

# Structural Concrete Liner Defects

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## Types of Defects

1. Cracking Before Hardening
2. Cracking After Hardening
3. Fractures and Delamination
4. Washouts
5. Thickness
6. Leaks
7. Finish

## Cracking from Plastic Shrinkage



# Plastic Shrinkage Crack Repair





## Cracking from Movement



# Cracking from Thermal Movement





## Movement Crack Repair



## Movement Crack Repair





# Hydration Cracks





# Hydration Crack Causes



# Hydration Crack Repair





# Fractures & Delamination



# Remove Material



# Reapply New Material





# Liner Washouts



## Leaks



# Autogenous Healing





# Chemical Grout



## Inadequate Thickness





# Application Over Foreign Objects





# Finish Issues



# Remove Loose Material and Reapply





# Questions?

