

Erosion Control Solutions

Putting you first with solutions that last.



TITAN

BUILD YOUR LEGEND

ENHANCED SOLUTIONS FOR STRUCTURAL STABILITY

Erosion control solutions respond to unique needs in construction projects. Erosion control addresses a specific design challenge and impacts the long-term performance of the infrastructure.

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.

Erosion control is an important consideration for any project that includes:

- Soil slopes
- Earth berms
- Embankments
- Drainage channels/ditches

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 SUPPORT

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

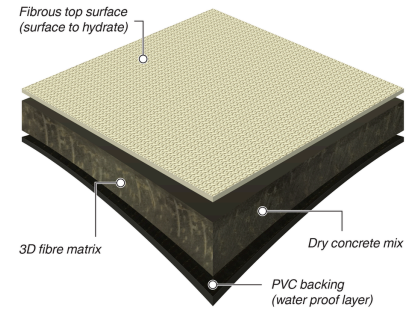


INSTALLATION SUPPORT

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.



Features

- The PVC backing on one side of the CC provides excellent impermeability.
- CC reaches a 24-hour compressive strength of 50 MPa. Fibre reinforcement prevents cracking, absorbs impact energy, and ensures stable failure.
- Twice as abrasion-resistant as standard OPC concrete, with strong chemical resistance, UV stability, and good weathering performance.
- CC drapes well, conforming to ground contours and existing structures. It can be cut or shaped with basic tools before setting.
- Performs well at high temperatures, is fire-tested, and resists aggressive compounds better than OPC concrete.

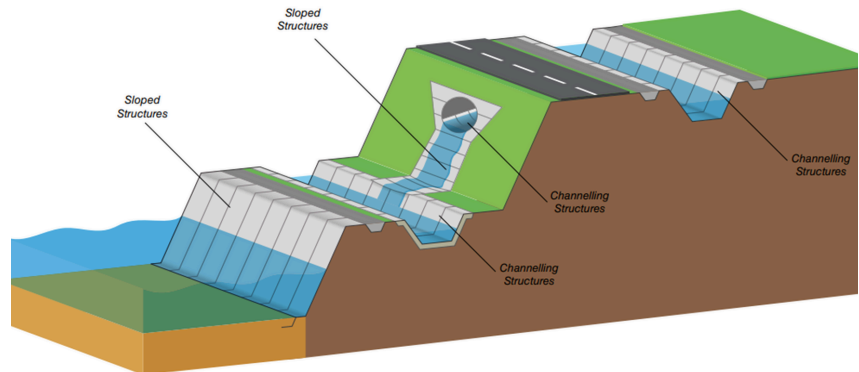
Benefits:

- **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.



Applications:

- Slope Protection
- Channel Lining



Erosion Control

Hard Armor Non-Vegetative Solution

Gabion Basket

Gabion baskets are sturdy wire-mesh baskets filled with rocks. This enables them to reduce and prevent erosion by slowing runoff. Gabion baskets flexibility allows them to settle without losing effectiveness, making them ideal for areas with moving water and unstable ground.



Features

- Wire mesh construction prevents washout and provides strong support
- High permeability allowing for easy drainage
- No specialized skills or equipment required for installation
- Resistant to corrosion

Benefits:

- **Reduces erosion:** Controls erosion caused by water and excess seepage.
- **Cost-effective:** Affordable solution for erosion control and structural support.
- **Environmentally friendly:** Helps prevent soil erosion, preserving topsoil for vegetation.
- **Durable:** Lasts 10-25 years or even longer with minimal upkeep.
- **Visually appealing:** Natural look that blends well with the environment.



