InterCoast
BUILDING SOLUTIONS

HYDROTECH®

GARDEN ROOF® ASSEMBLY

GARDNET™

INSTALLATION GUIDELINES

American Hydrotech, Inc., 303 East Ohio Street, Chicago, IL, 60611-3387 (312) 337-4998 * 1/08

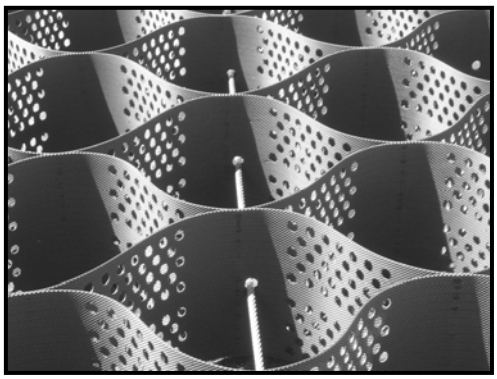
GARDNET® SOIL CONFINEMENT ASSEMBLY
APPLICATION GUIDELINES

TABLE OF CONTENTS

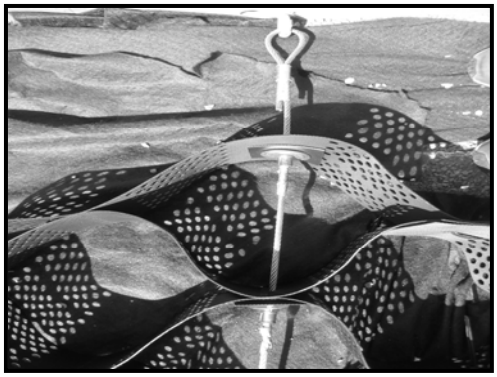
Product Description

The GardNet™ soil confinement assembly provides a means of confining or restraining Hydrotech's LiteTop® growing media on Garden Roof® Assemblies that have slopes greater than 3:12 (14º) and less than 12:12 (45º). Following is a brief description and summary of the assembly that will be covered in more detail in this Installation Guideline.

GardNet is made of strips of high-density polyethylene that are connected by a series of ultra-sonic welds in the factory. When stretched apart accordion-style down the slope of the roof, these strips form the walls of a flexible, 3-dimensional series of diamond-shaped cells.



GardNet is secured to the roof by a series of braided steel cable "tendons". These Tendons are secured to the structure at pre-determined structural anchorage points with metal oval Sleeves that are crimped to the Tendon to fix it at the anchorage point. The Tendons are threaded through pre-drilled holes in the GardNet cell walls. At pre-determined intervals, a series of Washers and metal Stops are threaded onto the Tendons and the Stops crimped to the Tendons (like the Sleeves). The Washer/Stop assemblies assist in transferring the load of the growing media to the Tendons.



Once all the GardNet sections are properly installed and attached over the roof, the open cells may be filled with LiteTop growing media and vegetation planted.

The required number and spacing of the Tendons is dictated by the severity and length of the slope, depth of growing media, and anticipated loading. These requirements, along with the pull out strength required for the structural connection of the Tendons, will be provided to the responsible professional for approval and signature ***prior to shipment of any material***.

ALL LOADING, ANCHORING, AND GARDNET ASSEMBLY PHYSICAL PROPERTIES MUST BE REVIEWED AND VERIFIED BY A QUALIFIED STRUCTURAL ENGINEER FOR EACH PROJECT. A STATEMENT OF SUCH REVIEW SIGNED/STAMPED BY THE ENGINEER MUST BE ON FILE WITH AMERICAN HYDROTECH, INC. PRIOR TO SHIPMENT OF ANY GARDNET MATERIAL.

The required number and spacing of the Tendons and Oval Sleeves and the required number and spacing of the Washer/Stop assemblies down the length of the Tendons is dictated by the severity and length of the slope, depth of growing media, and anticipated loading. These requirements will be provided to the installing contractor prior to starting the installation. All required hardware, except for the structural attachment bracket, is provided by American Hydrotech.

Pre-Installation

Design

All project information ***MUST*** be reviewed with American Hydrotech, Inc. prior to any consideration for the use of GardNet. This review must occur as early in the design process as possible to ensure that the appropriate anchorage points and structure are provided. It is in the best interest of the design team to determine an appropriate attachment as soon as possible so that the proper anchorage does not become an add-on during the bidding stages. ***The attachment brackets are not specified, provided, or quoted by American Hydrotech***. It is the sole responsibility of the architect or engineer of record to specify the correct attachment to satisfy the load requirements provided by Hydrotech. The General Contractor, or installing Contractor if this portion is within their contract, must purchase the correct material and install it according to the designer's specifications. Any impact the attachment bracket may have on the roofing/waterproofing membrane flashing must also be reviewed with American Hydrotech, Inc. to ensure proper and warrantable flashing details are installed.

