Since its founding, PIM Corporation has worked diligently to develop its trenchless replacement and rehabilitation technologies and services. As a result, we have developed a professional staff of managers, engineers, supervisors, and technicians with a diverse background in all forms of trenchless technologies.

PIM Corporation is committed to maintaining its trenchless technology leadership role today and expanding the use of these technologies in the future.

Business Overview
PIM Corporation has been in operation for over 30 years, providing maintenance and rehabilitation services for above and underground structures, including: highway overpasses, bridges, concrete surfaces, and pipelines. The Company’s expansive product and service capabilities include: structural waterproofing, pipe bursting and splitting (up-size or size-for-size), structural and semi-structural tight-fit polyethylene pipelining systems, surface coatings, cleaning and digital CCTV services, among others. Further, PIM Corporation has the ability to provide full project management, implementation and consultation services in either a prime or subcontractor capacity.

Since its inception, PIM Corporation has been at the forefront of trenchless technology and above ground applications and has maintained its position as a market leader by demonstrating a dynamic and adept approach to integrating new technologies and responding to market needs. PIM Corporation’s strategic relationships with a number of leading industry players enables it to remain at the forefront of the testing and application of the latest technology.

Social Benefits of Trenchless Technology
Businesses and local governments are increasingly placing emphasis on the social benefits of trenchless technology applications and other rehabilitation services. These benefits are a result of minimizing the disturbance caused by repair and rehabilitation work on the daily lives of people, as well as maintaining the environment surrounding the service area. PIM’s non-intrusive applications enable customers not only to minimize cost, but also make it feasible to do so in a way that minimizes the disturbance to the local community. Furthermore, towns and governments are increasingly being challenged to utilize alternative rehabilitation methods, and in many instances, complete replacement is not an option.
Epoxies

PIM Corporation has been installing epoxy products since 1994. PIM is one of the oldest certified applicators of various epoxy lining systems and has a fully trained workforce capable of applying superior epoxy products. These high-performance, 100% solids coating and lining technologies routinely restore and protect pipelines, vaults, tanks, tunnels, manholes, floors, walls and all types of structures within many markets, including:
- Wastewater
- Potable Water
- Industrial
- Petrochemical
- Food and Beverage
- Marine and Offshore
- Pulp and Paper
- Chemical Processing
- Recreation / Sports Arenas, Theme Parks

Advantages:
- 100% solids, no VOC’s
- Moisture-resistant; cure underwater
- Quick return-to-service
- Prevent corrosion
- High-temperature service
- Resistant to chlorinated solvents, concentrated acids & caustics
- ANSI/NSF 61.5 approved for portable water & indirect food contact (USDA)

PIMPOXY

PIMPOXY is a two-part, 100% solids, no VOC’s, flexible epoxy coating with moderate chemical resistance, specifically designed for pipeline joint encapsulation. Formulated as a tough, impact-resistant coating, PIMPOXY provides superior tensile elongation, up to 170%, while improving adhesion and strength properties over conventional flexible systems. PIMPOXY can also be used in high humidity and temperature conditions with minimal loss of adhesion.

Polyureas / Polyurethanes

Polyurea is the newest polymer technology, beginning to replace older polymers and increasingly forging new awareness in industrial and commercial markets. Polyurea & polyurethane protective spray membranes and joint fillers are truly elastomeric with high elongation, high tear strength, a wide range of durometer, and superior modulus of elasticity.

These flexible coatings provide protection against chemical attack, abrasion, corrosion, ultraviolet light, thermal movement and general abuse. Polyurea & polyurethane self-leveling sealants are custom designed for sawed joint fillers, construction & expansion joint sealing, low-temperature cure (-20°F) and cold storage facilities.

PIM Corporation offers a variety of polyurea & polyurethane lining systems, ideal for:
- Concrete / metal roofs, tanks, decks
- Parking structure traffic membranes
- Dam proofing
- Below grade waterproofing
- Primary / Secondary containment
- Sewage / Wastewater

Advantages:
- 100% solids, no VOCs
- Application temps from -40° F to +300° F
- High flexibility / elongation
- Increases flexural & cohesive strength to weakened substrates
- High abrasion resistance
- Fast cure / Rapid return-to-service
- Resistant to jet fuel
- USDA Approved Direct Food Contact
PmB / Blue Shield

PIM Corporation is the regional applicator and distributor of the PmB / Blue Shield products in the Northeastern US. PmB / Blue Shield is the finest spray applied waterproofing product available on the market today. PIM Corporation has waterproofed major vehicular and rail bridges throughout the Northeast, as well as above and below ground structures.

