



**GRANITE<sup>®</sup>**  
***inliner*<sup>™</sup>**

Statement of **Qualifications**



# Company Overview

Granite Inliner was formed in 2018 through a series of mergers and acquisitions of several of the industry's leading wastewater infrastructure renewal companies and is a wholly owned subsidiary of Granite Construction, one of the nation's largest diversified heavy civil contractors and construction materials producers.

As an established leader in the infrastructure renewal industry with 18 offices and more than 825 employees, Granite Inliner has the financial strength, industry expertise, staff leadership, and technical capabilities to meet nationwide demand.

With offices across the U.S., Granite Inliner proudly serves municipal, industrial and institutional clients with the experience and diversity of solutions designed to meet the unique needs of any rehabilitation effort. From our flagship Inliner® brand Cured-in-Place Pipe (CIPP), to our glass-reinforced Inliner STX® UV-cured liners, we can address a broad range of both gravity and pressure pipeline applications—selecting the RIGHT solution for your wastewater and stormwater infrastructure needs.

Granite Inliner champions Single Source Accountability in providing our customers with all services and associated materials, equipment, and labor to execute single or multiple projects of varying scope and size.

**Headquartered in the Midwest, Granite Inliner serves most areas of North America.**



**18**

Granite Inliner operates **18** service offices throughout the U.S. and Canada

## TRENCHLESS REHABILITATION EXPERTS

Granite Inliner's trenchless rehabilitation offerings minimize disruption to the public by reducing noise, traffic disturbances and road repair - and can be done within a far shorter time frame, at less cost than dig and replace.



