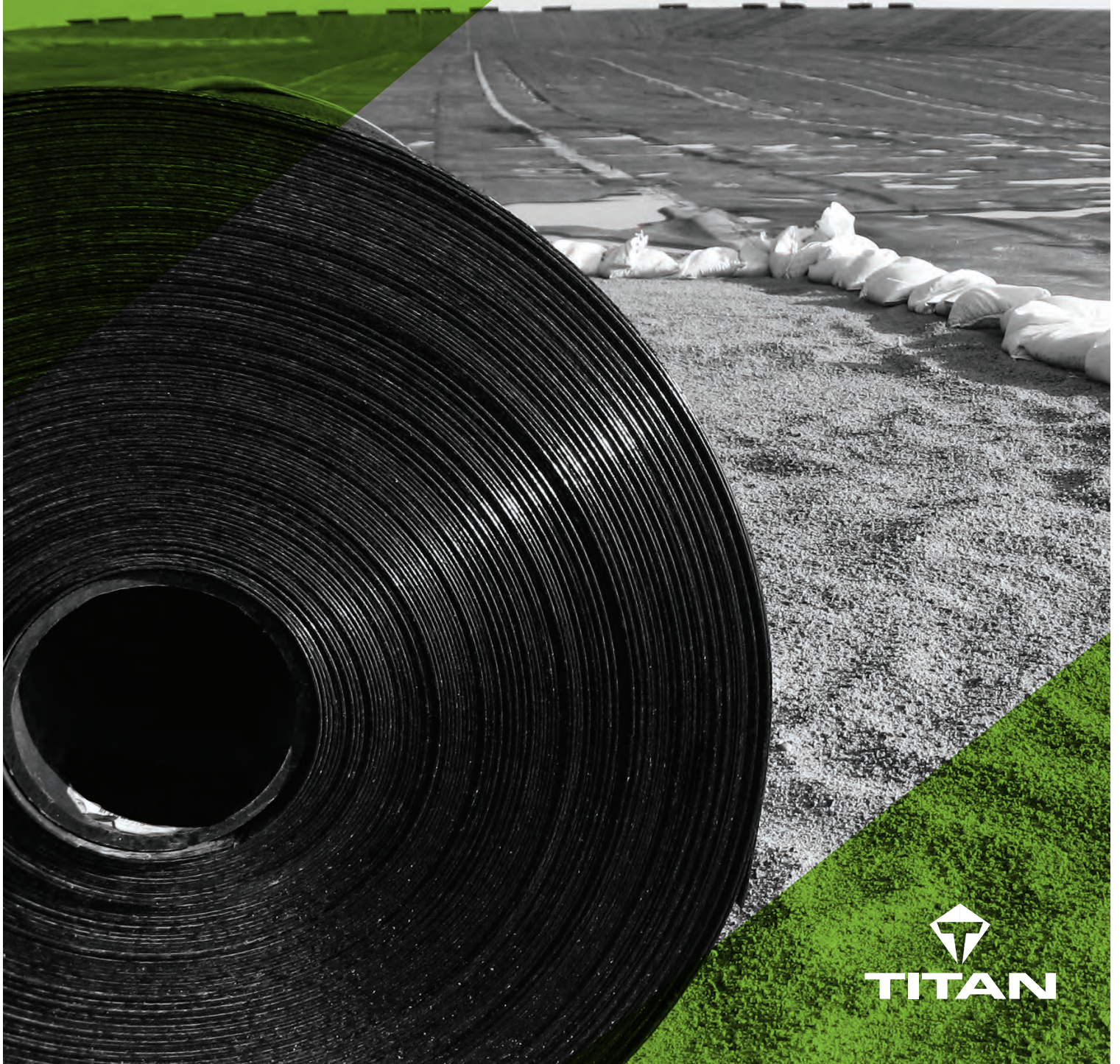


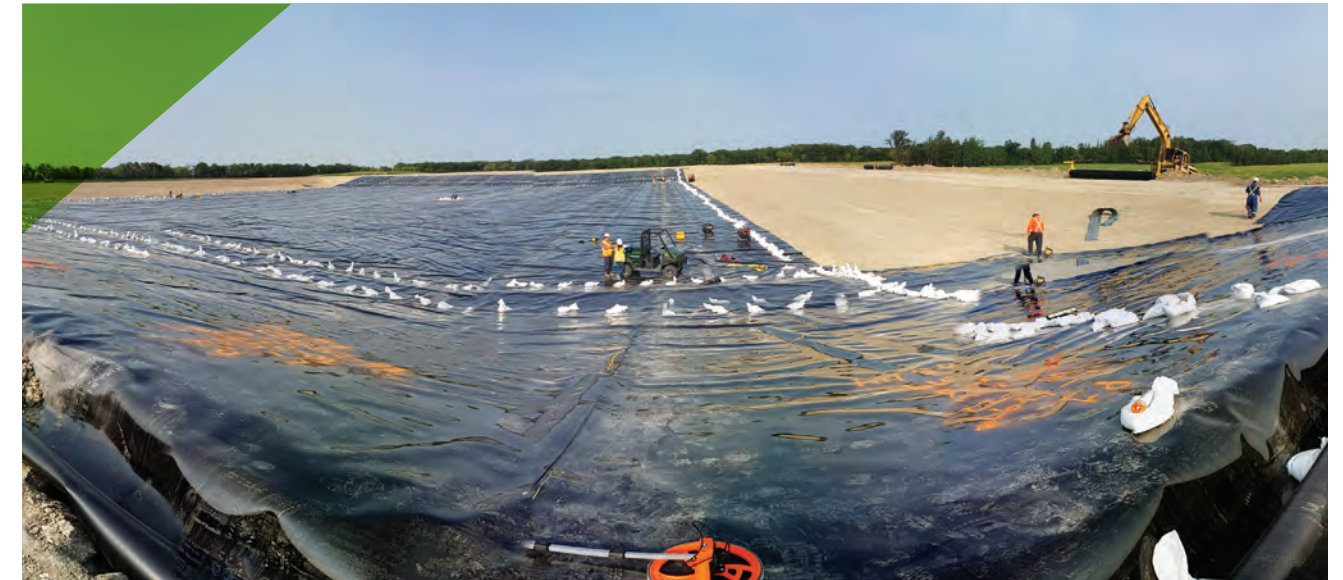
GEOMEMBRANES




TITAN

GEOMEMBRANES

Impermeable • Chemically Resistant • Durable



Geomembranes are used with rocks or earth to block fluid migration in man-made structures. They are manufactured in sheets ranging from 0.25 to 3.5 mm in thickness and are made of various synthetic materials such as EPDM (Ethylene Propylene Diene Monomer), Linear Low-Density Polyethylene (LLDPE), High-Density Polyethylene (HDPE), Polyvinyl Chloride (PVC), and Polypropylene (PP).

Due to their ability to block fluids they help prevent the dispersal of contaminants and are especially important for waste containment. Geomembranes may be used with soil liners or permeable geotextiles to create a composite lining system that provides added protection.

Titan geomembranes are manufactured from highly durable materials which can provide hundreds of years of expected life. They are resistant to chemicals and wear, so the integrity of the lining is not affected by corrosion or the passing of time. Each type has specific characteristics that influence installation procedures, lifespan and performance. We offer a comprehensive line for a variety of needs with full installation service.





“Installing over 4,000,000 square meters of product per year, Titan has a proven track record and we are proud of the business that we earn based on our experience, in-depth knowledge and reputation to get the job done right. *We listen carefully to our clients and continuously strive to offer practical, cost-effective solutions for any project.*”

- Brett Burkard
CEO

Titan LLDPE Series

(Linear Low-Density Polyethylene, LLDPE)

- Designed to be high quality yet economical.
- Available in 20, 30, 40, 60 & 80 mil.
- Intended for long life and exhibits a high degree of strength and durability.
- Colour options: black or white.
- Easy to manage panels that are portable, deployable and can be tape welded.

Benefits:

- Flexible and can withstand direct folding and compound bending without damaging the performance of the liner.
- Easy to manage panels that are portable, deployable and can be tape welded.
- Outstanding resistance to low temperature and ultraviolet exposure.