The PmB / Blue Shield waterproofing membrane has been approved by the Port Authority of New York and New Jersey, numerous regional DOTs and AREMA rail authorities.

- High grade twin component spray applied polyurethane elastomer
- Free of filler, plasticiser and solvent
- Elastomeric up to 300%
- Retains physical properties from -43.6°F to +230°F
- Excellent crack bridge ability
- Tensile bond to concrete is measured at cohesive concrete failure
- Service life expectancy at this time is in excess of 20 years
- Unaffected by prevailing temperatures, and rainfall immediately after installation.
- Gels instantly; copes with difficult profiles of any inclination and contour
- Extensively tested against chemical degradation, microbial attack, and root penetration
- Water tight; extremely resistant to chloride ion penetration
- Tough, resilient and capable of accepting any type of overlay up to 464°F
- Site product testing is able to confirm bond quality and installed integrity
- Installation is rapid; 240 square yards (2,160 square feet) per hour per spray plant typical
- Capable of accepting foot traffic within 5 minutes, wheeled traffic within one hour, and road surfacing overlay after only two hours
- PmB / Blue Shield installations now exceed 3.0 million square yards (27 million sq ft)

Fiber Reinforced Polymer

The FRP (Fiber Reinforced Polymer) system is a patented cost effective family of well proven & engineered, strengthening products designed to meet a wide variety of strengthening applications on concrete, masonry & wood.

The system consists of the fibers, typically carbon or glass, which primarily carry the loads, and a proprietary epoxy resin system which transfers the shear loads amongst the fibers, protects them, and bonds them to the structure. With tensile strengths ranging from 60,000 lbs. to over 350,000 lbs., the system can be designed to meet any strengthening requirements.

FRP products have undergone extensive structural and durability testing and meet or exceeds the following standards: ICBO AC 125, ACI 440 & Caltrans. The system has a Class A fire rating and is suitable for use inside buildings. FRP products have also undergone EPA water tests and can be used in contact with potable water. The FRP system is ICBO/ICC-ES approved (ER #5836) and all carbon fabrics are produced under ISO 9002 standards.

Applications:
- Seismic retrofitting
- Structural upgrades
- Structural repairs
- Design or construction errors
- Blast mitigation
- Modifications to structural elements
- Corrosion repairs
- Load increases
- Underwater repairs

FRP is effective on:
- Bridges
- Buildings
- Pipes
- Tanks & Silos
- Tunnels
- Chimneys
- Shear Walls
- Columns
Cities all across North America are using Pipe Bursting to maintain or improve their pipeline systems. Since the Pipe Bursting process was developed, over 7,500 miles of pipe - both mainlines and service laterals - have been replaced worldwide using this technology.

### Pipe Bursting Benefits:
- Uses existing subsurface lane
- Virtually eliminates damage to other underground facilities
- Customers are never out of service for more than a few hours
- Replace with the same size or larger pipe without open trenching
- Installation is capital investment, not maintenance cost
- Wide choice of replacement materials - Polyethylene, PVC, Glass Fiber, Metal pipe
- Manufactured to strict national standards - AGA, API, ASTM, and AWWA
- Wide variety of proven, standard fittings to reconnect new pipe to existing systems
- Faster, cleaner, quieter and safer job
- Minimizes traffic and public inconvenience and disruption
- Reduces service transfer and/or replacement costs
- Major savings on excavation and reinstatement
- Reduces property record and mapping changes

The ConSplit tool safely splits steel, ductile iron, and plastic pipelines in Gas, Water, Electric, Communications, and Industrial Applications.

**ConSplit Benefits:**
- Costs 50% less than excavation
- Virtually eliminates risk to other utilities
- Eliminates open trenches
- Splits steel barrel compression couplings
- Replaces 2-inch through 12-inch pipe
- Installation rate of 5 to 6 feet per minute
- Typical installation lengths of 400 feet to 600 feet
- Up-size or size-for-size replacements
- Developed and proven by Consolidated Edison Company of New York, Inc.

Rolldown and Subline, two of PIM Corporation’s pipeline renewal systems, are both environmentally friendly, tight-fit polyethylene options that allow existing pipeline systems to be quickly updated and placed back in service with minimal excavation or surface disruptions.

### Pipeline Renewal Features:
**Cold Process:** No heating equipment required - ambient temperatures acceptable
**Minimal Elongation:** Low winching forces minimize residual stresses after installation
**Start-Stop Capability:** The process may be stopped at any point during installation process and then safely started again.

