The following components may be integrated to facilitate and expedite construction or to meet engineering requirements:

- Easier to drive than J-hook stakes; significantly improves installation productivity.
- GEOWEB geomembrane underlayer or hard soil/rock prevents uplifting.
- GEOWEB sections, the exclusive ATRA® Key Connection reduces contractor installation time and material costs.
- GEOWEB® Confinement anchors provide time and material cost savings during installation of the GEOWEB® sections.

For quick and easy connection of ATRA® Key Connections and GEOWEB® sections, the exclusive ATRA® Key Connection reduces contractor installation time and material costs. ATRA® Key Connection anchors are available in various tensile strengths to meet design requirements. Specialized driving tools are available, particularly effective where high flows exist, or when a device reduces contractor installation time and material costs. GEOWEB® Confinement anchors provide three-times-stronger key connections.

GEOWEB® Confinement anchors, the exclusive ATRA® Key Connection, reduce contractor installation time and material costs. ATRA® Key Connection anchors are available in various tensile strengths to meet design requirements. Specialized driving tools are available, particularly effective where high flows exist, or when uplift forces are significant. GEOWEB® Confinement anchors provide three-times-stronger key connections.
GEOWEB® slope protection solutions
LOW-COST SLOPE STABILITY SYSTEM

The Presto GEOWEB® slope and shoreline protection system is an economical solution to challenging slope surface stability problems while meeting a wide range of performance and aesthetic requirements. The system provides a means of fully vegetating slope surfaces that otherwise could not support sustainable plant life.

GEOWEB® system benefits

- The three-dimensional structure confines selected infill material to resist down-slope movement of embankment materials and anticipated hydraulic flows.
- Minimizes the movement and migration of embankment materials by functioning as anchored containers in the upper soil layer.
- Inhibits erosion and controls soil and gully formation, particularly in areas of concentrated flow over erosive soils.
- Minimizes downside migration of granular materials, protecting embankment materials from undermining.
- Increases vegetation stability on slopes by interlocking with the vegetative root zone, or confining and interlocking aggregate or concrete for permeable or hard-armored solutions.
- Creates a permeable, weatherproofing cover when drainage is desired but vegetation is not.
- Enhances effectiveness of other surface treatments such as erosion control blankets and turf reinforcement mats.
- Provides a controlled mechanism to effectively handle seepage.
- Confines the upper soil layer and protects from the effects of erosion.
- Reinforces vegetation and increases its resistance to erosive forces.
- Protects slopes that are exposed to severe hydraulic or mechanical stresses. The quality, surface finish and thickness of the concrete can be selected to meet specific design needs.
- Controls concrete quantities and costs through a uniform, system-defined cell depth.
- Facilitates the use of pore-filled, permeable aggregate slopes.
- Indirectly prevents soil contamination and erosion.
- Reduces construction costs by eliminating the need for conventional structural forms. Installation is fast, efficient and flexible.
- Articulating block systems.
- Increases vegetation stability on slopes by interlocking with the vegetative root zone, or confining and interlocking aggregate or concrete for permeable or hard-armored solutions.
- Concrete of various strengths and surface finishes.
- Combinations of the above to meet special conditions.

TYPICAL APPLICATIONS:

- Cut or fill embankment slopes
- Containment dikes and levees
- Shoreline revetments
- Geomembrane protection
- Landfill lining, Covers, and Drainage
- Storm water basins
- Waste water basins
- Drain basins and spillways
- Abutment protection
- Stormwater detention and retention ponds
- Indirectly prevents soil contamination and erosion.
vegetated protection

Vegetation is a natural, attractive and effective form of protection for slopes exposed to surface degradation. The GEOWEB® system creates a structural soil stabilization system, protecting embankments against the negative effects of gravitational forces and loss of topsoil and vegetation.

shoreline protection

Protection of shoreline embankments is accomplished with the GEOWEB® system using infill materials appropriate for the application. Multiple cells can be used to best address hydraulic conditions. With concrete infill, the system creates a flexible hard-armor cover to protect the shoreline against degradation caused by hydraulic forces, including ice and wave action. Where appropriate, topsoil or vegetation infill controls the movement of saturated soils so natural vegetation can flourish.

geomembrane protection

The GEOWEB® system, with various infill materials, is an effective protection layer over impermeable geomembranes:
• Storm water detention and retention ponds
• Waste water containment
• Channel linings
• Landfill/linings
The integration of a tensioned-anchoring system creates a suspended, structural support system that:
• Maintains the integrity of the geomembrane liner or cover
• Directly protects the geomembrane from wildlife damage, accidental puncturing and natural degradation
• Indirectly prevents soil contamination and erosion
permeable aggregate slopes

The GEOWEB® system’s interconnected cell structure significantly improves the stability and erosion-resistance of granular materials. Confinement of the fill allows smaller, less-expensive materials to be used.