Lower cost



Less disruption - no closures



Faster installation



Minimal to no digging



Lowest risk



Service life of 50 or more years



Proven technologies

**FORTUNE**  
WORLD'S MOST  
**ADMIRED**  
COMPANIES **2020**  
**GRANITE**

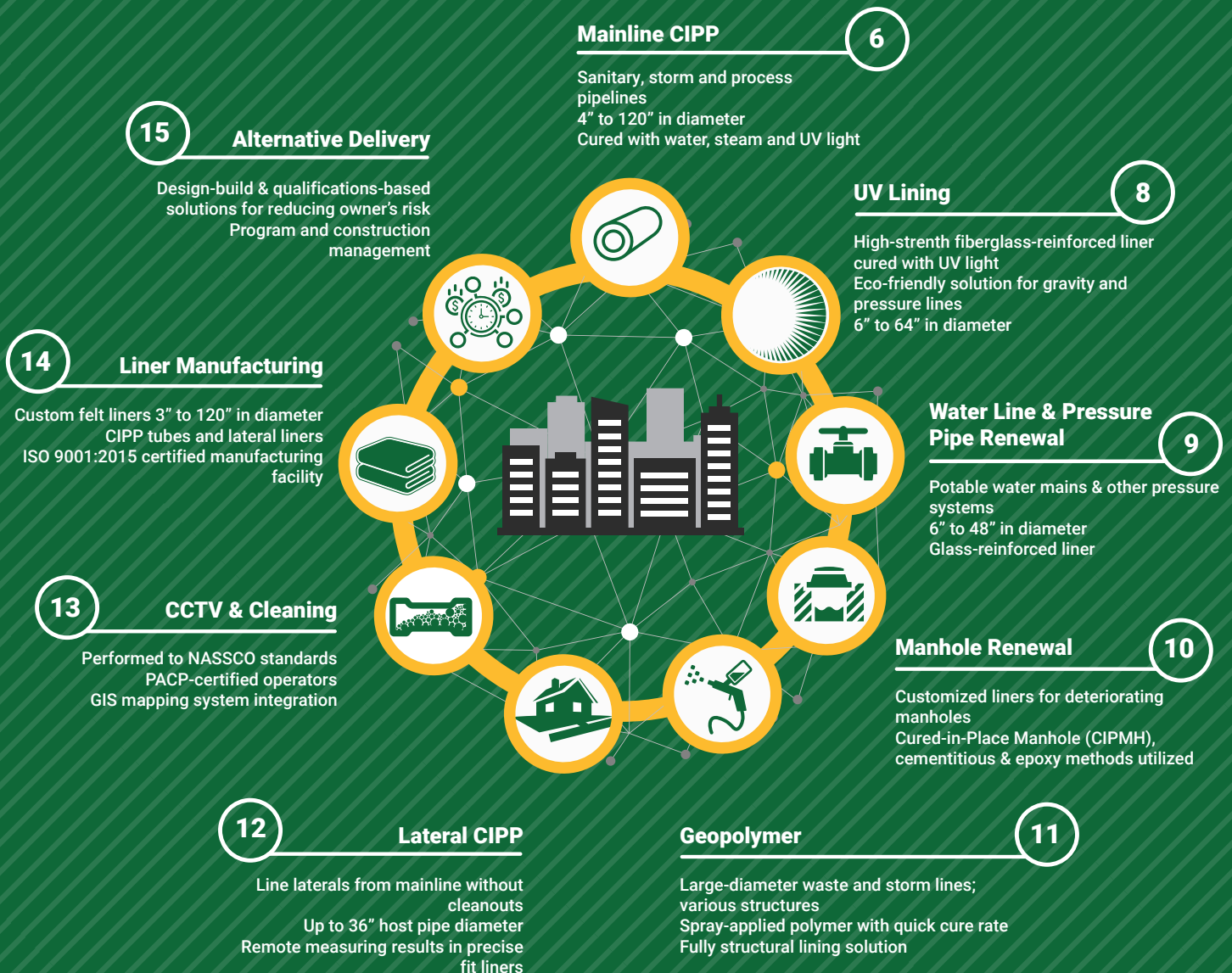


**GRANITE**  
IS  
**AMERICA'S**  
INFRASTRUCTURE  
**COMPANY™**





Granite Inliner has one of the most **extensive trenchless service portfolios** in the industry.



We will provide the **RIGHT** solution for your **wastewater and stormwater infrastructure** problems.

# Single Source **Accountability**

## Industry Dedication & Single-Source Accountability

The Inliner® CIPP brand has been a mainstay in the marketplace since the 1980s. Granite Inliner not only installs the product, but also owns the manufacturing and R&D entities that support the Inliner® brand.



## Customer Service

Granite Inliner coaches our employees to pay attention to the details, adhere to customer needs, and function as an extension of the customers we serve. We will not close out a project until we have met the obligations of the contract and our client is satisfied with the results. Our crews work hard to make sure residents and area businesses understand what we are doing and are minimally affected by the work we do. Established regional offices and our desire to be the industry's CIPP provider of choice ensure this will happen on every project we undertake, regardless of size.

## Strategic Industry Partnerships

Granite Inliner's total accountability toward quality extends to its strategic partners. Our time-tested relationships with some of the industry's leading rehabilitation technology providers ensure a high level of quality, project workflow efficiencies and stabilized subcontractor and materials pricing on all projects we undertake.

## Commitment to Industry Advancement

For more than 30 years, Granite Inliner staff have been key drivers of industry advancement through active engagement at the national level within such organizations as NASSCO, WEF, ASTM, NASTT and AWWA.

### Benefits for Our **Customers**

Our vertical integration and ability to tightly control production and inventory of the liners are significant:

- Increased schedule and cost efficiencies
- Better quality assuredness and control
- Greater synergy between design, manufacturing and installation
- Streamlined resolutions process
- Quicker responsiveness to emergency needs



Granite Inliner is comprised of over **825** employees, serving locations throughout U.S. and Canada



**GRANITE**  
*inliner*

Single Source  
**Accountability**



# Our Clients

## Granite Inliner operates in diverse vertical markets.

Whether our mainstay municipal and DOT work, or industrial and institutional sectors—Granite Inliner provides the operating flexibility and experience to accommodate the needs of all customers.

### Municipal



*Local Public Works  
Water Reclamation Districts  
County & State Agencies*

### Transportation



*Airports  
Departments of Transportation  
Toll Roads/Turnpikes*

### Oil & Gas



*Refineries  
Production Facilities  
Related Infrastructure*

### Manufacturing/Industry



*Food/Pharmaceutical  
Automobile  
Chemical*



# Inliner<sup>®</sup> Mainline CIPP Lining



Our most widely used solution is our proprietary Inliner<sup>®</sup> Cured-in-Place Pipe. CIPP is a proven, cost-effective no dig solution for problems normally associated with leaking or deteriorated pipelines.