Once the design team has decided to include a sloped Garden Roof on a project they should contact American Hydrotech. All project specifics should be passed on to the Garden Roof Department so the proper engineering can be performed. **At a minimum the slope of the roof deck, the length of the slope, the width of the sloped areas, and depth of growing media required must be submitted** in order for any engineering to be preformed or recommendations given. Any drawings, details, or sketches depicting the sloped portion of the roof help the Garden Roof Department better understand the project parameters. Recommendations for the appropriate GardNet sections, number and spacing of anchorage points and Tendons, Tendon lengths, and spacing of Washer/Stops assemblies along each Tendon will be provided along with the anticipated loads of the GardNet assembly and growing media. These anticipated loads will be used by the architect or engineer on record to design and specify the attachment bracket at the top of the slope. Once this attachment has been designed and specified the design team must submit a letter acknowledging that it meets the loading capacity given to them by American Hydrotech. Along with this letter a detail of the attachment should be submitted. This detail will be reviewed by American Hydrotech to ensure that it meets all membrane flashing requirements. **SEE HYDROTECH'S MM 6125 ROOFING AND GARDEN ROOF ASSEMBLY GUIDELINE DETAILS FOR TYPICAL DETAILING CONDITIONS.**

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Preparation

Application of the Monolithic Membrane 6125®EV-FR (MM 6125EV-FR) roofing membrane and appropriate flashings should be completed with Hydroflex®RB II root barrier protection. All seams of the Hydroflex®RB II must be painted with SpinOut™ to ensure there is a complete barrier against root penetration for the MM 6125EV-FR. Any repair of damage to membrane or flashing must be completed and the surface of the root barrier must be swept clean and all debris removed prior to the installation of subsequent topping materials. Excessive traffic on the Hydroflex®RB II should be avoided to avoid the displacement of the protective granular surface.

If STYROFOAM® brand insulation is to be installed above the membrane, placement should start at the bottom of the slope working upslope, stacking/butting adjacent boards tightly together. Individual insulation boards may be spot adhered to the surface of the root barrier by placing "dabs" of MM 6125 and allowing them to cool slightly before embedding the insulation. Insulation must be cut to fit around all penetrations and perimeters with no more than 1/2 inch gaps. Only enough insulation that will subsequently be covered with the GardNet assembly the same day should be placed. On hot days small sections of insulation should be installed or other measures taken to prevent the chances of the boards buckling and becoming misshapen. **SEE HYDROTECH TECH BULLETIN 3, "PROTECTING STYROFOAM INSULATION FROM HIGH TEMPERATURES" FOR MORE SPECIFIC INFORMATION.** If the boards distort as a result of the heat, they should be scored and snapped by stepping on the board to lay them flat.

A layer of Hydrodrain®302 drainage mat for non-insulated projects or Hydrodrain®300 drainage mat for insulated projects, shall be placed over the root barrier or insulation layer respectively. The 4 inch wide selvage edge of geo-textile can be lapped on to adjacent panels of drain mat. Again, on hot days take steps to protect the insulation mfrom elevated temperatures that can occur under the dark-colored Hydrodrain. **SEE HYDROTECH TECH BULLETIN 3, "PROTECTING STYROFOAM INSULATION FROM HIGH TEMPERATURES" FOR MORE SPECIFIC INFORMATION.** If the boards distort as a result of the heat, they should be scored and snapped by stepping on the board to lay them flat.

Sections of Systemfilter filter fabric should be pre-cut and installed at all perimeters, penetrations, and any other areas required to hold the growing media in place. Systemfilter will act as an "extension" for the geotextile on the Hydrodrain layer at the perimeters and penetrations. ***This is a critical step that should be completed prior to any GardNet sections being installed.***

Following the GardNet installation, and just before placement of the LiteTop growing media, an inspection of all the Systemfilter should be done and any adjustments made as a result of shifting or displacement. Any gaps that might allow media is wash into the drainage layer must be corrected. The goal is to have a monolithic layer of filter fabric/geotextile directly below and up around the edges of the GardNet.

Materials and Equipment

Once all of the Pre-Installation and Design parameters have been coordinated and the engineering of the assembly is completed, the amount and types of the GardNet material and accessories can be determined. Following is a list and description of the materials typically required and supplied by Hydrotech. ***NO substitutions for the following materials are permitted.***

GardNet

GardNet (Fig.1) is composed of polyethylene sheet strips connected by a series of offset, full-depth, ultrasonically welded seams. When stretched apart, the sheet strips form the walls of a flexible, 3-dimensional series of diamond-shaped cells.