**STABILIZING AGGREGATE WITHIN THE GEOWEB® SYSTEM:**

- Minimizes downslope migration of granular materials caused by gravitational and hydraulic forces.
- Prevents their use on steeper slopes that would otherwise be impossible, reducing use of valuable land space.
- Creates a permeable, weatherproofing cover when drainage is desired but vegetation is not.
- Provides a controlled mechanism to effectively handle seepage.

A wide range of slope angles can be accommodated by selecting the appropriate cell size and cell depth for the considered aggregate.

concrete-armored slopes

Poured concrete provides an economical, hard-armored protection of slopes that are exposed to severe hydraulic or mechanical stresses. The quality, surface finish and thickness of the concrete can be selected to meet specific design needs.

**STABILIZING CONCRETE WITHIN THE GEOWEB® SYSTEM:**

- Cost-effective and flexible alternative to more expensive articulating block systems.
- Reduces construction costs by eliminating the need for conventional structural forms. Installation is fast, efficient and flexible.
- Controls concrete quantities and costs through a uniform, system-defined cell depth.
- Flexible slab conforms to minor subgrade movement, prevents uncontrolled cracking of the concrete and reduces the potential of piping or undermining.
The following components may be integrated to facilitate and expedite construction or to meet engineering requirements:

**TENDONS**
Tendons may be required and are available in various tensile strengths to meet design requirements:
- Provide additional stability against gravitational, hydrodynamic, and buoyancy forces.
- Particularly effective when high flow exist, or when a geomembrane underlayer or hard soil/rock prevents anchoring with stakes.

**ATRA® ANCHORS**
Presto’s ATRA® Anchors provide time and material cost savings during installation of the GEOWEB® system. (1)
- Easier to drive than J-hook stakes, significantly improves installation productivity.
- Tendons and an ATRA® Anchor array provide additional anchoring to resist sliding and/or uplift forces. (2)
- Specialized driving tools are available to significantly speed the driving of anchors.

**ATRA® TENDON CUP**
The ATRA® Tendon Cup is an efficient load-transfer device to transfer loads from the GEOWEB® cell wall to the tendon. Fully engaged clips allow easier pass assembly. (3)

### Key Components

- GEOWEB® sections
- Cut-fill materials
- Integral high-strength tendons
- ATRA® Anchor
- ATRA® Key Connection Device
- Tendon Clip

**ATRA® Key Connection Device**
For quick and easy connection of GEOWEB® sections, the exclusive ATRA® key device reduces contractor installation cost and provides three-times-stronger connections. (4)

### Integral System Components

The following components may be integrated to facilitate and expedite construction or to meet engineering requirements:

- Anchors provide time and material cost savings during installation of the GEOWEB® system. (1)
- Easier to drive than J-hook stakes, significantly improves installation productivity.
- Tendons and an ATRA® Anchor array provide additional anchoring to resist sliding and/or uplift forces. (2)
- Specialized driving tools are available to significantly speed the driving of anchors.

**ATRA® Tendon Clip**
The ATRA® Tendon Clip is an efficient load-transfer device to transfer loads from the GEOWEB® cell wall to the tendon. Fully engaged clips allow easier pass assembly. (3)

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**Presto’s commitment**
Our commitment:
- To provide the highest quality products and solutions.
- To our commitment:
  - Eco-economic solutions for slope and shoreline protection
  - Unsurpassed quality
  - Complex tools and services
  - Comprehensive tools and services

**UNSURPASSED QUALITY**
- Quality management system certified to ISO 9001:2008
- Sections manufactured from high-quality polyethylene
- Materials engineered to established geosynthetic industry guidelines.
- Provide consistent and maximum seam weld strength.
- CE certification.
- Final determination of the suitability of any information or material for the use contemplated, or for its manner of use, is the sole responsibility of the user.