## Installation

A Granite Inliner crew will oversee the cleaning and televising of the existing pipeline to determine exact pipe diameters and pipe condition. The crew will then order a lining tube that is custom manufactured for the project and delivered to the jobsite, ready for installation. These tubes are designed as a fully structural pipe or can serve as an interior infiltration barrier only.

Immediately following a second thorough pipe cleaning, the crew will install the resin-saturated liner via manholes or other designated access points using one of two proven methods: direct inversion (ASTM F1216) or pulled in place (ASTM F1743).

Once the liner is in place, the workers apply hot water, steam, or UV light to cure the segment. The length of time required for this process is dependent upon diameter and length, but is typically achieved in a matter of hours. Crews then cut the ends, reinstate the customer lateral services from inside the pipe, and active use of the renewed pipeline can begin.



### ASTM F1216

*Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of Resin Impregnated Tube*



### ASTM F1743

*Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP)*

## Product Highlights

- Limited or no excavation required
- Up to 120" in diameter
- Improves hydraulic capacity of existing pipelines
- Design life that exceeds 50 years
- Economic alternative to open cut replacement



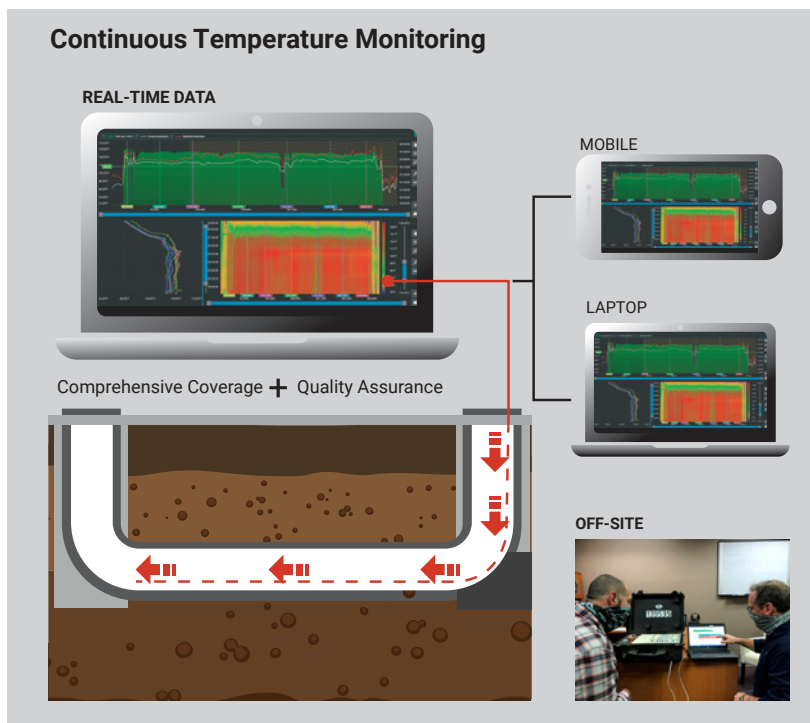
**Mainline  
CIPP**



### The Importance of a Proper Cure

In addition to continual monitoring of temperature readings at boiler trucks, our team has implemented new fiber optic monitoring technology. Where earlier efforts provided readings at intervals of 200 to 300 feet using thermocouple measuring devices at manhole access locations, our thermal imaging system now enables the monitoring of the curing process along the entirety of the pipe run at 6-inch intervals.

These readings can be monitored remotely by the project manager at an offsite office location, further ensuring a successful installation.



### Benefits for Our **Customers**

With Inliner® no-dig Cured-in-Place Pipe (CIPP) technology, a crew with a modest amount of equipment can install a durable new pipe directly inside the existing worn or damaged pipe without breaking ground. In all but the most extreme cases of deterioration or collapse, Inliner® CIPP can fully restore pipelines up to 120 inches in diameter with an additional service life of 50 years or more.