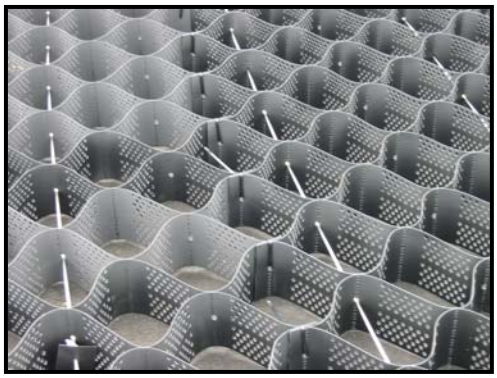


Figure 1

The polyethylene strips are textured with diamond shaped indentations designed to improve friction within the cells and are perforated with a series of holes 0.391 inch in diameter (10 mm) designed to increase drainage and allow root growth between individual cells.

GardNet sections are available in 3, 4, 6, 8, and 12 inch (75, 100, 150, 200, and 300 mm) heights/depths. GardNet sections are 8 cells wide and available in lengths of 18, 21, 25, 29 and 34 cells long. See Table 1 (page 7) for coverage area of the typical GardNet sections.

GardNet Tendons

GardNet Tendons (Fig.2) are 3/16 inch (4.76 mm) or 1/4 inch (6.35 mm) diameter braided steel cable.

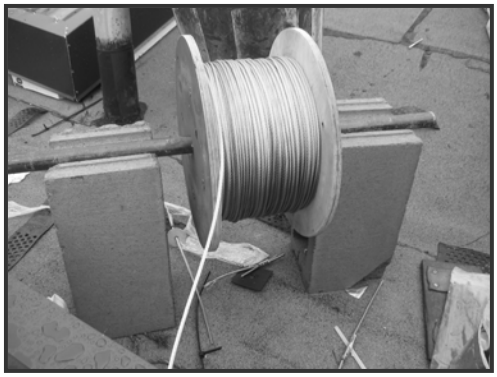


Figure 2

The Tendons are secured to the structure at pre-determined structural anchorage points with metal oval Sleeves that are crimped to the Tendon to fix it at the anchorage point. Once secured, the Tendons are threaded through pre-drilled holes in the GardNet cell walls. At pre-determined intervals, a series of Washers and metal Stops are threaded onto the Tendons and the Stops crimped to the Tendons (like the Sleeves).

The required number and spacing of the Tendons is dictated by the severity and length of the slope and anticipated loading.

GardNet Tendon Oval Sleeves

GardNet Tendon Oval Sleeves (Fig.3) are pure copper, oval-shaped sleeves; 1 inch long to fit the 3/16 inch Tendon and 1 3/16 inches long to fit the 1/4 inch Tendon.

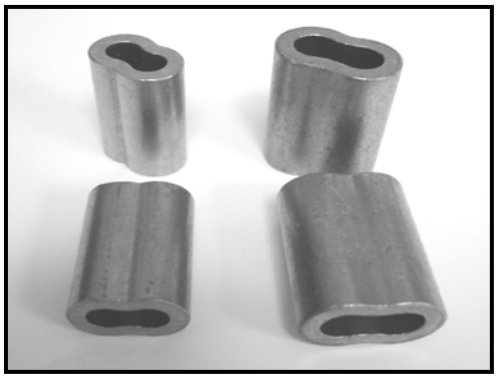


Figure 3

The Tendon Oval Sleeves are used to permanently fix a Tendon to the structure by running one end of the Tendon through the one opening of the oval sleeve, looping the Tendon through structural connection

bracket, and continuing the looped Tendon through the second opening of the sleeve. The Oval Sleeve is then crimped to the Tendon. This attachment loop (Fig.4) is installed at the end of each Tendon at the top of slope and/or as directed by Hydrotech.

The number and spacing of GardNet Tendon Oval Sleeves required along the top of the slope will equal the number of connections required. The required number and spacing of the Tendon Oval Sleeves to be attached to the structure is dictated by the severity and length of the slope and the anticipated loading.

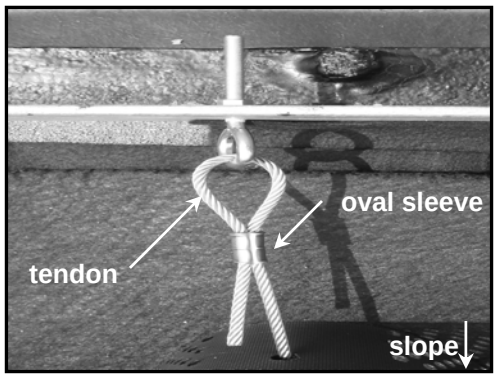


Figure 4

GardNet Poly-Washers

Poly-Washers (Fig.5) are 3 inch x 3 inch, 0.05 inch thick, polyethylene squares with centered, pre-drilled holes.

