

Concrete Protection Solutions

Putting you first with
solutions that last.



TITAN
BUILD YOUR LEGEND

Concrete Protection Solutions

BUILD STRONG. LAST LONG.

Concrete Protection Liner (CPL) by Titan, made of high-density polyethylene (HDPE), prevents concrete corrosion and degradation from microbial-induced corrosion (MIC) and infiltration/inflow (I&I). Its embedded anchors create a durable, maintenance-free barrier that preserves structural integrity. CPL matches the lifespan of the concrete and offers secondary containment in case of gasket failures or cracks, preventing exfiltration. Widely used across municipalities and industrial wastewater treatment, CPL enhances infrastructure durability and performance.

- **Superior Chemical Resistance:** Concrete Protection Liner (CPL) offers superior protection against a wide range of chemicals.
- **Exceptional Backpressure Resistance:** Concrete Protection Liner (CPL) provides the highest resistance against backpressure compared to other technologies. This means CPL-lined pipes and structures can go deep into groundwater while still providing corrosion resistance and protection against inflow and infiltration.
- **Abrasion Resistance:** Concrete Protection Liner (CPL), made of HDPE, provides excellent abrasion resistance. It has a higher abrasion resistance than PVC, fibreglass, or concrete.
- **UV Degradation Resistance:** CPL can be made with antioxidants that provide excellent resistance to UV degradation from sunlight for outdoor applications.
- **Custom Prefabrication:** CPL can be prefabricated at our manufacturing facility for applications such as pipes, manhole riser sections, sumps, utility boxes, lift stations, wet wells, chambers, and structures.
- **Versatile Welding Options:** CPL can be welded in a variety of ways, including being butt fusion welded, extrusion welded, or electrofusion welded for versatile applications.

Concrete protection is project-specific. Titan offers versatile concrete protection liner solutions for various projects, including design consultation services, aimed at ensuring your infrastructure and investment are fully protected.

HIGH PERFORMING PRODUCTS BACKED BY COMPREHENSIVE SERVICE

Say goodbye to constant maintenance and hello to long-lasting durability. CPL is your go-to solution for safeguarding concrete structures against corrosion and wear. Perfect for any sector, it ensures your infrastructure stands the test of time. Choose CPL and focus on what you do best—building excellence.



PRODUCT SUPPLY

Concrete protection solutions are available from all Titan locations. We provide competitive quotes for every component of your concrete protection project.



DESIGN ASSISTANCE

Our concrete protection technical team provides preliminary layout designs. This includes use of a LIDAR scanner to create a 3D representation.



INSTALLATION SUPPORT

Our technical expertise extend to supporting contractors on proper installation of concrete protection solutions. This helps ensure performance and longevity of a system, and overall project success.

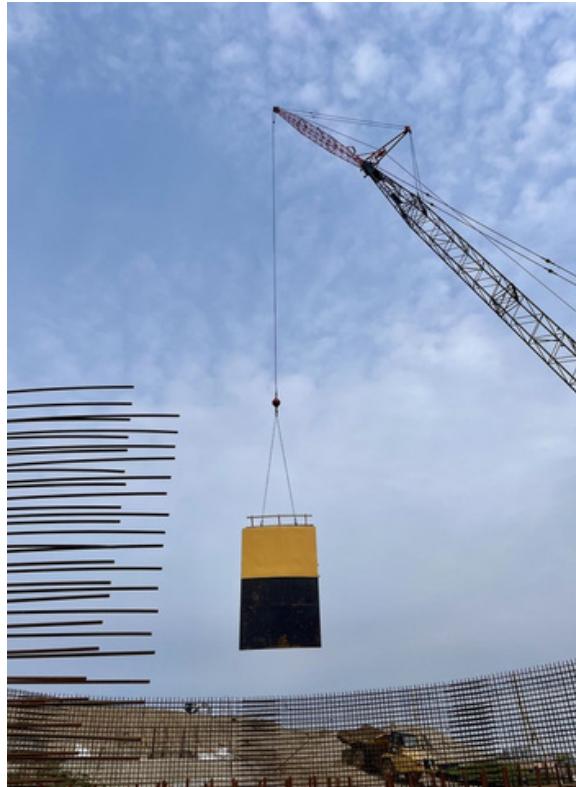
Cast-In-Place CPL Solution

A cast-in-place solution (also known as poured-in-place) refers to the smooth side of the Concrete Protection Liner placed against the inside of a form before pouring concrete. The anchors face inwards so that the concrete consolidates around them during the pour, and the concrete then cures around the anchors.