## 35m

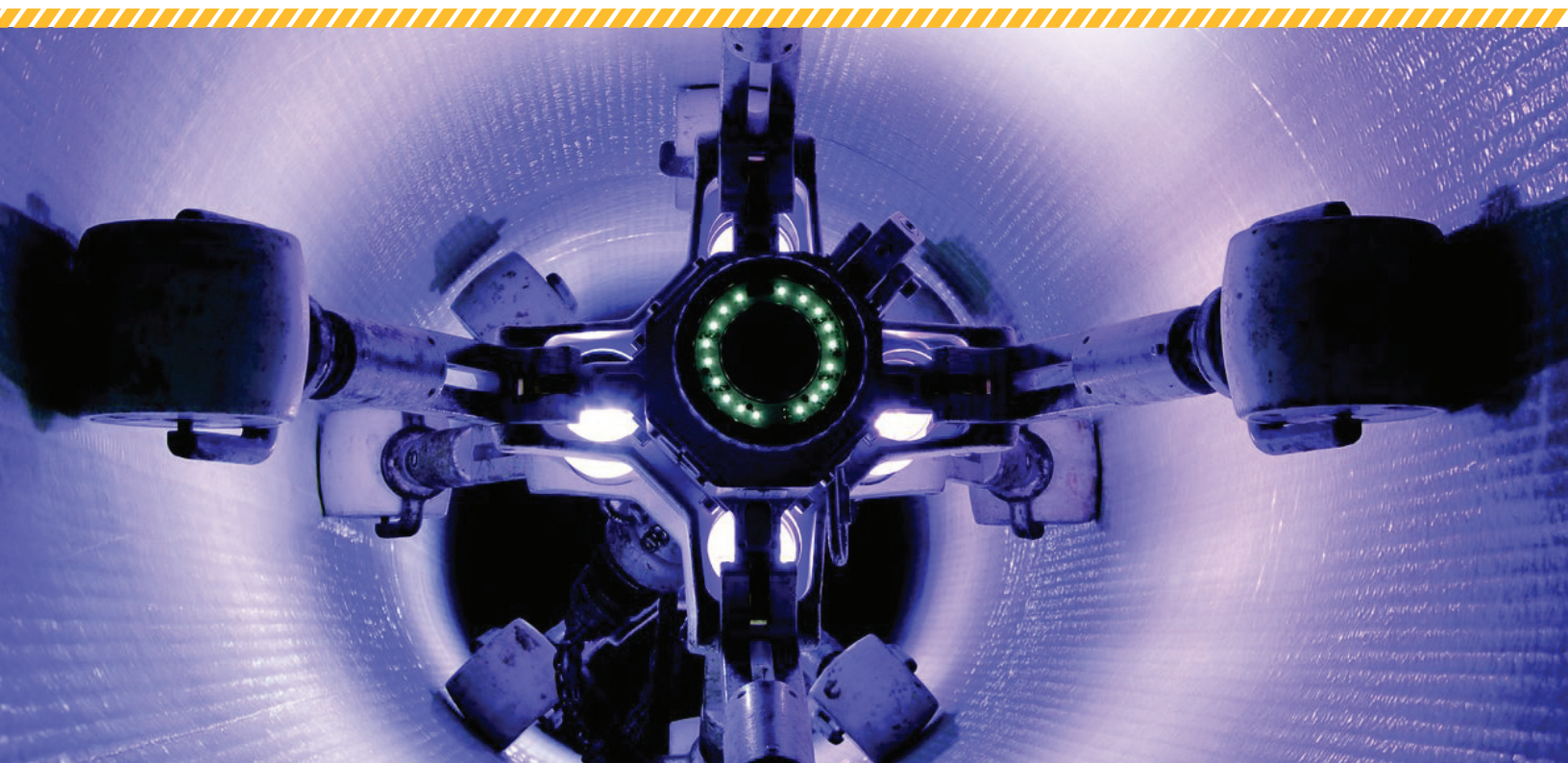
Granite Inliner teams have installed over **35 million** feet of CIPP liner ranging from 6" to 120"



**GRANITE**  
*inliner*

Mainline  
**CIPP**

# Inliner STX® UV-Cured CIPP Lining



While traditional felt-based liners continue to offer reliable solutions in today's marketplace, fiberglass UV-cured liners can be a valued alternative.

## Installation

After thoroughly cleaning the host pipe, installation crews pull the Inliner STX® liner into place. A protective sliding film or glide foil can be used in significantly deteriorated lines to aid in the pull-in process and to further protect the liner. Both ends of the liner are then sealed with protective end caps and air pressure is introduced, allowing the liner to expand into place. Workers then run a UV light train through the line at a controlled, pre-configured speed of up to 6 feet per minute to cure the liner.