**Rolldown Benefits:**
- Available for 4” through 20” pipe
- Wall thicknesses from 1/4” to 1 1/8” (SDR > 11)
- Installation lengths up to 3,000’ in single pulls are possible
- Can negotiate bends up to 11.25°
- Stops leaks and internal corrosion
- Tight fit, thin wall, and smooth bore maximizes flow capacity
- Uses standard PE pipe with known physical properties and design life
- Installation does not harm adjacent utilities
- Four proven steps to rehabilitate pressure pipes for gas, water, wastewater, and production lines.

**Subline Benefits:**
- Available for 3” through 60” pipe
- Wall thicknesses from 1/4” to 1” (SDR > 26)
- Installation lengths up to 3,000’ in single pulls are possible
- Can negotiate bends up to 45°
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Pipeline Renewal

MAXLINER
PIM Corporation offers a cured-in-place lining system, MaxLiner. This system provides proven, effective and reliable alternatives to restore lateral and vertical pipes with minimum disruption or cost. The MaxLiner System was specifically developed to provide an affordable, long-lasting, quick, easy reliable & trenchless system of lateral pipeline repair. This proven system has been successfully used in residential, industrial and commercial markets.

The MaxLiner System utilizes a felt liner specially developed for optimal performance. In conjunction with the felt liner, MaxLiner uses an epoxy resin and hardener to bond the newly installed liner to the pipe walls, forming a new pipe within the existing pipeline.

Benefits:
• Rehabilitates 2” to 10” gravity pipelines
• Restores at least 100% of original flow capacity
• Able to negotiate 90° bends & changes in diameter
• Bonds to pipe wall
• Cures with hot water, ambient temperature water or steam
• Minimal disturbance during installation
• Stops corrosion and erosion immediately
• Cannot be penetrated by tree roots
• NSF/ANSI 14 approved
• Cost effective & environmentally friendly

Uses:
• Water
• Wastewater
• Drainage lines
• Residential laterals
• Roof drainage pipes & collectors
• Commercial floor drainage systems

When dealing with larger, higher pressure pipelines, PIM Corp offers the new Primus Line™ pipeline renewal system.

Primus Line is a trenchless technology designed by Raedlinger for the rehabilitation of medium and high-pressure pipelines for media including water, gas and oil. The technology is based on a semi-structural, flexible, ultra-high strength hose, which can withstand pressures ranging from 145 psi up to 900 psi.

Primus Line Benefits:
• Designed for transmission pressure water, gas, and oil pipelines
• Pressures ranging from 145 - 900 psi
• Designed for 6” to 20” pipelines
• Three-layer liner:
  • Inner layer: media-specific, based on PE or TPU
  • Middle layer: Kevlar fabric
  • Outer layer: abrasion-resistant polyethylene sheath
• Installation length up to 6,500 feet
• Flexible and ultra-high strength liner
• Able to negotiate up to 30° bends
• Sustainability due to use of existing infrastructure
• 50-year design life

Primus Line has short rehabilitation times and rapid recommissioning and, therefore, represents not only an inexpensive alternative to open rehabilitation, but also a high-quality method of the renewal of pressure pipelines.
PIM Corporation utilizes shotcrete to provide an extended life cycle for the structure or pipeline system being rehabilitated. Shotcrete is a process in which concrete is conveyed through a hose and pneumatically projected at high velocity onto a surface. It can be sprayed onto any type of shape of surface, including vertical and overhead areas.

**Process Benefits:**
- Little or no form work is required
- Cost effective method for placing concrete
- Ideal for irregular surface applications
- Allows for easier material handling in areas with difficult access
- Restores structural integrity to concrete and masonry structures
- Provides permanent seal against corrosion, infiltration, and exfiltration
- Allows for easier material handling in areas with difficult access
- Restores structural integrity to concrete and masonry structures
- Provides permanent seal against corrosion, infiltration, and exfiltration
- May be applied by hand-held or remote-controlled spray equipment
- 10- to 50-year design life, dependent upon product and application
- Products are factory pre-blended to assure quality and performance

**Shotcrete PIMCAST**
- Utilizes a single component, high-strength cement-based, polypropylene fiber reinforced, shrinkage-compensated mortar enhanced with a mono crystalline quartz aggregate
- Also utilizes a factory blended, fiber reinforced, cementitious-like material enhanced with a mono-crystalline quartz aggregate. PIM also offers a newly developed environmentally-friendly geopolymer lining, comprised of recycled materials which greatly reduces the overall carbon footprint
- Concrete can be applied up to 3” in thickness per pass
- High resistance to acids
- Designed to rehabilitate pipelines from 30” to 120” in diameter