Poly-Washers are used to prevent the GardNet Washer/Tendon Stop assembly from pulling through the back side of the GardNet cells walls under load. Poly-Washers are the first of three pieces included in a Washer/Tendon Stop assembly (Poly-Washer+Washer+Tendon Stop) to be threaded onto the Tendons.


Figure 5

The number and spacing of GardNet Washer/Tendon Stop assemblies along the Tendons is dictated by the severity and length of the slope and the anticipated loading.

GardNet Washers

GardNet Washers (Fig.6) are 2 inch O.D. x 0.286 inch I.D. x 0.125 inch thick, 304 stainless steel washers.

GardNet Washers are the second of three pieces included in a Washer/Stop assembly (Poly-Washer+Washer+Tendon Stop) threaded onto the Tendons. GardNet Washers are threaded onto the Tendons after the GardNet Poly-Washers and before the GardNet Tendon Stops.

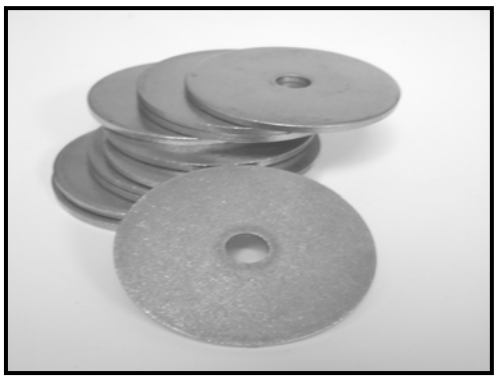


Figure 6

The number and spacing of GardNet Washer/Tendon Stop assemblies along the Tendons is dictated by the severity and length of the slope and the anticipated loading.

GardNet Tendon Stops

GardNet Tendon Stops (Fig.7) are pure copper, round sleeves; 1 inch long to fit the 3/16 inch Tendon and 1 3/16 inches long to fit the 1/4 inch Tendon.

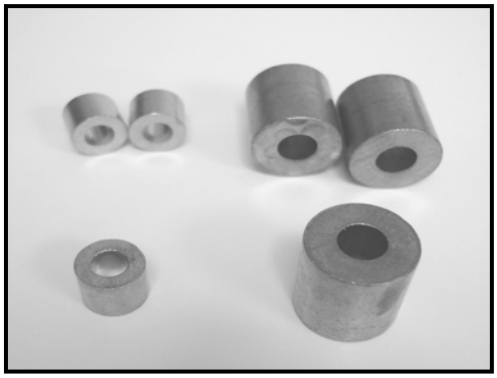


Figure 7

Tendon Stops are used to fix the Washer/Stop assemblies onto the Tendons and distribute the gravitational load along the length of the Tendons. Permanently fixed (by crimping), the Stops transfer the load exerted by the GardNet assembly to the Tendon with each Stop restraining the portion of the load directly down slope from its location along the Tendon. GardNet Stops are the third and last of three pieces included in a Washer/Stop assembly (Fig.8) (Poly-Washer+Washer+Tendon Stop) threaded onto the Tendons. GardNet Tendon Stops are threaded onto the Tendons after the GardNet Poly-Washers and GardNet Washers.

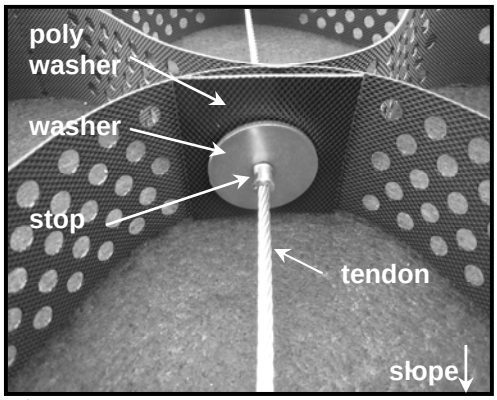


Figure 8

The number and spacing of GardNet Washer/Tendon Stop assemblies along the Tendons is dictated by the severity and length of the slope and the anticipated loading.

GardNet Edge Wing Spacers

GardNet Wing Spacers (Fig.9) are 9 1/2 inches long, U-shaped, plastic channels.

Figure 9

Edge Wing Spacers are installed by snapping them onto the outermost Tendons along a roof areas perimeter. They are installed within the open outer edge cells along the sloped perimeters of the roof to maintain uniform spacing of the “wings” or “half cells”. The Wing Spacers snap-fit tightly on the Tendons, keeping the wings in place, and preventing the growing media from sliding down slope.

GardNet Zip-Ties

Zip-ties are heavy-duty, 120 pound rated, UV-protected and chemically resistant, nylon zip-ties (Fig.10).

