Erosion & Sediment Control Solutions

Putting you first with solutions that last.

TITAN

BUILD YOUR LEGEND

Erosion & Sediment Control Solutions

ENHANCED SOLUTIONS FOR STRUCTURAL STABILITY

Erosion and sediment control respond to unique needs in construction projects. Erosion control addresses a specific design challenge and impacts the long-term performance of the infrastructure, while sediment control aims to mitigate environmental impacts during the execution of construction projects.

EROSION CONTROL

Erosion control is critical when planning projects where earthen structures may be threatened by water action such as run-off or flow, which causes the soil to erode. This leads to weakening and eventual structural failure if not controlled with the correct materials. Titan offers both hard and soft armor erosion control solutions that cater to a range of erosion protection needs and vegetative growth preferences for structures such as soil slopes, earth berms, soil embankments, drainage channels, and ditches.

SEDIMENT CONTROL

For construction projects adjacent to or near rivers, sediment control is an environmental necessity. This includes preventing the accumulation of silt, sediment, and debris caused by general construction operations. The primary products that provide sediment management functions are silt fences and turbidity curtains. While silt fence is used as a barrier around construction areas, turbidity curtain is used as a shield in the water.

HIGH PERFORMING PRODUCTS BACKED BY COMPREHENSIVE SERVICE

Erosion Control is site-specific, and no single solution can be recommended for projects. Whether you are an engineer or a civil contractor, Titan's comprehensive service supports the planning, designing, and construction phases putting the success of your project at the forefront.

PRODUCT SUPPLY

Erosion Control products are available from all Titan locations. We provide competitive quotes for a range of systems.

CONSULTATION & TECHNICAL SUPPROT

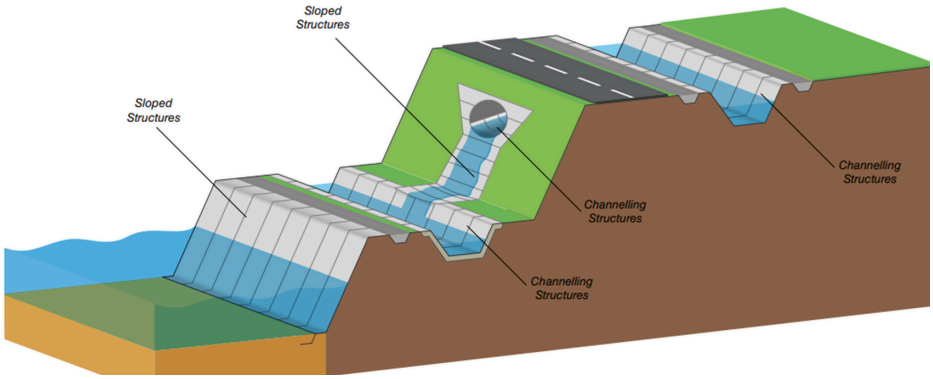
We offer site-specific erosion control consultation and sound technical support to help you select the right product for your project.

INSTALLATION SUPPORT

Our technical expertise extends to on-site installation assistance for erosion control systems to ensure product performance and overall project success.

Concrete Canvas® - Concrete on a Roll

Concrete Canvas® is a flexible, concrete-filled geosynthetic that hardens on hydration to form a thin, durable, waterproof, and low-carbon concrete layer. Essentially, it's concrete on a roll and allows concrete construction without the need for plant or mixing equipment: just add water.

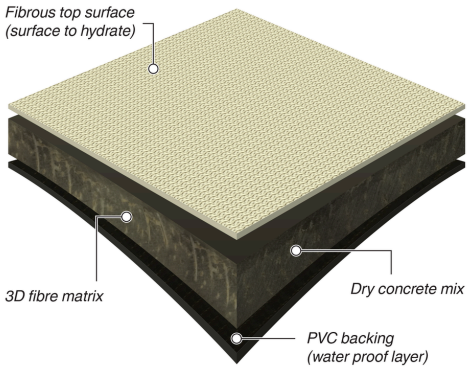


Applications:

- Slope Protection
- Channel Lining

Features

- **Water-Proof** – The PVC backing on one surface of the CC ensures that the material has excellent impermeability.
- **Strong** – CC has a 24-hour compressive strength of 50MPa. The fibre reinforcement prevents cracking, absorbs energy from impacts, and provides a stable failure mode.
- **Durable** – CC is twice as abrasion resistant as standard OPC concrete, has excellent chemical resistance, good weathering performance, and will not degrade in UV.
- **Flexible** – CC has good drape characteristics and will closely follow the ground profile and fit around existing infrastructure. Unset CC can be cut or tailored using basic hand tools.
- **Fire & Chemical Resistant** – CC has excellent high-temperature performance and has been tested for reaction to fire. It is also more resistant to aggressive compounds than standard OPC concrete.



