

REFERENCES

- (1) Roberson, J.A., J.J. Cassidy, and M. Hanif Chaudhry (1997). *Hydraulic Engineering*. 2nd Edition, John Wiley and Sons, Inc. New York, NY.
- (2) Iseley, T. and S.B. Gokhale (1997). Trenchless Installation of Conduits Beneath Roadways. National Cooperative Highway Research program (NCHRP) – Synthesis of Highway Practice 242, Transportation Research Board, National Research Council. National Academy Press, Washington DC.
- (3) ASTM (1999). *Compilation of Standards Related to Trenchless Technology*. Baltimore MD.
- (4) Public Works Standards, Inc. (2003). *Standard Specifications for Public Works Construction*. Building News, Inc.
- (5) Iseley, T. and M. Najafi (1995). *Trenchless Pipeline Rehabilitation*. Prepared for the National Utility Contractors Association.
- (6) International Organization for Standardization (1992). *Techniques for Rehabilitation of Pipeline Systems by the Use of Plastics Pipes and Fitting*. Technical Report 11295 (ISO/TR 11295), Geneva, Switzerland.
- (7) AWWA C205 – Cement-Mortar Protective Lining and Coating for Steel Water Pipe – 4 in. (100 mm) and Larger – Shop Applied.
- (8) AWWA M28 – Rehabilitation of Water Mains. 2nd Edition, Manual of Water Supply Practices M-28, Denver, CO (2001).
- (9) United States Forest Service (2003). *Summary of Trenchless Technology for Use with Forest Service Culverts*. Draft.
- (10) *Oregon Roads Newsletter* (2001). Marion County Culvert Lining. Case study presented in the Fall 2001 newsletter.
- (11) *Technology News* (1997). Plastic Culvert Liners the “In” Thing. October-November.
- (12) Illinois Department of Transportation (1994). *Illinois Municipal Review*. June.
- (13) Wisconsin Department of Transportation (1997). *Crossroads*. Fall 1997 edition.
- (14) National Association of Sewer Service Companies (1999). *Wastewater Collection Systems Maintenance and Rehabilitation. Specification Guidelines 10th Edition*, Chambersburg, PA, available from <http://www.nassco.org/publications.html>, Downloaded May 31, 2002.
- (15) ASTM F 585 – Standard Practice for Insertion of Flexible Polyethylene Pipe Into Existing Sewers (2000).
- (16) ASTM C 109 – Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (2002).

-
- (17) ASTM C 138 – Standard Test Method for Unit Weight, Yield, and Air Content (Gravimetric) of Concrete (2001).
 - (18) ASTM C 144 – Standard Specification for Aggregate for Masonry Mortar (2003).
 - (19) ASTM C 150 – Standard Specification for Portland Cement (2002).
 - (20) ASTM C 403 – Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance (1999).
 - (21) ASTM C 495 – Standard Test Method for Compressive Strength of Lightweight Insulating Concrete (1999).
 - (22) ASTM C 618 – Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete (2003).
 - (23) ASTM Standards on CD ROM (2002). Volume 08.04 – Plastic Pipe and Building Products.
 - (24) ASTM D 3212 – Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals (1996).
 - (25) ASTM D 543 – Test Method for Resistance of Plastics to Chemical Reagents.
 - (26) ASTM D 790 – Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 - (27) ASTM D 1600 – Terminology for Abbreviated Terms Relating to Plastics.
 - (28) ASTM D 2122 – Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings.
 - (29) ASTM D 2657 – Practice for Heat-Joining of Polyolefin Pipe and Fittings (1997).
 - (30) ASTM D 3350 – Specification for Polyethylene Plastics Pipe and Fittings Materials.
 - (31) ASTM F 412 – Terminology Relating to Plastic Piping Systems.
 - (32) ASTM F 477 – Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
 - (33) ASTM F 714 – Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter.
 - (34) ASTM F 894 – Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe.
 - (35) ASTM F 913 – Specification for Thermoplastic Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
 - (36) Plastics Pipe Institute (1995). Guidance and Recommendations on the Use of Polyethylene (PE) Pipe for the Sliplining of Sewers. Guideline Document – Guide 1/95, The Society of the Plastics Industry, Inc., Washington DC.
 - (37) American Association of State Highway and Transportation Officials (1999). Culvert Inspection and Rehabilitation. Highway Drainage Guidelines, Volume XIV, Washington DC.
 - (38) ASTM D 2412 – Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.

