

# Geopolymer Mortar



## A spray-on alternative to CIPP

Michels installs GeoSpray®, a fiber-reinforced geopolymer mortar lining system, to restore structural integrity, performance and the design life of large-diameter sewer mains, water mains, culverts and manholes.

**Applications:** This versatile alternative to cured-in-place pipe (CIPP) lining systems is an effective way to trenchlessly rehabilitate storm and sanitary pipes, manholes and other infrastructure of all shapes, bends, curves and angles. Our precisely engineered application equipment is suitable for pipes ranging in diameter from 30 inches to more than 100 inches.

Geopolymer mortar can be used on many kinds of host pipes, including:

- Brick
- Concrete
- Cast iron
- Corrugated metal
- Round
- Non-round

**Installation method:** Geopolymer mortar is mixed with water on the surface and pumped into the pipe for distances up to 1,000 feet or brought in by mechanical means for distances beyond 1,000 feet. Once the mortar reaches the pipe, it is centrifugally cast. For isolated structural defects in larger diameter pipelines or smaller structures, a hand spray application can be performed. For both applications the material is applied to a design thickness, creating a fully structural pipe.

## Advantages:

- Cost effective
- Less equipment
- Smaller footprint
- Large diameter
- Minimal public disruption
- Styrene-free
- Structural liner

## Related Services:

- Bypass system – Installation of pipes and pumps to divert flow around work area
- Cleaning – Pressure washing to prepare pipes for inspection and application
- CCTV – Recorded video inspection to document pre- and post-work conditions
- Chemical grout – Treatment to fill voids and reduce major infiltration at joints and defects prior to geopolymer application

# Project Experience



Sanitary Sewer No. 500  
Location: Lucas County, OH  
Year: 2018

- 1,800 feet of 90-inch concrete sewer
- 2-inch thick corrosion-resistant liner
- Installed in two lifts
- 13,500 – 18,000 per minute bypass system



16th Avenue Sanitary Sewer Pilot Study  
Location: Markham, ON (Canada)  
Year: 2017

- 100 feet of 106-inch concrete sewer
- 4-inch thick corrosion-resistant liner
- Installed in four lifts
- 130 feet below surface
- Resulted in project extension



Location: Bloomington, IL  
Year: 2017

- 2,800 feet of 54-inch concrete sewer, manholes
- 1-inch thick corrosion-resistant liner
- Ambient temperatures: 5 to 15 degrees F
- Completed in 3 weeks