

Utility Manhole Rehabilitation



Before



After

Skip Replacements: Rebuild, Protect & Prolong

A large percentage of utility manholes have been in service for more than 50 years. They are exposed to overhead traffic, freeze/frost cycles, road salts and H₂S attack. As concrete breaks down, it cracks and crumbles, allowing for infiltration into the wastewater system. When mortar weakens, bricks and blocks become loose and fall out, leaving the structure weak. Michels' experienced crews can rebuild, protect and prolong the life of structures, saving the inconvenience and expense of complete replacement.

Cement Mortar Linings

- Micro-Silicate Mortars (MSM) are Portland-based concretes infused with micro-fiberglass rods to provide a compressive strength of 10,000 psi.
- Calcium Aluminate Mortars (CAM) are infused with aluminum dust to provide additional protection against H₂S. CAMs are preferred in sanitary systems and can provide compressive strengths up to 10,000 psi.

100% Solid Epoxy Linings are designed for broad range chemical resistance with the ability to bond to concretes, steel fiberglass and other surfaces. They offer superior protection in high H₂S atmospheres and withstand temperature ranges of 150 to 200 degrees.

Geopolymer Mortar Linings differ from other mortars as polymerization occurs at the molecular level to create a cross-linked chain matrix throughout the lining structure. This process gives geopolymer (a manufactured rock), a compressive strength of 8,000 psi and flexural strength of 1,500 psi/10.3 MPa. It provides a higher protection against H₂S and sulfuric acid.

Effective & Efficient Solutions:

- **Certified installers alleviate Inflow and Infiltration, repair H₂S corrosion, and restore structural integrity**
- **Complete work performed quickly to minimize disruption to motor and pedestrian traffic**

Additional Utility Manhole Rehabilitation Capabilities:

- **Spray-applied chimney seals**
- **Manhole grouting**
- **Bench and invert replacement**
- **Pipe invert sealing**
- **Step removal/replacement**
- **Frame and cover raising/replacement**
- **Anti-microbial protection**

Related Services:

- **Infiltration and inflow (I/I) control**
- **Bypass pumping**
- **Geopolymer mortar**
- **Geospatial system inspections**