**To support project design and installation requirements.**
- Advanced engineering methodologies, proven field results and technology and leads the industry in research and development
- The leaders in the industry when you need a solution that is right for your application. Contact Presto GEOSYSTEMS®

**Presto’s GEOWEB®® cell invented and made in the USA.**

**Genuine GEOWEB®® made in the USA.**

**DISTRIBUTED BY:**
- General and our worldwide sales network of knowledgeable distributors/representatives for assistance.
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**LEADING-EDGE INNOVATION**
- Advanced engineering methodologies, proven field results and technology and leads the industry in research and development
- The leaders in the industry when you need a solution that is right for your application. Contact Presto GEOSYSTEMS®

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**TOOLs:**
- Project Evaluation Service:
  - Engineering consultation to analyze specific project needs and provide recommended solutions and products/solutions
- Project case studies:
  - Comprehensive tools and services
- Construction Services:
  - Qualified on-site field support specialists can be available for construction training, and occasional and CE certification.
- Site preparation and support specialists can be available for construction training, and occasional
- ATRA® KEY CONNECTION DEVICE**
For quick and easy connection of GEOWEB® sections, the exclusive ATRA® key device reduces contractor installation cost and provides three-times-stronger connections. (4)
The following components may be integrated to facilitate and integral system components

- Easier to drive than J-hook stakes; significantly improves savings during installation of the GEOWEB® preassembly. (3)
- Specialized driving tools are available
- Tendon Clip is an efficient load-transfer device to transfer loads from the GEOWEB® device to transfer loads from the GEOWEB® preassembly. (3)
- Anchors provide time and material cost
- Anchor array provide
- ATRA® KEY CONNECTION DEVICE for quick and easy connection of GEOWEB® sections, the exclusive ATRA® Key
- Tendon Clip Anchor with Tendons
- Fasteners
- Geomembrane
- Geocomposite
- Erosion Control
- Drainage materials
- Blankets
- Protective Subgrade
- ® cell system.

The complete GEOWEB® slope and shoreline protection system may include some of the following:

- GEOWEB®
- ATRA®, integral high-strength
- TENDONS
- ANCHOR®
- ® Geotextile
- Select Infill
- Tendon
- Protected Subgrade

- Anchor with Tendons

2. ATRA® Tendon Clip Anchor

3. ATRA® Tendon Clip

4. ATRA® Tendon

1. ATRA® Key Connection Anchors

• GEOWEB®
• ATRA®
• ATRA®
• ATRA®

Key Connection Anchors

• Integral high-strength
• Geotextile
• Select Infill
• Tendon
• Protected Subgrade

® cell

Application Overview

Lead-Edge Innovation

Presto is the original developer of the cellular confinement technology and leads the industry in research and development resulting in meaningful product improvements, innovative features, advanced engineering methodologies, proven field results and ultimately long-term solutions to challenging problems.

Unsurpassed Quality

Presto’s commitment to quality begins with manufacturing and continues through final installation:

- Quality management system certified to ISO 9001:2008 and CE certification
- Sections manufactured from high-quality polyethylene provide consistent and maximum seam weld strength
- Materials engineered to established geosynthetic industry guidelines
- Sections backed by a 10-year limited warranty

Comprehensive Tools and Services

Presto GEOSYSTEMS® and our distribution representatives offer the most complete services in the industry to support project design and installation requirements.

Tools:

- Technical resources binder
- Engineering analysis/technical overviews
- SPECMAKER® specification development tool
- Project case studies
- Detailed construction instructions

Services:

- Project Evaluation Service: We provide engineering analysis of specific project needs and provide recommended preliminary designs for each project.
- Construction Services: Qualified on-site field support specialists can be available for construction training, and start-up installation supervision.

Presto Geosystems® Commitment

Presto GEOSYSTEMS® is committed to helping you apply the best solutions to your soil stabilization problems. Our solutions-focused approach to solving problems adds value to every project. Rely on the leaders in the industry when you need a solution that is right for your application. Contact Presto GEOSYSTEMS® or our worldwide network of knowledgeable distributors/representatives for assistance.

Unsurpassed Quality

Presto’s commitment to quality begins with manufacturing and continues through final installation:

- Quality management system certified to ISO 9001:2008 and CE certification
- Sections manufactured from high-quality polyethylene provide consistent and maximum seam weld strength
- Materials engineered to established geosynthetic industry guidelines
- Sections backed by a 10-year limited warranty