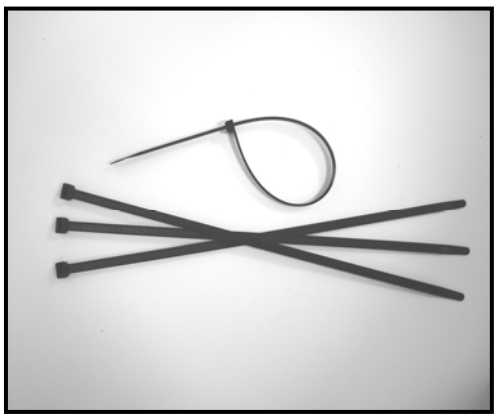
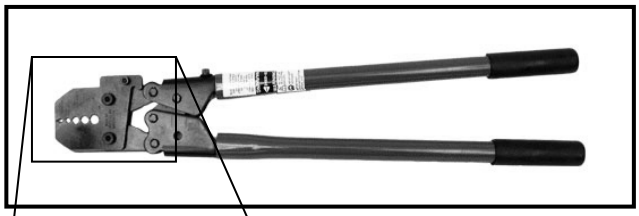


Figure 10

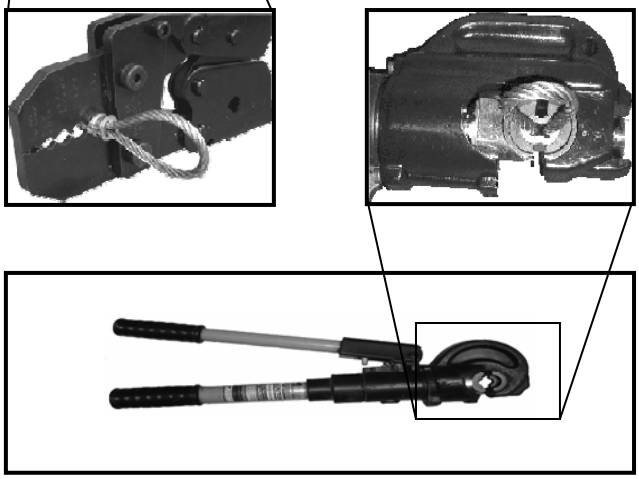
GardNet Zip-ties are used to secure sections of GardNet together that lie side-by-side on a slope. They are also used to secure uniquely shaped sections of GardNet that have been trimmed to fit custom shapes. When installed and completely tightened the excess Zip-Tie material should be trimmed off and properly disposed of. This is important so that this material is not visible once the GardNet is filled with the LiteTop growingmedia.

GardNet Installation Tools

The entire GardNet Soil Confinement Assembly is specifically engineered to retain LiteTop growing media over a waterproofed, occupied structure. Because of this specialized and engineered system the tools required to properly cut the Tendons and install/fix the Tendon Oval Sleeves and Tendon Stops are very specific to each project. ***ONLY those tools available from Hydrotech can be used to install the GardNet***. The selection of the proper tools for a particular project will depend on the complexity of the job. All tools required for installation are available for purchase or rent through American Hydrotech, Inc. and they will assist in your tool selection. To ensure proper installation a Hydrotech Technical Representative will be on site to oversee and train the installing contractors on each and every project.



Manual Crimper



Hydraulic Crimper

Pneumatic Crimper

Tendon/Cable Cutter

Table 1 – GardNet Section Coverages

CELL WALL THICKNESS inch (mm)	0.05 (1.27) (-5,+10%)
SHEET STRIP HEIGHT inches (mm)	3, 4, 6, 8, 12 (75,100,150, 203, 305)
EXPANDED INDIVIDUAL CELL DIMENSION inches (mm) nominal	13 wide X 10.5 long (320 X 287)
SECTION COVERAGE sq.ft. (sq.m.) nominal each section is 8 cells wide (approx. 8.7 ft. - expanded)	18 cell section - 136 (12.6) 21 cell section - 159 (14.8) 25 cell section - 189 (17.6) 29 cell section - 219 (20.3) 34 cell section - 257 (23.9)

Installation

Pre-Stringing Tendon Washer/Stop Assemblies

GardNet sections should be "prepped" ***BEFORE*** they are opened or stretched out to their installed dimensions. This greatly eliminates time spent stringing the Tendons through the slots in the GardNet while standing on the sloped surface. This process can be completed at grade if no flat portions of roof are available.

The number and spacing of Washer/Stop assemblies along the Tendons is dictated by the severity and length of the slope and anticipated loading. These requirements are given to the installing contractor prior to starting the installation.

