INSTALLATION DO’S & DON’TS

Jerry Regula
Product Engineer
• Safety – always insure proper ditch concerns are addressed.
• Clean bell ID & spigot OD
  – TR Flex – ensure spigot is clean on both sides of weld.
• Sling – never sling over polywrap.
• Tyton – One loop for small diameter install
  Two loops for large diameter
  – Large diameter – tap gasket with hammer to relieve pressure.
  – Bell holes.
• Lube – Tyton after gasket is installed!
  MJ – LUBE THOSE GASKETS!
• Have you ever changed your oil??
• STRAIGHT IS GREAT!!
• All pipe must be installed straight / then deflect.
  – Common errors:
  – Incline must be achieved by level installation / then raising the pipe to proper height / depth.
• MJ
  – Lube MJ gaskets – reduce friction.
  – Tighten T-head bolts prior to locking down restraint gland.
  – Star pattern for tightening bolts.
  – Torque wrench
• Testing
  – ALL air removed from the line.
  – Pump and gage at the lowest point.
  – Air release at the highest point.
  – Air can be used for a pressure test – 2psi.
  – Temperature effects testing.

• Make up water vs pressure loss
  – Loosing 10psi during each test??
    • Trapped air
    • Pipe expansion / contraction
    • Absorption by cement lining

• Zero psi loss requirement
MCWANE DUCTILE DOUBLE BUMP TEST

- McWane Ductile Double Bump Test
  - 150 psi for 30 minutes
    - Measure amount of make up water
    - Record change in pressure
  - 200 psi for 30 minutes
    - Measure amount of make up water
    - Record change in pressure
- If amount of make up water increases in respect to increase in pressure – leak.
TESTING ALLOWANCE – MAKEUP WATER

\[ L = SD \sqrt{P} \]

148,000

- \( L \) = testing allowance
- \( S \) = length of pipe in feet
- \( D \) = nominal diameter
- \( P \) = average test pressure
- ANSI / AWWA C600
- Table 4.A Hydrostatic testing allowance per 1,000 ft of pipeline*-gph

---OR---

- Pe.mcwane.com
- Calculators / Hydrostatic test
• Section 4.4 Disinfection
• Flushing within 24 hours following chlorination.
  – Flushing 1000’ of 12” water line through a 2” pipe nipple does not get the job done.
• PH samples
  – On site testing
  – Treatment of samples
MJ VS RESTRAINT JOINTS

- MJ connections are typically less expensive – initially.
- TR Flex
  - No bolts.
  - Better gasket compression. – Tyton gasket.
  - Recommended for bridge crossings.
  - HDD – Horizontal Directional Drilling.
- Sure Stop gaskets and TR flex gripper rings are NOT recommended for bridge crossing use.
- There is metal to metal contact in the restraint of a TR Flex joint. Is this sufficient for a Cathodic Protection System?
RESTRAINT GASKETS

• Installation – pipe must be straight / then deflect.
• Pull back.
• Does it take the same amount of force to “home” pipe using Tyton or Sure Stop gaskets?
Method A

- In this method, which is preferred by most utilities and contractors, one length of polyethylene tube, overlapped at the joints,
- is used for each length of pipe.
• **Method B**

  • A length of polyethylene tube is used for the barrel of the pipe
  • and separate lengths of polyethylene tube or sheets are used for the joints.
  • Note: Method B is not recommended for bolted-type joints unless an additional layer of polyethylene is provided over
  • the joint area as in Methods A and C.
POLYWRAP INSTALLATION
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Mount the tapping machine on the pipe area covered by the poly ethylene tape. Then make the tap and install the corporation stop directly through the tape and polyethylene.
• McWane Ductile provides free Technical Services
  – Project / design review.
  – Job start ups.
  – On-site training.
  – Problem solving

• Pocket Engineer
  – Pe.mcwane.com

• Jerry Regula
  – Product Engineer
  – Jerry.Regula@mcwaneductile.com
  – 740-294-7899