Applications:

- Retaining walls
- Banks of rivers/streams
- Waterway management
- Highway and railway



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:

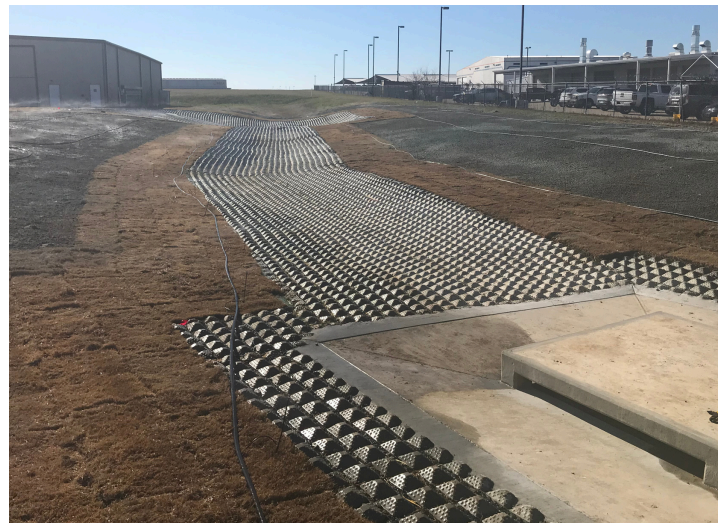
- Available in wide variety of sizes to fit needs.
- Custom backing options for site specific seed and soil retention.
- Works with a variety of anchoring systems.
- Capable of High Flows: Shear 18+psf – Velocity 30+ ft/s – 10% & 20% Slope
- Tested in accordance with ASTM 6460

Benefits:

- **Permanent Erosion Control:** Durable vegetative concrete block mat designed for long-term stabilization.
- **Eco-friendly:** 30% open area promotes natural plant establishment and root integration.
- **Easy Installation:** Supplied in roll form for efficient transport and quick roll-out deployment.
- **Cost-Effective:** Can be installed with smaller machinery, reducing labor and equipment costs.

Applications:

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



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:

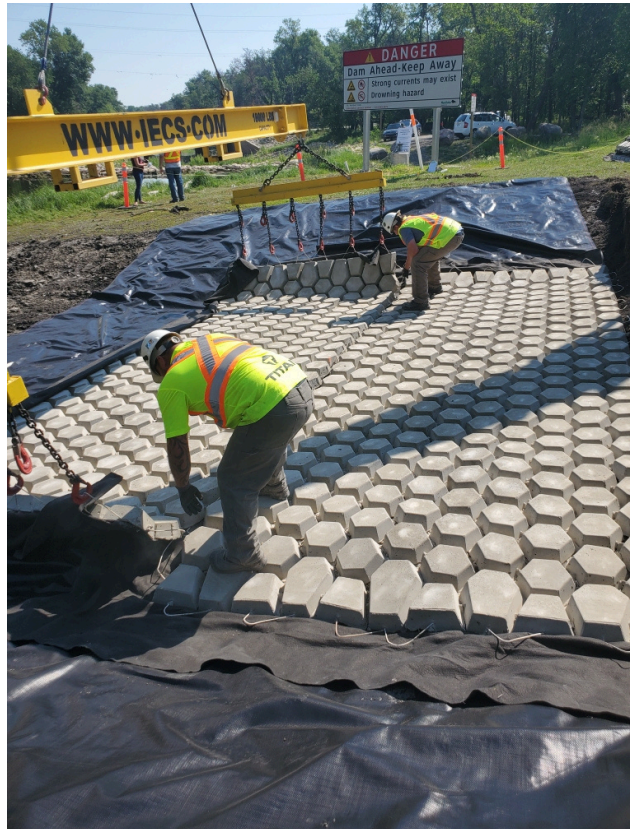
- Made with air-entrained concrete for durability and freeze-thaw fracture resistance.
- Cables are looped on all mat edges to allow mat-to-mat connection and optional anchoring.
- Conforms to existing ground contours.
- Provides water permeability and vegetation growth.
- Allows for articulation, ranging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

Benefits:

- **Cost-Effective:** No on-site assembly is required, speeding up installation and reducing labor costs.
- **Customizable:** Easy to cut and fit, adapting to irregular shapes and tight spaces for versatile applications.
- **Resistant to Ice and Freeze-Thaw Cycles:** Maintains performance in harsh climates.
- **Reusable Mats:** Can be removed and redeployed, offering long-term value and sustainability.