Starting with the first Tendon (closest to the uppermost corner), thread the Tendon through the pre-drilled slot in the center of the corresponding cell. Once the Tendon is started through the first cell wall, thread a Poly-Washer, Washer, and Stop (in that order) onto the Tendon before passing the tendon through the next cell wall. Repeat this process for the every cell that requires a Washer/Stop assembly down the length of the slope. (Fig.11)

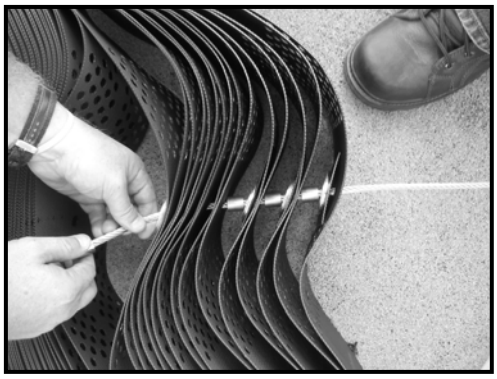


Figure 11

Once a section is fully "prepped" and all required Washer/Stop assemblies are in their pre-determined and proper GardNet cells, the excess Tendon should be coiled up and secured on both ends (Fig.12) so that it does not unravel and loosen the "prepped" Washer/Stop assemblies. These coils can be secured with a small piece of duct tape if desired. Once complete the entire section can be taken to the top of the slope and lined up with the appropriate attachment brackets. Ensure that there is enough coiled Tendon at the "top" of the GardNet section to allow looping through the attachment bracket.

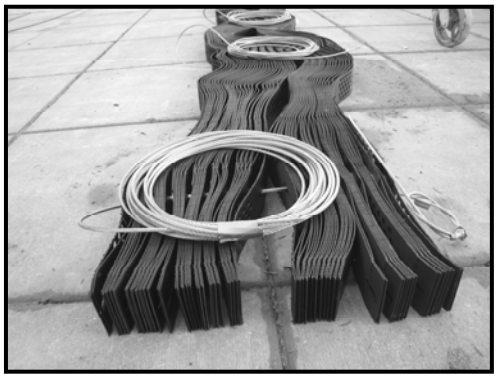


Figure 12

Tendon/Oval Sleeve Anchorage

Now that it is "prepped" the first GardNet section should be positioned, in its collapsed state, with the top and bottom sides of the Tendon coiled and secured, in one of the upper corners of the roof area. The width of the section should be placed parallel to the ridge/anchorage points. The "upper" portion of the section, the side designated to be at the top of slope and secured to the attachment bracket, should be positioned close to the top of slope and anchorage points. Once in place the coiled Tendon extending out from the top portion of the section can be uncoiled.

Secure all the pre-cut Tendons to the anchorage points at the top of the slope by looping the ends of the tendons through one opening of a Tendon Oval Sleeve, the anchorage point eye bolt, and then the other opening in the Tendon Oval Sleeve.

Tip: *To temporarily hold the Tendon Oval Sleeves in place a small piece of duct tape can be used to secure the two abutted pieces of tendon and prevent it from pulling out or loosening*.

Tendon Oval Sleeves are then crimped according to specifications and permanently fixed in place.(Fig.13) The number of crimps and the type of tool required can vary depending on diameter of Tendon and type of hardware used. These specifics will be provided.

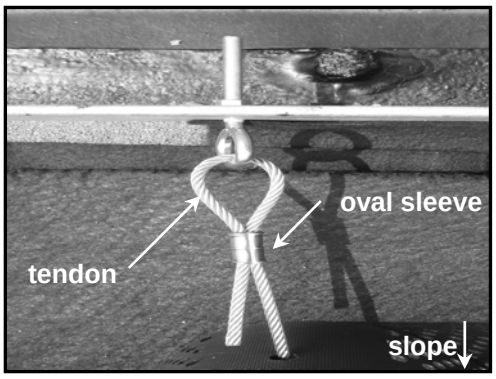


Figure 13

The GardNet section may look a little misshapen at this point but this will be corrected as it is stretched out over the roof area. Once expanded you will note that the GardNet's overall width will decrease. At the same time, the Tendons will stretch out and become more perpendicular to the attachment brackets.

Stretching Out the GardNet Sections

Once all of the Tendons are completely attached to the attachment bracket/eye bolts, the Tendon extending out from the bottom of the GardNet section can be uncoiled. With two or more laborers the GardNet section should be carefully expanded and stretched down the slope of the roof out over the previously installed Hydrodrain.(Fig.14) Care must be exercised to prevent the "prepped" Washer/Stop Assemblies from coming loose along the Tendon and to prevent the Tendon from slipping all the way through the last cell wall. The full length of the section needs to be expanded at this point.


Figure 14

Note: *If there are more than two full cells of excess GardNet at the bottom of the slope, the GardNet may be trimmed. Make sure to cut the excess GardNet cells leaving one fully intact cell at the bottom of the section.* (Fig.15)


Figure 15

If the length of the slope is longer than the GardNet sections provided, subsequent sections of GardNet must be added. These subsequent sections cannot be "prepped" as the upper sections were as all sections will be utilizing the same GardNet Tendon, which has already been pre-cut, prepped, and attached. The "prepping" of subsequent sections of GardNet will take place on the roof, adjacent to the bottom edge of the fully extended, upper GardNet section. For these multiple, down-slope GardNet section applications, there will always be an extra large coil of GardNet Tendon extending out from the bottom of the upper section of GardNet.