Used For:

- Irrigation Ponds, Canals, Reservoirs & Ditches
- Mining-Heap Leach & Slag Tailings
- Canals
- Golf Courses & Decorative Ponds
- Agricultural Applications
- Potable Water Reservoirs
- Municipal Applications
- Liquid Storage Tanks
- Aquaculture & Horticulture
- Brine & Processed Water Systems
- Landfill Liners, Covers & Caps
- Water & Wastewater Treatment & Containment
- Liquid Containment
- Industrial Applications
- Secondary Containment
- Environmental Containment
- Wastewater Lagoons
- Soil Remediation
- Animal Waste Containment



Titan EPDM Series

(Ethylene Propylene Diene Monomer)

- Soft rubber-like feel similar to an inner tube.
- Available in 45 & 60 mil.
- UV stable, unreinforced, highly flexible and incredibly durable.
- Colour options: black or white.
- Excellent tensile strength and elongation characteristics.

Benefits:

- Conforms well to irregularities in the subgrade.

Used For:

- Irrigation Ponds, Canals, Reservoirs & Ditches
- Agricultural Applications
- Covers
- Golf Courses & Decorative Ponds
- Sub-zero Installations

Titan HDPE Series

(High-Density Polyethylene)

- The most chemically resistant geomembrane in the polyethylene family.
- The best QC-QA testing capabilities in the market place.
- UV stable and durable.
- Available in smooth, textured, single and double-sided.
- Colour options: black or white.
- Installed using hot wedge and extrusion welders providing factory quality welds that increase the strength of the geomembrane sheets.

Used For:

- Irrigation Ponds, Canals, Reservoirs & Ditches
- Mining-Heap Leach & Slag Tailings
- Canals
- Golf Courses & Decorative Ponds
- Agricultural Applications
- Potable Water Reservoirs
- Municipal Applications
- Liquid Storage Tanks
- Aquaculture & Horticulture
- Brine & Processed Water Systems
- Landfill Liners, Covers & Caps
- Water/Wastewater Treatment & Containment
- Liquid Containment
- Industrial Applications
- Secondary Containment
- Environmental Containment
- Wastewater Lagoons
- Soil Remediation



Titan MDPE

(Food Grade Medium-Density Polyethylene)

The only food contact liner in Canada certified by Health Canada!

- UV stable.
- Available in 80 mil.
- It is the most chemically resistant member of the polyethylene family.
- Colour options: black or white.
- Installed using hot wedge and extrusion welders providing factory quality welds that increase the strength of the geomembrane sheets.

- Benefits:**
- Less flexible than LLDPE but gives a higher specific strength.
 - Can withstand higher temperatures.

- Used for:**
- Reservoirs & Custom Bins for Food Storage
 - Dairy Industry
 - Sauce Tanks
 - Juice Tanks
 - Distilleries, Breweries & Wineries
 - Restaurants & Cafeterias
 - Liquid Containment with Food Contact
 - Secondary Containment in Food Sensitive Areas
 - Potable Water Reservoirs
 - Processed Food Tanks
 - Processed Water Systems
 - Food Oil Containment
 - Industrial Applications
 - Meat Processing Industries



TE-PVC Series

(Polyvinyl Chloride, PVC)

- Highly flexible and waterproof.
- Available in 20, 30, 40, 50 & 60 mil.
- Excellent puncture, abrasion and tear resistant properties.
- Colour options: black or white.
- Installed using wedge welders providing factory quality welds that increase the strength of the geomembrane sheets.

- Benefits:**
- Flexible and can be deployed in very windy conditions, limiting the risk of the installation.
 - Ideal to cover valuable subgrades quickly.
 - Extremely durable, and lays on the ground with a skin tight beautiful finish.
 - Comes in custom fit, prefabricated panels.

- Used for:**
- Irrigation Ponds, Canals, Reservoirs & Ditches
 - Mining-Heap Leach & Slag Tailings
 - Canals
 - Golf Courses & Decorative Ponds
 - Agricultural Applications
 - Potable Water Reservoirs
 - Municipal Applications
 - Liquid Storage Tanks
 - Aquaculture & Horticulture
 - Brine & Processed Water Systems
 - Landfill Liners, Covers & Caps
 - Water/Wastewater Treatment & Containment
 - Liquid Containment
 - Industrial Applications
 - Secondary Containment
 - Environmental Containment
 - Wastewater Lagoons
 - Soil Remediation
 - Animal Waste Containment



Titan TRP Series

(Reinforced Polyethylene, RPE)

- Designed for economical, safe containment of contaminated soils, liquids or sludge.
- Available in 12, 20, 24, 30 or 36 mil.
- Looks and feels like a super thick tarp of industrial quality material.
- Colour options: black or white.