Applications:

- Riprap 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.



Features:

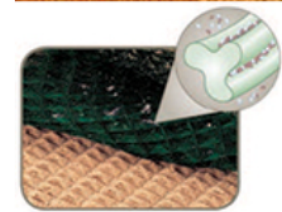
- Integrates PYRAMAT® HPTRM with X3® fiber technology and Engineered Earth Anchors (EEAs)
- Withstands extreme hydraulic stresses and non-hydraulic damage
- Available for use in low-vegetation environments (<30% coverage)
- Anchor tie-down mechanism secures mat to subgrade

Benefits:

- **Long-Term Protection:** Delivers up to 75 years of erosion and slope stability performance.
- **Supports Sustainable Design:** Aligns with EPA Green Infrastructure initiatives and BMP standards.
- **Reduces Erosion & Reinforces Vegetation:** Proven to stabilize surfaces while promoting plant growth.
- **Fast & Easy Installation:** Lightweight materials and simple anchoring enable rapid deployment.
- **Ideal for Remote or Limited Access Sites:** Can be installed using general labor and light equipment.
- **Cost-Effective Alternative:** More affordable and visually appealing than concrete or riprap.
- **Versatile Application:** Effective in arid, semi-arid, and high-stress hydraulic environments.
- **Enhanced Safety:** Engineered to resist shallow slope failures and extreme weather conditions.

Applications:

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



Turf Reinforcement Mats (TRMs)

Turf Reinforcement Mats (TRMs) are made from a combination of polypropylene, straw, and coconut fibers. TRMs are designed for critical slope and channel applications requiring permanent erosion control and turf reinforcement. Turf reinforcement mats combine vegetative growth and synthetic materials to form a high-strength mat that helps prevent soil erosion in drainage areas and on steep slopes.



Features

- Made from blends of polypropylene, straw, and coconut fibers
- Available in multiple configurations: 100% polypropylene (TE-P42), polypropylene/coconut (TE-PC42), and polypropylene/straw (TE-PS42)
- Designed for permanent erosion control in slopes, channels, and drainage areas
- Three-dimensional matting structure for soil retention and vegetation support
- Supplied in easy-to-install rolls



Benefits:

- **Permanent Erosion Control:** Provides long-term soil stabilization in critical areas.
- **Eco-Friendly:** Replaces rigid systems like concrete and riprap with a vegetative solution.
- **Easy Installation:** Roll format allows for fast deployment with minimal labor.
- **High-Performance Option Available:** PYRAMAT®75 offers superior durability and erosion resistance.

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



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.



Features

- Made from degradable fibers such as straw and coconut
- Mechanically stitch-bonded to polypropylene or biodegradable netting
- Available in short-term (up to 12 months) and extended-term (up to 36 months) options
- Offered in single-sided and double-sided configurations



Benefits:

- **Biodegradable Options Available:** Supports environmentally friendly erosion control solutions.
- **Improves Soil Moisture Retention:** Helps promote seed germination and healthy vegetation growth.
- **Enhances Water Infiltration:** Reduces surface runoff and supports soil health.
- **Easy Installation:** Roll format simplifies deployment and reduces labor time.
- **Reliable Protection:** Shields soil from rainfall, runoff, wind, and wave action in diverse environments.



Applications:

- Low, moderate, & steep slopes
- Bank & channel protection
- Agricultural applications
- Environmental applications

Straw Wattle

Straw wattles are an elongated tube of compacted straw and/or other fibers wrapped in UV-stabilized degradable tubular polypropylene plastic netting. Designed for short-term erosion control solutions.



Features

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

Benefits:

- **Cost-effective Solution:** Offers a more affordable alternative to traditional sediment trapping devices.
- **Enhances Erosion Control Systems:** Works seamlessly with surface roughening, straw mulching, bonded fiber matrix, hydroseeding, and erosion control blankets to reduce 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.



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.



Titan Environmental Containment | Titan Environmental USA

Toll free: 1-866-327-1957 | info@titanenviro.com | TitanEnviro.com