Cameras on the train allow for viewing of the alignment and fit—both before and during the cure process. This computer-monitored process collects and stores data relevant to temperature, pressure and rate of conveyance to ensure proper curing of the installed liner. When complete, the laterals can be reinstated using a remote-controlled cutting unit or via man entry in larger diameter pipelines.

## Benefits for Our Customers

Inliner STX® UV-cured CIPP provides all the benefits of our thermal-cured product with some additional perks. Our proven UV-cure lining technology has a design service life of 75 or more years, is eco-friendly, several times stronger, and provides increased hydraulic capacity over traditional CIPP. A pre-cure inspection ensures the installation is flawless, and there is virtually no on-site styrene odor.

## Product Highlights

- Fiberglass-reinforced tubes with styrene barrier
- Reduced wall thickness design; added strength
- Suitable for gravity, pressure and water applications
- Small carbon footprint
- Six-month shelf storage life of resin-saturated tubes
- Pipes ranging 6" to 64"



## ASTM F2019

*Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Pulled in Place Installation of Glass Reinforced Plastic Cured-in-Place (GRP-CIPP) Using the UV-Light Curing Method*



# Water and Pressure Pipe

## Water & Pressure Pipe Applications

Granite Inliner offers several options for renewing pressurized potable water and wastewater systems. Granite Inliner utilizes both a pressure rated, pulled-in-place glass reinforced plastic (GRP) tube cured by UV-light and a glass reinforced felt tube composite installed by the inversion method and cured with heat (steam or water).

### Heat-Cured CIPP

Similar to CIPP applications for storm and sanitary sewers using the inversion over-the-hole method, our teams saturate the reinforced tube on-site per ASTM F2994 with epoxy or resin for immediate inversion into the pipe. Liner curing is completed using hot water or steam.

### UV-Cured CIPP

This technology utilizes a GRP tube that is saturated with resin at the manufacturing facility prior to delivery, and is pulled into place and cured by exposure to UV light. The instrumentation of the UV light train allows for an internal pre-cure QA inspection of the liner prior to activating the UV lamps.

### Heat-Cured CIPP Product Highlights

- Epoxy is applied to the lining tubes using a mobile saturation technology
- Certified for drinking water
- AWWA Class IV renewal technology
- Capable of internal connection reinstatements
- Flexible for moderate alignment deflection

### UV-Cured Product Highlights

- Extensive pressure range
- Resin saturation (wet-out) in a controlled manufacturing facility



#### ASTM F2994

*Standard Practice for Utilization of Mobile, Automated Cured-In-Place Pipe (CIPP) Impregnation Systems*



#### ASTM F2016

*Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of Resin Impregnated Tube*

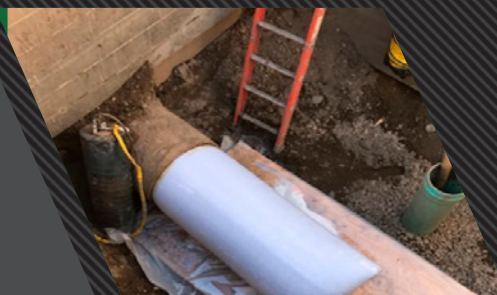


#### ASTM F2019

*Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Pulled in Place Installation of Glass Reinforced Plastic Cured-in-Place (GRP-CIPP) Using the UV-Light Curing Method*

## Benefits for Our Customers

Granite Inliner recommends a variety of glass-reinforced pressure pipe lining solutions for both potable water and wastewater uses.



**GRANITE**  
inliner

**Water Main  
Renewal**

# Manhole **Renewal**

## Manhole Renewal Applications

Granite Inliner performs manhole renewal installations using both Cured-in-Place Manhole (CIPMH) and a variety of cementitious, epoxy-based applications.

Our NASSCO-certified superintendents provide extensive manhole inspections, which is the first step in determining the best application(s) for improving sewer system performance. These comprehensive inspections provide a concise evaluation of the state of the structure, spanning from the cover/frame to the bench and base.