Benefits:

- **Rapid Install** – CC can be laid at a rate of 200m2/hour, up to 10 times faster than conventional concrete solutions.
- **Easy to Use** – CC is available in man-portable batch rolls for applications with limited access. The concrete is pre-mixed so there is no need for mixing, measuring, or compacting.
- **Lower Project Costs** – quick and easy to install, Concrete Canvas® is more cost-effective than conventional concrete, with less logistical complexity.
- **Eco-friendly** – CC is a low-mass, low-carbon technology that uses up to 95% less material than conventional concrete for many applications.
- **Durability** – CC offers up to 120 years of performance life.

ShoreFlex®

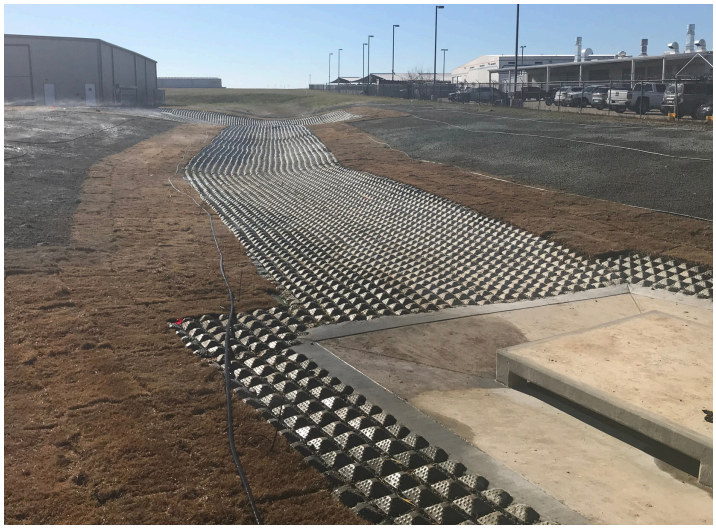
ShoreFlex® is a roll-out vegetative concrete block mat used for long-term erosion control. Designed with approximately 30% open area to allow for vegetation growth ShoreFlex® is made up of a high-strength geogrid encapsulated in a 5,000 psi flexible matrix of 1.5" concrete blocks attached to a backing of choice.

Features:

- **Sizing** – Available in a wide variety of sizes to fit needs.
- **Backing** – Custom backing options for site-specific seed and soil retention.
- **Versatile** – Works with a variety of anchoring systems. not degrade in UV.
- **Efficient** – Capable of High Flows: Shear 18+psf — Velocity 30+ ft/s — 10% & 20% Slope.
- **Industry Rated** – Tested in accordance with ASTM 6460.

Benefits:

- Grows green = environmentally friendly.
- Easy to install, roll out, and anchor.
- Can be mowed over for easy maintenance.
- Uniform and consistent performance.
- Multiple erosion control uses.



Applications:

- Roadside Drainage
- Slope protection
- Embankments
- Canals
- Channel lining
- Landfill Downchutes
- Boat Ramps
- Pipeline Protection
- Residential Waterways
- Retention Basins
- Wetland Protection

Product Options:

ShoreFlex®

- Black Polypropylene Geogrid with GS-50 Backing.

ShoreFlex® Ultra UV.