**PIMCAST** provides waterproofing, sealing, structural reinforcement and corrosion prevention for sanitary and storm sewer culverts. Centrifugally-cast concrete pipe (CCCP) successfully restores severely deteriorated large diameter concrete, brick or corrugated metal pipelines of all shapes, types and conditions, including elliptical and arched pipelines. This technology is designed to rehabilitate pipelines ranging from 30” to 120” in diameter. Prior to installation, pipelines are cleaned and televised to remove all debris, identify any defects and repair infiltrations and voids. During the application process, concrete is centrifugally cast evenly around the interior of the pipe; the application head is retracted using a hydraulic winch set at the properly calculated speed to ensure uniform thickness. The application process can be started and stopped as needed without joints or gaps. Upon completion of the application, CCCP creates a seamless, high strength, fully structural pipe without digging or significantly reducing capacity.

**Benefits:**
- Environmentally friendly
- Cost effective
- Minimal disturbance to roadways and general public
- Cures in place within hours for quick return to service
- Long projected life span
- Restores structural integrity of pipelines
- High early and ultimate compressive, flexural and bond strengths
Chemical Grouting

Chemical grouts began solving construction problems with flexible resins more than 25 years ago. Grouts offer the variety of choices professionals need, to ensure they have the right product for their project. Polyurethanes, acrylics, and acrylates grouts are commonly used to stop running water through cracks and joints in concrete and masonry structures, as well as to seal voids.

Uses:
- Waterproofing
- Concrete crack injection
- Pavement & slab lifting
- Soil stabilization
- Rock stabilization
- Tunneling applications
- Pipeline applications

Advantages:
- 100% solids, no solvents
- Cuts off gushing water of high pressure and speed
- Tough foam with high flexibility
- Low viscosity – superior penetration in hairline cracks
- Suitable for filling large spaces, cracks & honeycombing in concrete structures
- NSF 61 potable water approved
- Environmentally friendly

Water has always been the most persistent adversary of engineers and contractors. Structures move due to settling, thermal changes, and aging. These forces cause cracks and other voids allowing unwanted groundwater to enter.

Wet/Mechanical Cleaning

Clogged sewer & storm mains can quickly turn into an annoyance or problem. Our high-power jetting services, combined with high-suction vacuum equipment, ensure fast cleaning & removal of all debris and waste. High-pressure water (up to 3,000 PSI at 80 GPM) cleans the pipe walls & back flushes all debris, breaking through obstructions and blockages. Cleaning is available for pipe sizes ranging from 2” - 72” for both sewer and storm mains, including catch basin and manhole cleaning. In addition to our wet cleaning, PIM also provides mechanical pipeline cleaning services for water and gas mains. With the use of winches, steel scrapers, wire brushes, abrasive spin blast cleaning and squeegees, we are able to prepare pipelines for inspection or lining where wet cleaning cannot be utilized.

Digital CCTV Inspection

In addition to our jet cleaning and vacuuming services, PIM provides high-quality digital CCTV inspection services, available for pipe sizes ranging from 2” - 60”. Using specialized CCTV equipment and reporting methods, we provide unmatched quality, versatility and reliability in our inspection services. Defects, such as separated or offset joints, infiltrations and blockages, are quickly and precisely located and assessed without the need for expensive excavation. Our on-board data management system provides high-quality video stills, accurate distance and footage counter, pipe overview maps, full inspection summaries, and audio narrative capabilities.
Partial List of PIM Clients

Atlantic County Utilities Authority · Baltimore Gas & Electric Company · Bristol-Myers Squibb

Brookhaven National Laboratories · Canadian Pacific Railway · City of Baltimore, MD

Connecticut Department of Transportation (CTDOT) · Consolidated Edison Company of New York, Inc · Delaware River Joint Toll Bridge Commission · District of Columbia Water and Sewer Authority

Hoffmann-La Roche · Johnson & Johnson · KeySpan · Massachusetts Port Authority · National Grid

New Jersey Department of Transportation (NJDOT) · New Jersey Turnpike Authority (NJTA)

New Jersey Transit · New York City Department of Design and Construction (NYC DDC)

New York City Department of Environmental Protection (NYC DEP)

New York Presbyterian Hospital · New York City Department of Transportation (NYC DOT)

New York City Metropolitan Transit Authority (NYC MTA) · New York State Department of Transportation (NYSDOT) · Ocean County Utilities Authority · Passaic Valley Sewerage Commissioners · Public Service Enterprise Group (PSEG) · Stamford Water Pollution Control Authority · The Coca-Cola Company · The Port Authority of New York and New Jersey (PANYNJ)

· Trigen Energy Corporation · United States Air Force · United States Army · United States Department of Justice · Washington Suburban Sanitary Commission (WSSC)

Westchester County Department of Public Works

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