Features:

- Most commonly made from high-density polyethylene (HDPE), it covers the widest range of application
- For extreme conditions with either high temperatures or an extremely corrosive media, CPL is also available in polypropylene, polyvinylidene difluoride (PVDF), and ethylene chlorotrifluoroethylene (ECTFE) with temperature ranges from -30° C to +140° C.
- Can be used in both exposed and nonexposed applications.



Benefits:

- **Durability:** A cast-in-place CPL solution extends the life of the infrastructure by protecting the concrete from concrete corrosion or concrete degradation stemming from microbial-induced corrosion (MIC), hydrogen sulfide attack, chemical attack, abrasion, and physical damage.
- **Customization:** A cast-in-place CPL solution can be utilized with any tank or structure shape and can also be made from a variety of thicknesses to accommodate the specific needs of the application.
- **High-Performance Life:** Concrete Protection Liner in a cast-in-place solution increases the design life of the structure, requiring no future or ongoing maintenance.
- **Cost Savings:** Unlike spray coatings, CPL does not need to be reapplied over time. Using CPL reduces the total cost of ownership of wastewater



Applications:

- Municipal and agricultural digesters
- Water treatment plants
- Wastewater systems
- Storage tanks

Precast CPL Solution

A precast Concrete Protection Liner (CPL) solution involves casting concrete structures, such as manholes and wastewater pipes, offsite with an embedded Concrete Protection Liner. Since the concrete cures around the liner's anchors, it becomes a permanent part of the structure and never needs to be reapplied. This results in a pre-lined concrete structure that arrives on-site, ready for installation. CPL can be used in both wet case and dry cast applications.

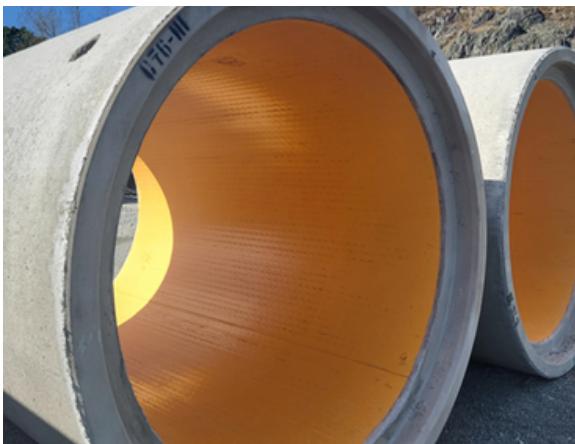


Features:

- Concrete Protection Liner in a precast solution increases the design life of the structure, requiring no future or ongoing maintenance.
- Titan offers a plug-and-play solution to both wet and dry precast manufacturing. Tubes for pipes and riser sections are made at Titan's manufacturing facilities and shipped to the precaster ready to use. The precaster simply has to slide the liner on the form and pour concrete.
- Fabrication of the liner for pipe and manhole riser sections takes place in a controlled environment at Titan's fabrication facilities.

Benefits:

- **Durability:** Embedded Concrete Protection Liner in precast solutions offers superior protection against corrosion, microbial-induced damage, hydrogen sulfide, chemicals, and infiltration (I&I). With excellent abrasion resistance and a minimum 300% expansion rate, CPL withstands settlement, pipe deflection, and seismic events.
- **Cost Savings:** CPL doesn't need reapplication, lowering long-term costs.
- **Improved Flow:** CPL's smooth surface increases flow efficiency compared to unlined pipes.



Applications:

- Dry cast pipe
- Wet cast pipe
- Reinforced concrete pipe
- Micro tunnels
- Manhole riser sections
- Chambers
- Wet wells
- Lift stations



Composite FRP Rehab Panels

Composite FRP Rehab Panels are designed for easy installation and maintenance-free operation, ideal for rehabilitating large wastewater structures and providing a corrosion-resistant lining to new structures, significantly extending their service life.



Features:

- The panels are corrosion resistant and provide long-lasting durability.
- They offer an economical and reliable solution.
- Installation is quick and easy, saving time and effort.
- The panels are maintenance-free, reducing long-term upkeep costs.
- Designs can be customized to meet specific project needs.

Benefits:

- **Cost Savings:** Rehabilitation is a fraction of the cost of replacement.
- **Reduced Service Downtime.**
- **Handles Corrosive Media:** Suitable for a wide range of pH and temperatures.
- **Maintenance-Free:** Systems do not need to be replaced over time.



Applications:

- Public utilities reinforced concrete pipe
- Wastewater treatment plants
- Municipal and agricultural digesters
- Industrial manufacturing plants
- Wet wells and lift stations
- Chambers
- Petro chemical manufacturing plants
- Tanks farms
- Pharmaceutical plants
- Rail car chemical transfer stations
- Industrial wash down troughs
- Manufacturing and production floors



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.