- Benefits:**
- Oil resistant.
 - UV resistant and extremely durable.
 - Remains flexible in extremely low temperatures and has very good chemical resistance.

- Used for:**
- Canals
 - Agricultural Applications
 - Municipal Applications
 - Aquaculture & Horticulture
 - Landfill Liners, Covers & Caps
 - Liquid Containment
 - Secondary Containment
 - Animal Waste Containment
 - Mining-Heap Leach & Slag Tailings
 - Temporary Containment Cells
 - Brine & Processed Water Systems
 - Water/Wastewater Treatment & Containment
 - Industrial Tarps
 - Environmental Containment
 - Soil Remediation



Titan TE-PPR Series

(Reinforced Polypropylene, RPP)

- Designed for water containment applications.
- Excellent chemical resistance.
- UV stable and reinforced with a nylon scrim to provide stability and superior strength.
- Flexible, durable and formulated to be resistant to chemicals, ultraviolet degradation and aging.
- Comes in prefabricated panels up to 30,000 sq.ft.
- Available in 36, 45 & 60 mil.
- Colour options: black or white.

- Benefits:**
- Endures long-term use in buried or exposed regions.
 - Economical alternative to PVC & HDPE.

- Used for:**
- Irrigation Ponds, Canals, Reservoirs & Ditches
 - Canals
 - Agricultural Applications
 - Municipal Applications
 - Aquaculture & Horticulture
 - Landfill Liners, Covers & Caps
 - Liquid Containment
 - Animal Waste Containment
 - Golf Courses & Decorative Ponds
 - Potable Water Reservoirs
 - Secondary Containment
 - Brine & Processed Water Systems
 - Water/Wastewater Treatment & Containment
 - Industrial Applications
 - Wastewater Lagoons



Titan TSRP Series

(String Reinforced Polyethylene, SKRIM)

- Designed for covering applications that require a strong, light weight, tear-resistant material.
- Available in varying thicknesses ranging from 6-30 mil.
- Manufactured by placing a web of polyester string between two layers of high strength polyethylene film then laminated together with molten polyethylene to form a tough, puncture resistant product.
- Colour options: black, white or grey.

- Benefits:**
- Has sealed ends so that no fluid can wick the nylon and delaminate the sheet.

- Used for:**
- Agricultural Applications
 - Municipal Applications
 - Floating Covers
 - Silage Covers
 - Construction Site Covers
 - Industrial Applications
 - Environmental Containment
 - Soil Remediation
 - Pallet Covers



Titan HPR Series

XR-3 (Potable Water Geomembrane) & XR-5 (Reinforced Geomembrane)

- A reinforced woven synthetic fabric made from an ethylene interpolymer alloy (EIA). impressive dimensional stability, tensile strength and puncture resistance. Available in 30 & 40 mil.
- The strongest, most durable geomembranes used today.
- XR-3 is approved for potable water contact and utilized for moderate chemical resistance requirements such as storm water and wastewater. Available in 30 mil.
- Widely used as an exposed lining material due to outstanding long-term resistance to UV radiation.
- XR-5 is resistant to high temperatures and broad chemical classes including acids, oils and methane, and exhibits
- Low thermal expansion\contraction properties.
- Colour options: black or white

- Benefits:**
- Provides protection against a wide range of climates.
 - Retains flexibility and high performance in the harshest conditions.

- Used for:**
- Agricultural Applications
 - Hazardous Waste Containment
 - Tank Farms
 - Landfill
 - Secondary Containment
 - Animal Waste Containment
 - Floating Covers
 - Mining-Heap Leach & Slag Tailings
 - Potable Water Reservoirs
 - Brine & Processed Water Systems
 - Water/Wastewater Treatment & Containment
 - Industrial Applications
 - Environmental Containment



Concrete Protection Liner (Studded)

- Made of high density polyethylene (HDPE).
- Features studs on one side that lock into applied surfaces.
- Used to protect concrete structures from corrosion, erosion and mechanical damage.
- Extends the lifespan of concrete structures.
- High pull-out strength and minimal lateral movement due to thermal expansion.
- Resistant to UV degradation.
- Standard panels measure 2.44 m wide and up to 70 m long.
- Thickness ranges from 2.0 - 5.0 mm.