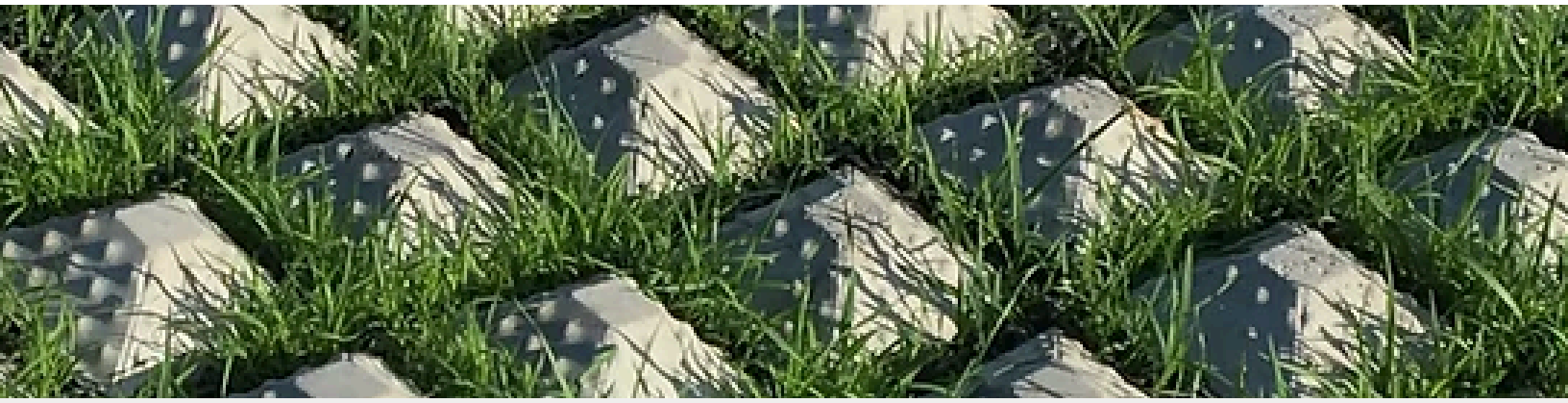
- Tan Polypropylene UV Resistant Geogrid with GS-50 Backing.

ShoreFlex® Pro.

- Black Polypropylene Geogrid with GS-50 and DNS-50 Backing.

ShoreFlex® Ultra UV Pro.

- Tan Polypropylene UV Resistant Geogrid with GS-50 and DNS-50 Backing.



Cable Concrete®

Cable Concrete® integrates strong flexible stainless steel cables into a high-strength concrete, providing durability and flexibility. Combined with a polyester geotextile base cloth and available in four weights, the Cable Concrete® articulated concrete block system provides maximum protection while allowing you to meet the needs of your project from severe to minor erosion protection.

Features:

- Made with air-entrained concrete for durability and freeze-thaw fracture resistance.
- Cables are looped on all mat edges to allow mat-to-mat connection and optional anchoring.
- Conforms to existing ground contours.
- Provides water permeability and vegetation growth.
- Allows for articulation, ranging from 20˚ to 60˚ – depending upon the block size chosen
- Manufactured to specifications exceeding both federal, provincial MTO, and state D.O.T. material requirements.

Benefits:

- No on-site assembly.
- Minimal site preparation.
- Easy to install and can be cut to fit various places.
- Comes with a pre-attached filter cloth for consistent placement.
- Highly resistant to ice damage and freeze-thaw cycle.
- Mats can be removed and reused on future sites.

Applications:

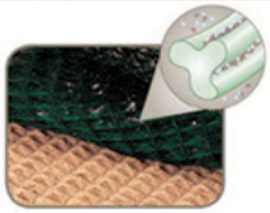
- Rip Rap alternate
- Riverbank stabilization
- Sewage lagoon slopes
- Access ramps/boat launches
- Low-level crossings
- Scour protection at culvert outlets

ARMORMAX®

One of the most advanced flexible armoring technologies available, ARMORMAX® is an Engineered Earth Armoring Solution for severe erosion and surficial slope stability challenges. ARMORMAX® erosion control system can be used in applications that require additional safety factors, such as protecting earthen levees from storm surges and wave overtopping, as well as protecting stream, river, and canal banks from scour and erosion. This system is well-suited to protecting stormwater channels in arid and semi-arid environments where vegetation densities of less than 30% are expected.

Benefits:

- Provides up to 75 years of design life.
- Supports the EPA Green Infrastructure initiative.
- Recognized as a stormwater Best Management Practice (BMP) and is proven to reduce erosion and reinforce vegetation for low-impact, sustainable design.
- Easy to handle, lightweight components for rapid installation.
- Use of lightweight equipment and general labor. facilitates installation with limited site access.
- Aesthetically pleasing and more cost-effective than conventional methods such as rock rip rap and concrete paving.



