

Underground Construction Technology | January 28-30, 2020 | Fort Worth, TX

MH CIPP Liner/ CIPP Liner Coating Defects

Rick Gage

Sales Director, Municipal Channel

Waterline Renewal Technologies





Underground Construction Technology | January 28-30, 2020 | Fort Worth, TX

Types of Defects

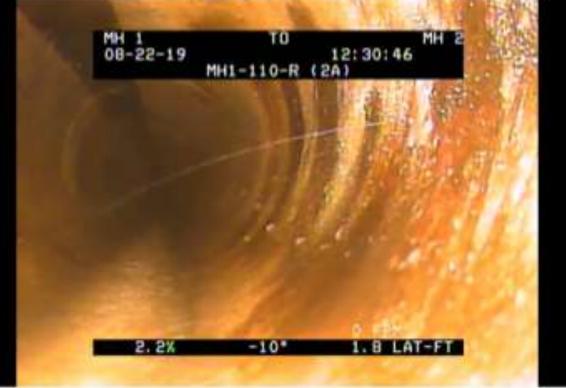
- Pinhole Leaks
- Staining
- Delamination



Underground Construction Technology | January 28-30, 2020 | Fort Worth, TX

Pinhole Leaks

Pinholes formed in the manufacturing process when the coating is applied

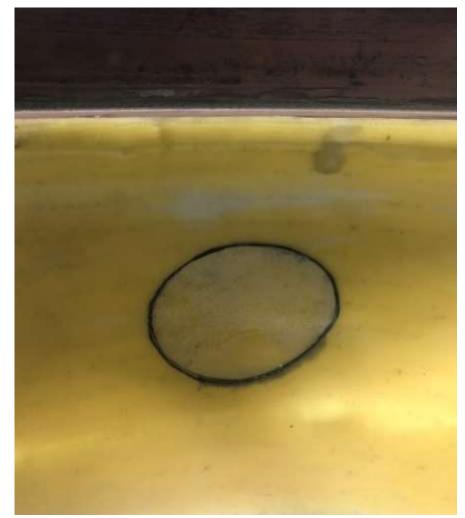




Underground Construction Technology | January 28-30, 2020 | Fort Worth, TX

Pinhole Leakage Repair

- Stop the leak
 - mastic or grout
- Prep area
- Apply oversized patch





Underground Construction Technology | January 28-30, 2020 | Fort Worth, TX

Staining

• Appearance that liner is leaking







Underground Construction Technology | January 28-30, 2020 | Fort Worth, TX

Staining Repair

- Visual Inspection
 - May not require action
- If leaking, again stop leak and patch over.

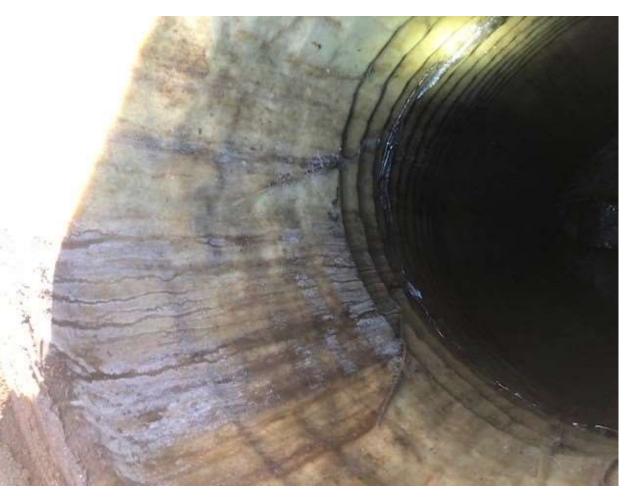




Underground Construction Technology | January 28-30, 2020 | Fort Worth, TX

Staining Repair

- Visual Inspection
 - May not require action
- If leaking, again stop leak and patch over.





Underground Construction Technology | January 28-30, 2020 | Fort Worth, TX

Staining Repair

- Visual Inspection
 - May not require action
- If leaking, again stop leak and patch over.

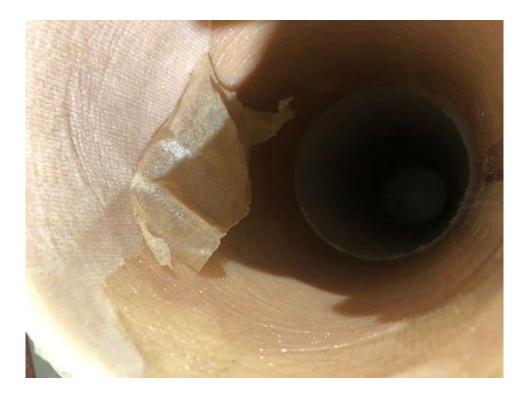




Underground Construction Technology | January 28-30, 2020 | Fort Worth, TX

Delamination

• Coating of liner is peeling away from liner





Underground Construction Technology | January 28-30, 2020 | Fort Worth, TX

Delamination Repair

- Remove all coating that is failing
 - If it doesn't leak
 - Option 1 leave as is
 - Option 2 install oversized patch





Underground Construction Technology | January 28-30, 2020 | Fort Worth, TX

Coating Defects Corrective Action Image Pinhole Leaks – Coatings on liners Stop the leak with a mastic or can be somewhat porous creating tiny pinholes in a particular area. oversized patch. Staining- Appearance that the Inspection should be done by liner is leaking by the surrounding containments in the ground. the liners being somewhat **Delamination** – Coating on CIPP liner starts to peel away from the coating may be sufficient if



liner. This can be related to overheating of the liner during steam cure applications or high exotherm from the resin.



grout. Clean around the area that is leaking and depending on the coating PVC or TPU, adhere an

man-entry to ensure the leakage is not occurring. Most times due to translucent the liner can take the appearance of what is behind it.

Depends upon the extent of the adhesion failure. Removal of the inspection afterwards shows no leakage. Adhering a patch to the defective area might be required if necessary.



Underground Construction Technology | January 28-30, 2020 | Fort Worth, TX

QUESTIONS ?????????



Rick Gage Sales Director, Municipal Channel Waterline Renewal Technologies