### CIPMH Product Highlights

- Engineered for a service life of 50 years
- Restores structural integrity, eliminating infiltration and inflow
- Cured-in-place seal creates a watertight, corrosion-resistant structural lining, resisting freeze and thaw conditions
- Each crew can complete 3-7 installations per day

### CIPMH Installation

Our CIPMH liners are customized to fit manholes and related structures constructed of brick and mortar, pre-cast concrete or block. Granite Inliner crews can complete preparation and installation in the same day, eliminating lead time for ordering materials. The liner will cure under ambient temperature and pressure in one to two hours.

### Benefits for Our Customers

Whether cementitious, epoxy, or CIPMH application, Granite Inliner will recommend the right trenchless manhole rehabilitation solution, including specifying mixture additives to address specific structural or chemical concerns. Manhole renewals can be completed quickly, with a single crew performing three to seven installations per day.

### Epoxy Product Highlights

Granite Inliner also provides epoxy-based solutions. Epoxy products offer great advantages in adhesion, chemical resistance and structural renewal strength.

### Epoxy Installation

Prior to applying the epoxy product, the Granite Inliner team performs a visual assessment of the manhole structure, then cleans the surface using water blasting. Cracks and damaged areas are patched, and if the damage is severe, a cementitious underlay is applied. The epoxy is applied with a hand-spray gun with a technique called cross-hatching, or "boxing," to ensure even coverage and thickness. Final thickness can range from 80-125 mils or more per application.



**33k**

To date, Granite Inliner teams have completed over **33,000** manhole renewals



**GRANITE**  
inliner

**CIPMH  
Renewal**



# Geopolymer **Applications**

## Installation







Using a spin caster or low-pressure hand-sprayer, our crews apply a consistent and evenly coated layer of geopolymer material from the top to bottom of the structure. Following the coating, crews use trowels to smooth out the finish. Once applied to the damaged or deteriorated surface, the geopolymer material quickly forms into a crystalline structure for higher resistance to acids, lower porosity and greater surface durability.

Granite Inliner site crews can complete preparation and installation for each segment in the same day, eliminating lead time for ordering materials. Typically, the application of the geopolymer coatings require one pass, in the range of thickness of .5" to 1.5", with a maximum thickness of approximately 3". The quick cure rate shortens bypass time and allows flows to be re-established much quicker than Portland cement-based mortars.

## Product Highlights

- Monolithic mineral polymer with ceramic properties
- Single-pass applications
- Adheres to any structure surface
- Eco-friendly; composed of over 50 percent recycled materials
- Ideal for large-diameter pipes

## GEOPOLYMER

	Exceptional Strength		Cost Effective	
	Can be Applied in One Pass		Strong Bonding & Durability	
	Eliminates Evacuation & Utility Locates		Chemically Resistant	

## Benefits for Our Customers

Geopolymer applications are ideal for large-diameter pipelines and are an eco-friendly solution, composed of more than 50 percent recycled materials. Site prep and installation can be completed in a single day per segment, with no material lead time.



## 5m

In 2018 Granite Inliner completed the largest geopolymer installation of over **5 million** lbs. of GeoKrete

Advanced  
Applicator  
**Technology**

# Lateral Lining

## Installation

Preparation is a critical part of our lateral lining installations. Our PFM (Prep-From-the-Main) tools are inserted into the lateral from within the mainline sewer to remove the roots, calcite, blockages, obstructions and other debris. The PFM uses a combination of reamers, flushers, nozzles, and CCTV cameras to clean the laterals through remote means.

The PFM tools also consist of a remote measuring process for determining the diameter of a lateral at every point along its length. This allows our teams to build a customized CIPP liner for a specific residence or business address. The PFM does not require a bypass of the mainline sewer, cleanout access or residential access to facilitate the process. All work is completed through existing manholes in the municipal right-of-way.

Granite Inliner's Measure from the Main (MFM) process utilizes a linear variable displacement transducer (LVDT) to transmit data back to the control system. Running hundreds of diameter checks per linear foot, the LVDT system averages the sizing and determines the appropriate lateral tube sizing for manufacturing.

The liner is ambient-cured and does not require other energy sources such as hot water or steam to achieve full cure.

Lateral reinstatement is not needed with the junction liner installation process. Once the liner is installed, the installation bladder is removed and the line is placed back into service.

