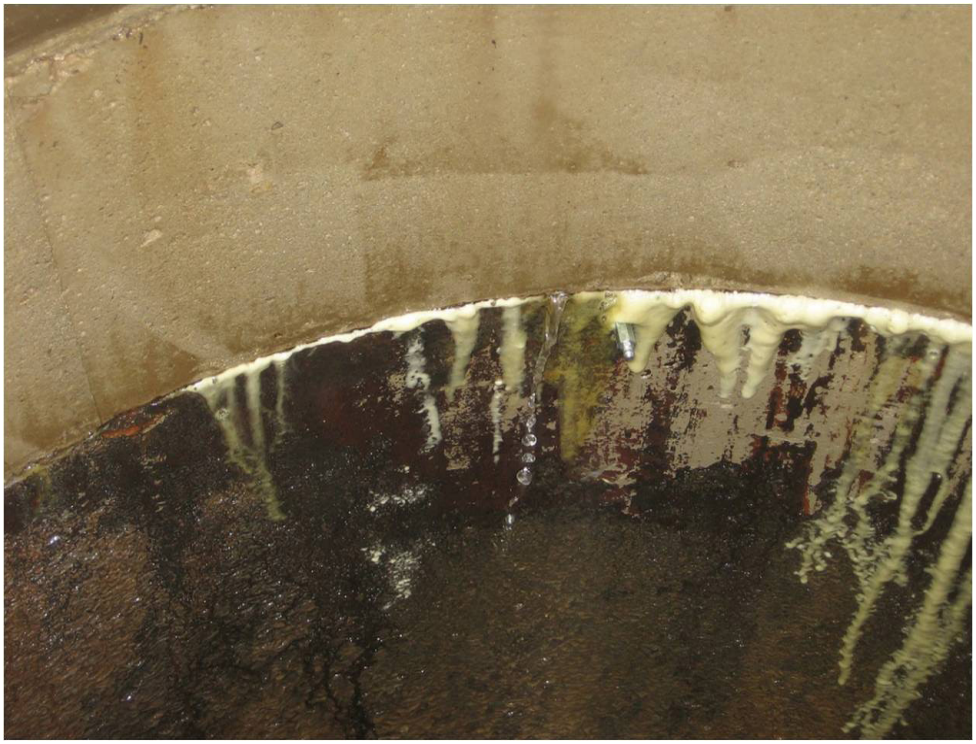
Advanced
Leak Seal
Solutions

LEAK SEAL **PROCEDURES**

Manhole Infiltration **Control**

Powerful Polumers
Painless Procedures
Rapid Results



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Manhole Infiltration **Control**

Problem

Infiltration can come through open joints, cracks and around pipe penetrations in manholes. If left untreated, ground water will increase treatment plant operating costs and create exterior voids around the manhole. Eventually this can lead to sink holes, roadway collapse and even catastrophic system failure.

Solution

Chemical grouts are a permanent repair to manholes and if installed correctly, can often out last the life of the structure. These can be injected to seal the precast rings in manholes or used in combination with dry oakum to seal leaks around the pipe penetrations. Spetec chemical grouts can be injected through a precast or brick manhole into the surrounding soils, to seal leaks, fill voids as a stand-alone repair or used as preparation for manhole coating processes.

Recommended Materials

Spetec H100 - Hydrophobic chemical grout
Spetec GT350 – Hydrophilic chemical grout
AP 475 – 2 component rapid curing and expanding foam

Application Processes

Pipe Penetration Repairs:

1. Follow all OSHA confined space procedures prior to entering the manhole. Use appropriate Personal Protection Equipment (PPE).
2. Mix chemical grout in a clean pail as per manufacturer's recommendations.
3. Using unoiled dry oakum cut to desired lengths, place the oakum in the mixed grout pail, allowing it to soak up the chemical grout.
4. Submerge grout soaked oakum in water, then squeeze out all excess material.
5. Quickly place the grout soaked oakum in the annular space around the pipe penetration. In tight spaces a screwdriver and hammer may be used to place the oakum into place.
6. Repeat as often as required to completely seal around all pipe penetrations. Utilize this same process in areas where high flow leaks or wide gaps are causing infiltration prior to grouting to minimize material waste.
7. Back grouting may be performed by injecting behind the oakum using a grout needle and mixed grout or cartridge system to insure maximum sealing.

Manhole Infiltration **Control**

Addressing Precast Joints:

1. Follow all OSHA confined space procedures prior to entering the manhole. Use appropriate Personal Protection Equpment (PPE).
2. Control all high flow leaks using unoiled oakum and chemical grout as described in the Pipe Penetration repair section.
3. Drill holes at points equally spaced (12, 3, 6 & 9) at each joint section to be sealed.
4. Holes should be drilled to intersect the precast joint just above the tongue and groove joint interface.
5. Install injection port or wall spear into drilled holes at each location.
6. Mix Alchatek chemical grout per manufacturer's instructions.
7. Inject chemical grout through the first injection port until maximum travel around structure has stopped.
8. Once grout has reached maximum travel, install injection port into next open drilled hole and repeat process. Continue until a continuous seal is created around the precast joint/ring. (Note: additional holes may be needed to perform a continuous grout sealed joint).
9. Once chemical grout is completely cured, remove the ports and plug the holes using a hydraulic cement or manhole coating material.

Brick Manhole Repairs:

1. Follow all OSHA confined space procedures prior to entering the manhole. Use appropriate Personal Protection Equpment (PPE).
2. Control all high flow leaks using unoiled oakum and chemical grout as described in the Pipe Penetration repair section.
3. Drill holes at points equally spaced (12, 3, 6 & 9) as close to but above the bench of the manhole. Come up an additional 12 to 24 inches above the bench and drill a second row of four holes at points equally spaced but staggered in between the lower holes.Repeat this step, continuing the process until top of structure is reached.
4. Install injection port or wall spear into drilled hole starting at lowest row first.
5. Mix chemical grout as per manufacturer's instructions.
6. Injection should be started at the lowest point moving around the manhole. When grout is observed at the next hole, a new injection port or wall spear should be installed.
7. Once a row of injection ports has been completed and leaks have been sealed, continue up to next highest row and repeat process.

8. Injection should be performed while monitoring the travel of the chemical grout to insure a complete grout seal has been created and all infiltration has been stopped. Care should be taken so any excess chemical grout does not flow into mainline causing blockage.
9. Once chemical grout iscompletely cured, remove injection ports, plug holes with a hydraulic cement or manhole coating material.

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