Applications:

- Slopes
- Levees
- Canals
- Stream and riverbanks
- Arid/semi-arid storm water channels

Turf Reinforcement Mats (TRMs)

Long Term Protection

TRMs are made of a combination of polypropylene, straw, and coconut fibers.

Benefits:

- Permanent, non-degradable, three-dimensional matting structure
- Available in Polypropylene Polypropylene/Coconut, & Polypropylene/Straw
- Alternative to rigid concrete, asphalt, and stone riprap systems
- Permanent Solution to Erosion-Prone areas
- Supplied in easy to install rolls

Standard Options

- TE-P42 – 100% Polypropylene Fiber
- TE-PC42 – 67% Polypropylene Fiber and 33% Coconut Fiber
- TE-PS42 – 7% Polypropylene Fiber and 33% Agricultural Straw

Applications:

- Steep Landfill Slopes
- Irrigation and Detention Pond slopes
- Vegetated or partially vegetated ditches, channels
- & waterways
- MSE wall vegetative turf mat facing systems
- Levees, Dams, & Dikes
- Agricultural Applications
- Environmental Applications

High Performance Option

- PYRAMAT®75 high-performance turf reinforcement mat (HPTRM)

Straw Wattle

Straw wattles are an elongated tube of compacted straw and/or other fibers wrapped in UV-stabilized degradable tubular polypropylene plastic netting:

- Used for temporary erosion and sediment control applications.
- Designed to allow runoff/water to penetrate through the fiber while reducing sediment migration.

Benefits:

- Cost-effective alternative to other sediment trapping devices.
- Works in conjunction with surface roughening, straw mulching, bonded fiber matrix, hydroseeding and erosion control blanket to further reduce erosion and sediment migration.

Applications:

- Along the contours or at the base of a slope to help reduce soil erosion and retain sediment.
- Around catch basin inlets.

Erosion Control Blankets (ECBs)

Erosion Control Blankets (ECBs) are used to protect soil structures from the damaging effects of rainfall, run-off, wind, and wave action. ECBs are manufactured from various degradable fibers such as straw and coconut and are mechanically stitch-bonded to a polypropylene or biodegradable netting structure.

Benefits:

- Available in 100% biodegradable materials.
- They increase water infiltration into the soil.
- They increase the retention of soil moisture to promote seed germination.
- Available in both Straw and Coconut Fibers.
- Supplied in easy to install rolls.
- Available in 8′ and 16′ widths with lengths up to 560′.

Applications:

- Low, Moderate, & Steep Slopes
- Bank & Channel Protection
- Agricultural Applications
- Environmental Applications

Short-Term ECBs

Straw ECBs are designed for use on mild slope and channel applications requiring erosion control for up to 12 months depending on moisture, light, and environmental conditions.

Single Sided
- TE-S31 – Less than 12 months
- TE-S31 BD (Biodegradable) – Less than 12 months

Double Sided
- TE-S32 – Less than 12 months
- TE-S32 BD (Biodegradable) – Less than 12 months

Extended-Term ECBs

Straw/Coconut ECBs are extended-term products designed for use on extreme slope and channel applications requiring erosion control for up to 36 months depending on moisture, light, and environmental conditions.

- TE-SC32 – Less than 24 months
- TE-SC32 BD (Biodegradable) – Less than 18 months
- TE-C32 – Less than 36 months
- TE-C32 BD (Biodegradable) – Less than 24 months

Turbidity Curtain

Turbidity curtain is an effective solution for construction sites near waterways, which are prone to erosion, turbidity, and unwanted silt build-up. Turbidity curtains are a type of floating vinyl barrier that is suspended in the water by a heavy-duty float and ballast weight chain system. The curtain acts as a shield, allowing silt and sediment to settle rather than flow into other parts of the body of water, and enables contractors to complete their work while protecting the aquatic environment.

Benefits:

- Modular and reusable.
- Manufactured from a high-strength geotextile fabric.
- Heavy duty floating system.
- Available in standard and custom sizes.