## Product Highlights

- Laterals 4" to 6" (100-150mm) in diameter
- Mainlines 8" to 36" in diameter
- No bypass or cleanout required
- All work completed through existing manholes
- Custom CIPP lining tubes
- Liner is ambient-cured

## Benefits for Our Customers

Our lateral lining renewal eliminates root growth in pipelines, improving the hydraulic characteristics while mitigating infiltration and inflow issues. Our process allows for installation without cleanout or bypass, and the liners are ambiantly cured with no need for artificial heat or light.



Innovation in  
**Lateral Lining**



# CCTV and **Cleaning**

## Inspection

Granite Inliner utilizes advanced robotic CCTV inspection technology to evaluate the internal condition of pipelines and structures. When the robotics are deployed into a pipeline, a NASSCO PACP certified operator will travel the pipe at a specified rate of speed, stopping for every observation. Observations are recorded into a database utilizing a NASSCO PACP-based software system that will provide a detailed report and a condition rating.

The database, including pictures and videos, can then be exported to other software platforms, including GIS systems and asset management programs, for further evaluation and recommendations. Utilizing NASSCO PACP, the pipe condition rating assists with prioritization and the development of a risk model.

Granite Inliner utilizes a 360-degree digital scanner for manhole structures which produces a virtual experience as if standing in the manhole. The scan produces a 3D point cloud which enables accurate measuring of all features from the surface to the invert.



**This technology supports NASSCO MACP Level-1 and Level-2 reports without the need for confined space entry.**

## Cleaning

Granite Inliner utilizes a fleet of advance hydro-vac combination trucks and jet-trucks capable of cleaning pipelines with high pressure nozzles and extracting the debris via a high-powered vacuum system for transport to a disposal facility.



## Process Highlights

- Data set utilizes NASSCO PACP rating system for prioritization.
- Integration friendly with GIS and Asset Management Systems.
- Assists locating underground assets.

## Benefits for Our Customers

The quality and accuracy of our inspections and assessments, CCTV, and cleaning services enable our customers to make informed decisions based upon actual pipe conditions. Working closely with our customers, we provide optimum solutions based on the pipe conditions, age, and level of deterioration.



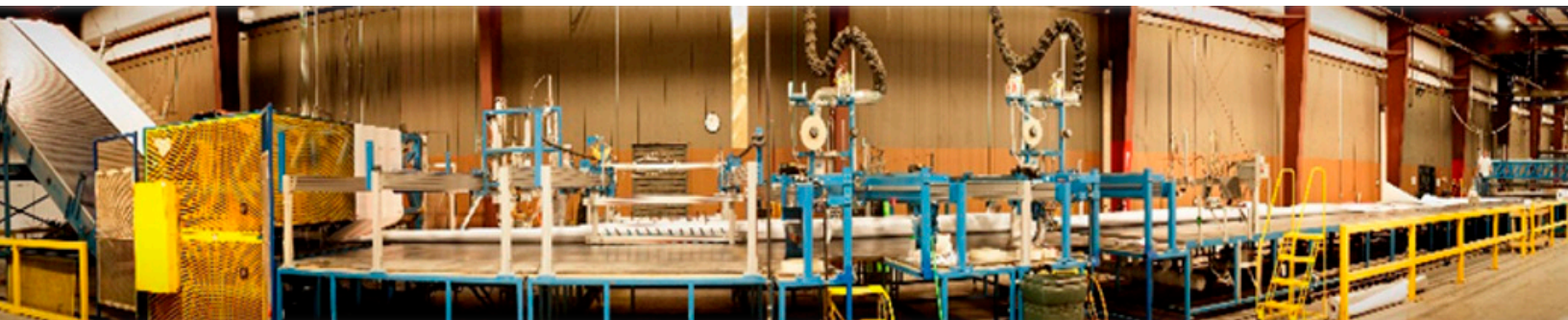
## Liner Products: **Manufacturing**

Liner Products® is a Granite-owned liner manufacturing operation that provides reliable and high-performance CIPP products to installers throughout the U.S. These products include tubes for inversion and pull-in-place methods for mainline CIPP, calibration hoses, lateral liners, and pre-liners where required.

