is as follows:

Steep Slopes / 1:1 and greater . . . . . .2-4 staples per sq. yd.

High Flow Channel . . . . . .3-4 staples per sq. yd.

Low Flow Channel . . . . . .2-3 staples per sq. yd.

Install additional staples as required to ensure the blanket is always in contact with the soil, regardless of suggested staple patterns.

Anchoring Devices: Use a 6 inch x 1 inch 11 gauge minimum metal staple in heavy compacted soil. In loose soil conditions use a 8 inch x 1 inch 11 gauge minimum metal staple. Other approved anchoring devices in loose soil conditions are as follows:

12 inch x 1.5 inch metal staples.

18 inch pins with 1.5 inch diameter washer.

12-30 inch J-Shape pins made from bent 1/4 inch wire or rebar.

Install staples or pins so that the top of the anchor is flush with the soil surface.

Special Installation & Conditions: The installation guidelines are recommendations only. You should always confirm the installation procedure with your local distributor or blanket manufacturer to ensure maximum performance of the product. All design specifications prepared by a qualified design consultant or engineer supersede these recommended guidelines.

Product selection software, which some manufactures claim to be design software, use versions of the universal soil loss equation, national rainfall and soil survey charts to fabricate a formula that will make a mathematical blanket type selection.

This approach to computerize product selection should never be used to select a blanket type for a specific project application because it circumvents the base line data collection process that all project specifiers regardless of scope are required to do if any hope of success is expected. This type of evaluation does not allow the specifiers to use site specific project data that is directly revelant to the application design and product performance.

The USLE is designed to calculate total tons of potential soil erosion from a site using historical regional data as factors in the equation. These assumptions do not and cannot quantify or guarantee product performance. Design software may be useful in channel design to determine or limit the potential shear stress forces the channel lining materials are subjected to.