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Post-Tensioning Evaluation and Rehabilitation
Innovative Evaluation of Paper-Wrapped Post-Tensioning

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Presentation Goals:

• Understand the components of paper-wrapped tendons
• Present Evaluation techniques
• Evaluation case study
Fig. 3.2—Evolution of corrosion protection for unbonded single strand tendons for buildings (reprinted from Reference 2).
Paper-wrapped Button-headed system
Test Pit and Visual Inspection
Half-Cell Corrosion Potential
Paper Wrapped Tendon

Paper Sheath is conductive like concrete
Continuous with Rebars
Galvanic protection is applicable along tendon
Tension Test
Case Study
#3 and #4 pits, good rebar and tendons
Air Test

Air communications present on good paper-wrapped tendons, but not the corroded ones
Conductivity

Conductivity is present on all the Tendons when tested with XP4 anodes the current ranges from 30 to 240 micro amperes
Polarization

Instant potential shift ranges from 30 to 700mV when tested with XP4 anodes.
Summary

- Visual inspection
- Test pit
- Corrosion potential
- Continuity
- Conductivity
- Polarization
- Tension tests
Thank You!

Questions ?