Benefits:

- Extends the lifespan of concrete structures.
- Can be custom prefabricated to a specific dimension or geometric shape.
- Can be butt welded, extrusion welded or electrofusion welded.

Used for:

- | | |
|--|----------------------------------|
| - Vaults | - Concrete Pipe Lining |
| - Processing Pits | - Lift Stations |
| - Pre-Cast Pipes | - Sewer & Water Treatment Plants |
| - Pre-Cast Manholes | - Digesters |
| - Cast in Place Concrete Structures /Tunnels | - Storage Pads |
| - Prefabricated Structures | - Sumps |



Leak Location Liner

- Has an electrically-conductive bottom layer for spark and dipole testing which allows for leak detection on exposed and covered applications.
- The co-extruded conductive layer eliminates the need to apply water during testing in exposed applications.
- An optional white surface reflects sunlight which lowers the liner temperature and reduces wrinkles.
- The combination of a white surface and black base makes it easy to visually detect scoring and other impact damage.
- An optional textured surface is available which helps stabilize the liner and reduce the risk of damage during placement of cover soil.
- Available in 30, 40, 60, 80 & 100 mil.
- Colour options: black or white.

Benefits:

- Leaks can be detected on wrinkles and other non-conductive surfaces.
- Eliminates false positive signals for leaks when installed as specified.
- Can be retested as often as necessary to ensure its integrity over time.





ClosureTurf™

- A closure system consisting of an impermeable structured geomembrane covered by engineered synthetic turf.
- Designed to handle gas pressure build up, eliminate releases and avoid soil sliding.
- Made with a heavy duty geomembrane that includes studs on the top for high capacity drainage of rainfall, and spikes on the bottom providing the highest interface friction on the market.
- Significantly outperforms traditional vegetative closure methods with regard to installation, maintenance and environmental compliance.

Benefits:

- Reduces construction and long-term maintenance costs.
- Minimizes slop rebuilding by improving short and long-term slope stability.
- Performs highly in extreme weather conditions.
- Provides better control over gas collection (when applicable).
- Provides filtration for improved storm water runoff quality.
- Reduces leachate and odours by allowing incremental closures (close as you go).
- Durable and aesthetically pleasing.
- Turf allows for traffic and does not require irrigation, fertilizing, seeding or mowing.

Used for:

- Soil slope structures such as landfills, industrial waste sites and other.



TITAN ADVANTAGE

- We supply and provide complete installation service.
- We take a site specific approach to material selection to choose the best products and applications for our clients.
- We provide technical support, and comprehensive project management services to ensure that each job receives detailed attention and is completed on time and on budget.
- We provide free pre-design as well as pre-construction layout drawings and post installation 'as built' drawings showing seams, destructive and repair locations.
- We have bonding capacity to tackle the largest of projects.
- We are COR certified and an ISNetwork® Member Contractor.
- Our installers are IAGI certified, fully trained and highly experienced.
- Our installation crews are mobile and able to work anywhere in the world.
- We offer a full line of insulated and negative pressure cover systems for odour control.
- We offer gas venting systems to ensure proper ventilation under the liner system.
- We service what we install.





Operating across Canada and in the U.S. Titan specializes in the supply and installation of high quality geosynthetics and specialty construction products that help manage and protect the environment. Our product lines include geomembranes, geotextiles, geogrids, primary & secondary containment systems, drainage solutions, and erosion & sediment control products. We service the road construction, agricultural, waste management, water resources, mining, oil and gas, and hydro electric industries that support essential infrastructure worldwide. Our goal is to help our clients save money, reduce risk, and minimize impact on the environment.

Our Geosynthetics Division includes experts in product manufacturing, selection, specification and installation. Collectively our team has over 300 years of installation, sales, project management and engineering experience. With a wealth of knowledge on our side we excel at working with our clients in the consultation, planning and execution phases of any project to provide you with the most cost effective solution, and get the job done right, on time, and on budget.

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