Applications:

- Waterways near a construction site

Silt Fence

Silt Fence, is a temporary sediment control device used around construction areas. It is used to help protect streams, rivers, and lakes from silt, sediment, and construction debris contamination. It is made up of woven geotextile stretched between a series of wooden stakes. The fabric is made from UV stabilized, high-tenacity polypropylene yarns woven into a dimensionally stable network. This fabric is extremely durable and has excellent water flow and silt retention properties.

Benefits:

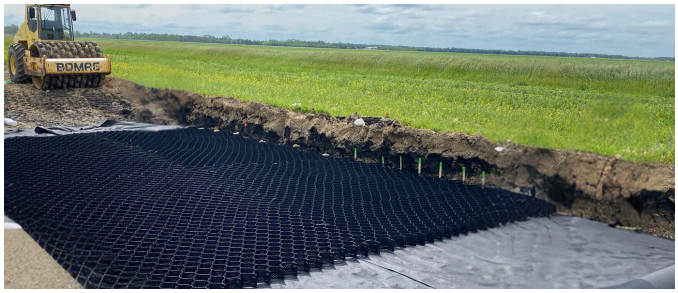
- Highly durable and provides excellent water flow and silt retention.
- Can withstand concentrated flows, heavy winds, and retain up to 18" of sediment.

Applications:

- Along the perimeter of a project site.
- Below the toe or downslope of exposed and erodible slopes.
- Along streams and channels.
- Around temporary spoil areas and stockpiles.
- Below other cleared areas.

BaseLok™ Geocell

BaseLok™ geocell is a flexible three-dimensional cellular structure that confines soil or aggregate material. It solves the problem of low compaction and bearing capacity by preventing horizontal movement of the fill and increasing shear strength and bearing capacity. The cells' proximity provides significant weight distribution to support heavy loads without displacement.



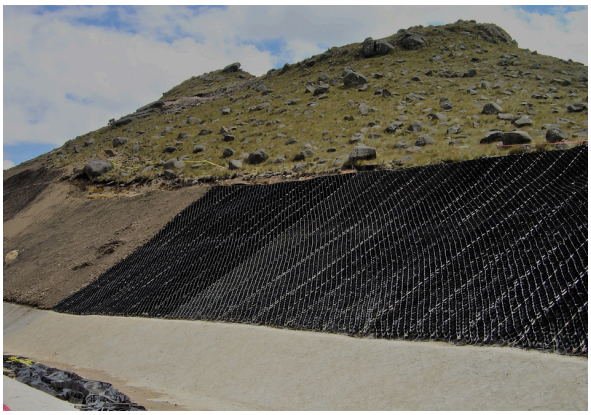
BaseLok™ geocell is used for base stabilization, slope reinforcement, erosion protection, and in the construction of retaining walls. It prevents horizontal movement of fill material and increases its shear strength and bearing capacity.

Benefits of BaseLok™ Geocell:

- Allows for vegetative growth and minimizes impact on the environment.
- Allows green infrastructure construction by reducing the need for non-renewable resources and creating a porous and vegetated surface.
- Can serve multiple design functions such as soil load support, earth retention, or vegetative erosion protection.
- Significantly cut costs by using on-site materials, reducing the structural layer, and installing the industry's most extensive single-size panels more quickly.
- Quicker installation compared to other geocell products.

Applications:

- Slope stabilization
- Base Reinforcement
- MSE retaining wall base reinforcement
- Channel erosion protection when vegetative system is required.



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Titan Environmental supplies proven geosynthetics and specialty civil engineering construction solutions designed to extend the life of vital infrastructure while protecting precious natural resources.

We push limits with creative solutions. Our product lines include geomembranes, geotextiles, geogrids, primary & secondary containment systems, stormwater management solutions, drainage solutions, MSE wall & slope systems, and erosion & sediment control products. We service the road construction, agricultural, waste management, water resources, mining, oil and gas, and hydroelectric industries that support essential infrastructure worldwide. By providing engineers with a resilient foundation for building better, we've become North America's fastest-growing-end-to-end geosynthetics supplier, fabricator and installer.

We do more than help manage environmental impact, we help improve how that's done. With a team of audacious innovators and agile problem-solvers, we're trusted to adapt to change, respond quickly, and support you at every stage. When you build with Titan, you strive for your very best.

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