The subsequent, down-slope section of GardNet should be positioned, fully collapsed, up against the last cells of the upper GardNet section, lining up the longitudinal center line of the cell walls. Begin stringing each Tendon through the corresponding first row of cells of the lower section.

Note: *The first cell in the lower GardNet section will receive a Washer/Stop assembly, regardless of the Washer/Stop Assembly count continuing down the slope.*

From this first cell, the number and spacing of Washer/Stop assemblies to be placed within the cells of the lower GardNet section will be the same as previously placed in the upper GardNet section.

All non-tendoned cells between upper and lower GardNet sections can be secured with a GardNet Zip-Tie to maintain the shape of the GardNet field. (Fig.16)

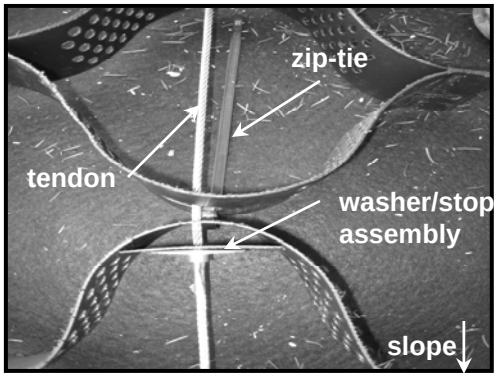


Figure 16

Crimping the Stops

Pull the first/top cell wall up close to Tendon Oval Sleeve at the top of slope and snug the Poly-Washer, Washer, and Stop up to the inside face of the upper most cell wall.

Tip: *Use a small piece of duct tape to secure this assembly in place. Repeat this process on all of the upper most cells that have a Tendon.*

Once all of the upper most Washer/Stop assemblies are secured and held into place they can be crimped. (Fig.17) The number of crimps and tool required can vary dependent upon the diameter of Tendon and type of hardware used. These specifics will be provided. Crimp the Stop to the Tendon as instructed to permanently fix the Washer/Stop Assembly in place.

Figure 17

Moving down the slope measure each cell, making sure the length from the upper most cell wall is a nominal width of 10.5 – 11 inches and the width from weld to weld is 12.5 – 13 inches. Crimp each Stop to the Tendon as instructed to permanently fix the Washer/Stop assembly in place.(Fig.18) Repeat this process for all cells down slope.

The final width of a properly expanded GardNet section should be 8.67 feet from the edge of one outside wing to the other.

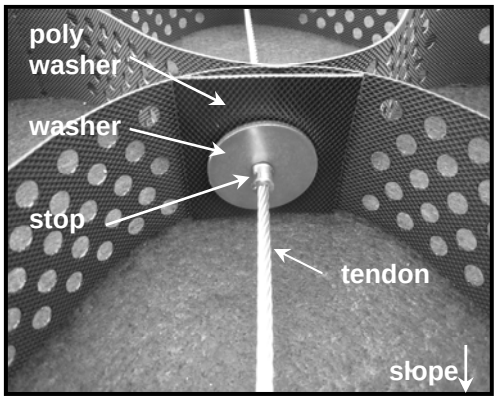


Figure 18

Installing Wing Spacers

Once all of the GardNet sections for a particular area have been expanded, measured, and all Stop/Washer assemblies crimped in place, the outer-edge Tendons should be threaded through the upper most sheet strip wing and down through each wing down the length of the slope.

Note: *The length of this outer-edge Tendon should be, at a minimum, equal to the length of the roof deck slope plus 1 foot.*

A Washer/Stop assembly should be placed at the top of the Tendon adjacent to the outside of the first GardNet wing and crimped in place. Once the Tendon has passed through all of the sheet strip wings, GardNet Edge Wing Spacers should be snapped onto the Tendon, separating and maintaining the spacing of each wing. (Fig.19)

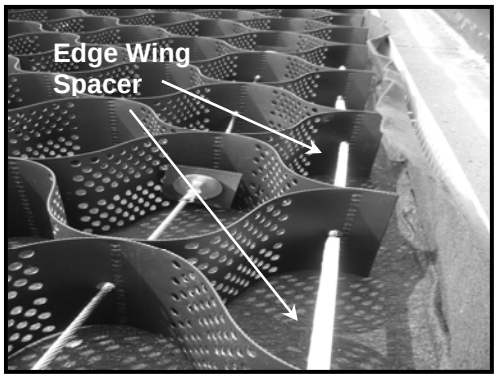


Figure 19

After all Edge Wing Spacers have been placed, the entire wing assembly should be pulled up tight and a Washer/Stop assembly threaded over the end of the Tendon and crimped on the down slope side of the last sheet strip wing.