Our meticulous standards and our Paoli, IN manufacturing facility's ISO 9001 certification assures installers and owners alike, that they will receive a final product that consistently performs beyond expectations. Liner Products can manufacture liners in diameters of 3" to 120" and can produce them in varying thickness levels based upon design conditions.

Rigorous specifications established in-house and throughout our supply chain ensure quality for all components that go into our material (including raw felt and a variety of tube coatings). Working closely with other industry professionals, Liner Products can provide solutions for the most difficult installations along with more traditional projects. Tubes can be heat-bonded or steam-stitched, fiber-reinforced or straight polyester and even transition from one diameter to another in the same run.

This vertical integration and quality assurance within our CIPP offerings allows us to work closely with our customers to ensure consistent products and exceptional service while meeting recognized industry standards including ASTM D5813, ASTM F1216, and ASTM F1743.



Granite Inliner's lining tube manufacturing facility in Paoli, IN is ISO 9001:2015 Certified



# Reducing Owner's Risk – a Contractor's Approach

The typical design/bid/build process, where contractor selection is on price only, is not always the best fit for infrastructure renewal considering the complexity and risk associated with high-profile projects. By understanding the Contractor's Approach to the project, you can ensure you always have the right partner for the job. Allow us to show you how to organize a Best Value Program for your infrastructure rehabilitation.

## Alternative Procurement

Granite continues to be an industry leader in Alternative Project Delivery Method (APDM)—establishing true partnerships with both the Owner, fellow JV Contractor(s) and Designers—guaranteeing a cohesive and successful project team.

### DELIVERY METHOD

- ★ **PDB** – Progressive Design-Build
- ★ **CM/GC** – Construction Manager/General Contractor
- ★ **CMAR** – Construction Manager At Risk
- ★ **QBS** – Qualifications-Based Selection
- ★ **BV** – Best Value RFP
- ★ **CP** – Cooperative Purchase

### REWARDS

- ★ Highest Quality
- ★ Schedule Certainty
- ★ Expedited Delivery
- ★ Cohesive Project Team
- ★ Reduced Risk
- ★ **A Partnership You Can Trust**

## Economic Innovation through Cooperative Purchasing



At Granite Inliner, we understand the economic constraints and limitations inherent to municipalities in getting the quality of service necessary to sustain their sewer assets for years to come. Today, many municipal organizations across the U.S. fall well short of providing their communities with an acceptable level of asset surety due to their continued practice of low-bid/low-value procurement. This is changing.

In 2018, in compliance with governmental purchasing statutes via a public competitive bid process, Granite Inliner was awarded a Trenchless Technology Services contract with the nationwide purchasing cooperative HGACBuy. Serving nearly all 50 states, HGACBuy is a contractor-funded program designed to provide public organizations and their respective communities with goods and services in lieu of having to pursue a low-value bid RFP option. With no cost to public entities, municipalities contact Granite Inliner directly to secure the services they need.

### BENEFITS

- ★ A streamlined procurement option
- ★ A method to secure an immediate response to emergencies
- ★ The reduction of design costs
- ★ Pre-evaluated, detailed, and itemized pricing





Granite  
Construction  
Headquarters

Granite Inliner  
Corporate Office

**GRANITE**  
*inliner*

Statement of **Qualifications**

**Service Offices:**

**CALIFORNIA**

5860 El Camino Real, Ste. 200  
Carlsbad, CA 92008  
(760) 257-2800

**COLORADO**

7915 Cherrywood Loop  
Kiowa, CO 80117  
(303) 646-1200

**FLORIDA**

Clearwater  
10755 49th Street  
Clearwater, FL 33762  
(727) 530-7577

Oakland Park  
4700 NW 9th Ave.  
Oakland Park, FL 33309  
(407) 472-0014

Sanford  
2531 Jewett Lane  
Sanford, FL 32771  
(407) 472-0014

**GEORGIA**

1902 Tucker Industrial Road  
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**ILLINOIS**

5031 W. 66th Street  
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**INDIANA**

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Orleans, IN 47452  
(812) 865-3232

**MAINE**

195A Norridgewock Road  
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(800) 265-0863

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**GRANITE INLINER**

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**LINER PRODUCTS/INLINER  
TECHNOLOGIES**

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Paoli, IN 47454  
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