

Proactive Integrity Management for PCCP

Magnetic Flux Leakage Inspection



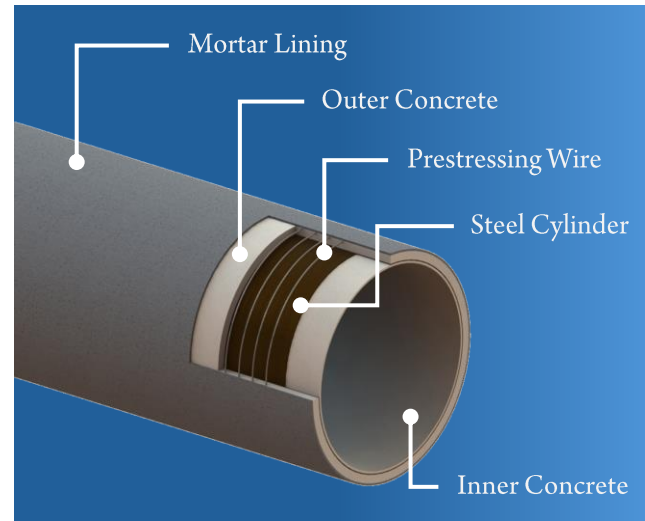
PCCP Assessment

Prestressed Concrete Cylinder Pipe (PCCP) failures are typically caused by breaks in the prestressing wires due to corrosion. Historically, acoustic monitoring and inspection has been used to “hear” wire breaks or detect through wall leaks. Cypress In-Line Inspection has recently validated its large diameter magnetic flux leakage (MFL) inspection tool for integrity assessment of the steel cylinder in PCCP.

Indications in the Steel Cylinder

Cypress In-Line Inspection’s unique application of MFL inspection to large diameter lined pipe enables an assessment of the condition of the internal steel cylinder. Field validation shows that the presence of volumetric metal loss anomalies associated with corrosion can be detected, sized, and located in PCCP pipelines. Corrosion problems in the steel cylinder can be an indication that the mortar lining or concrete layers have been compromised, and that corrosion of the prestressed wire in that region may be occurring. MFL inspection in a proactive tool in the prevention of catastrophic PCCP failure.

MFL inspections can also identify holes in the steel cylinder that would permit leaks. This approach to leak detection assesses the structure of the pipe rather than listening for leaks.



Tool capabilities

- High resolution sensor spacing (1/4”) and high-- speed sampling frequency (1400 Hz)
- Size configurations ranging from 48” to 144”
- Inspection through internal linings over 1” thick with greater capability in custom magnetizer configurations
- Tool can be installed through access points as small as 16” diameter