Installing GardNet Zip-Ties

Once all GardNet sections are in place and all hardware has been crimped, adjoining sections shall be fastened together with GardNet Zip-Ties through the holes in the strip cell walls. (Fig.20) This is accomplished by aligning the corresponding "wings" such that the welded edge seams are overlapped with holes are aligned. The adjacent GardNet sections are then secured with a Zip-Tie. GardNet Zip-Ties are provided within the GardNet hardware package.

Figure 20

Note: *It is very important to start from the top of the slope working down to insure that no "wings" are missed.*

When fixing adjacent sections together the top edges of the cell walls should be held flush. Make sure that the connection is very tight and no extra material or straps from the ties are sticking up where they would be visible after the media is installed. (Fig.21)

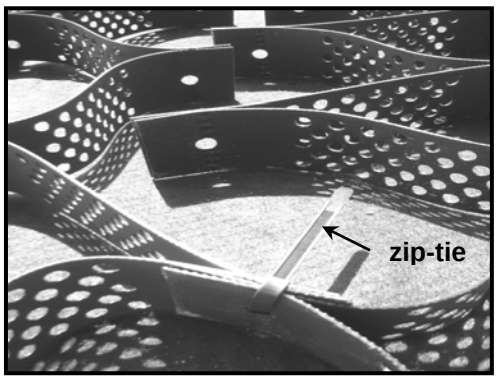


Figure 21

Growing Media Placement

Infilling of GardNet sections with the specified LiteTop® growing media and/or ballast begins when all anchoring work is complete. Placement of the growing media ***MUST begin at the top/crest of the slope*** and continue down slope. (Fig.22) This is critical as starting at the bottom or midway up the slope will result in distorting the shape of the GardNet.

Figure 22

The infill material should not be dropped into the GardNet from higher than 3 feet (1 meter) above the top of the GardNet section.

Proper placement of the growing media requires that the GardNet be overfilled by 1 – 2 inches (25 – 50 mm) followed by a light tamping (Fig.23), rolling or jetting with water. If this compacting leaves the growing media flush with the top edges of the cell walls, an additional 1/2 – 1 inch of growing media should be added and tamped until the finished grade is at least 1/2 inch above the top edge of the GardNet cell walls. The media should be tightly compacted into the cells with no evidence of under-filled areas. All areas should have at least 1/2 – 1 inch of growing media above the cells walls.

Figure 23

Note: *GardMat erosion control blanket is typically required with any GardNet or steep slope installation. Erosion control blankets aid in wind and water erosion resistance until the vegetation becomes established. Depending on the vegetation sowing requirements, GardMat may be placed after sowing (i.e., seeding, sedum cuttings) or prior to sowing (i.e., plugs). GardMat is typically rolled out over the infilled GardNet and staked into place in accordance with project specifications and installation guidelines. Installation of GardMat is not necessary when pre-cultivated vegetation mats or sod are to be used.*

Vegetation Placement over GardNet

Depending on the slope of the roof, the required planting types can vary. Most GardNet projects are going to be extensive assemblies, which by their nature have a limited choice of plantings that are suitable. Some projects might be semi/shallow intensive or intensive where large perennials or small-medium shrubs are planted, and in the most extreme cases large shrubs or trees might even be included into the design.

> ***Note:*** *If larger material is specified on steep slopes contact Hydrotech to assess the appropriateness and exact procedures, which will be project specific, prior to submitting a final bid package.*

On slopes of between 2:12 and 7:12 extensive cuttings, plugs, containerized perennials or shrubs, grass sod, and InstaGreen® sedum carpet can be used. If cuttings are used or specified they must be "top dressed" with a cellulose based hydro-mulch or a LiteTop media based top dressing. Plugs should be planted as specified by Hydrotech's Guideline specifications.

Planting choices are limited on projects with slopes over 7:12. These projects must be planted with a grass sod or InstaGreen sedum carpet only. This "rolled" material must be staked into the LiteTop Growing Media with Hydrotech's GardMat stake or attached in some other method to the top of the GardNet cell walls

> ***Tip:*** *Attachment to the GardNet could be done with light gauge aluminum wire (contact Hydrotech for specifics).*

If Hydrotech's Extensive Plant warranty is required cuttings must be spread at a rate of 4 pounds per 100 square feet, and plugs must be planted at 8 inch staggered centers.

Hydrotech supplied extensive plants must be maintained in accordance with Hydrotech's Maintenance Plan and Checklist requirements (contact Hydrotech for specifics) in order to qualify for the full Garden Roof Assembly Warranty including plants.