-
- (39) ASTM D 3035 – Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter.
- (40) ASTM F 905 – Practice for Qualification of Polyethylene Saddle Fusion Joints.
- (41) ASTM F 1056 – Specification for Socket Fusion Tools for Use in Socket Fusion Joining Polyethylene Pipe or Tubing and Fittings.
- (42) ASTM F 1417 – Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air.
- (43) Advantica Technologies, Inc. (2002). SwageliningTM – The Best PE Lining System in the World for Oilfields and Industrials Pipelines. <http://www.swagelining.com/index.html>, Downloaded July 7, 2002.
- (44) Gray, W.W.S. (1996). Trenchless Technology for Sewer Rehabilitation. *Civil Engineering News*, 8(2):24.
- (45) Ultraliner (2002). Ultraliner PVC Alloy Pipeliner Specification and Installation Process. <http://www.ultraliner.com/>, Downloaded June 17, 2002.
- (46) ASTM F 1606 – Standard Practice for Rehabilitation of Existing Sewers and Conduits with Deformed Polyethylene (PE) Liner (1995).
- (47) ASTM F 1533 – Standard Specification for Deformed Polyethylene (PE) Liner (2001).
- (48) ASTM D 618 – Practice for Conditioning Plastics and Electrical Insulating Materials for Testing.
- (49) ASTM D 638 – Test Method for Tensile Properties of Plastics.
- (50) ASTM D 1693 – Test Method for Environmental Stress-Cracking of Ethlene Plastics.
- (51) ASTM D 2837 – Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe and Fittings.
- (52) ASTM F 1248 – Test Method for Determination of Environmental Stress Crack Resistance (ESCR) of Polyethylene Pipe.
- (53) ASTM F 1871 – Standard Specification for Folder/Formed Poly(Vinyl Chloride) Pipe Type A for Existing Sewer and Conduit Rehabilitation (1998).
- (54) Hodnik, J.J. and J.W. Heavens (2002). Structural Renovation of a Water Main by Lining with Polyester Reinforced Polyethylene Pipe. Insituform Technologies.
- (55) Kupskay, J. P. (2001). B&B Relines Deep Culverts in Coquitlam Improvement Project. Paragon Engineering Ltd.
- (56) ASTM F 1867 – Standard Practice for Installation of Folded/Formed Poly(Vinyl Chloride) (PVC) Pipe Type A for Existing Sewer and Conduit Rehabilitation (1998).
- (57) ASTM F 1947 – Standard Practice for Installation of Folded Poly(Vinyl Chloride) (PVC) Pipe into Existing Sewers and Conduits (1998).
- (58) ASTM F 1504 – Standard Specification for Folded Poly(Vinyl Chloride) (PVC) Pipe for Existing Sewer and Conduit Rehabilitation (1997).
- (59) ASTM D 648 – Test Method for Deflection Temperature of Plastics Under Flexural Load.
-

-
- (60) ASTM D 1784 – Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
 - (61) ASTM D 2152 – Test Method for Degree of Fusion of Extruded Poly(Vinyl Chloride) (PVC) Pipe and Molded Fittings by Acetone Immersion.
 - (62) ASTM D 2444 – Test Method for Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight).
 - (63) ASTM F 1057 – Practice for Estimating the Quality of Extruded Poly(Vinyl Chloride) (PVC) Pipe by Heat Reversion Technique.
 - (64) ASTM F 1741 – Standard Specification for Installation of Machine Spiral Wound Poly(Vinyl Chloride) (PVC) Liner Pipe for Rehabilitation of Existing Sewers and Conduits (2001).
 - (65) ASTM F 1698 – Standard Practice for Installation of Poly(Vinyl Chloride) (PVC) Profile Strip Liner and Cementitious Grout for Rehabilitation of Existing Man-Entry Sewers and Conduits (1996).
 - (66) ASTM F 1697 – Standard Specification for Poly(Vinyl Chloride) (PVC) Profile Strip for Machine Spiral-Wound Liner Pipe Rehabilitation of Existing Sewers and Conduit (1996).
 - (67) ASTM F 1735 – Standard Specification for Poly(Vinyl Chloride) (PVC) Profile Strip for PVC Liners for Rehabilitation of Existing Man-Entry Sewers and Conduits (2001).
 - (68) ASTM C 39 – Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - (69) ASTM C 969 – Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines.
 - (70) ASTM D 883 – Terminology Relating to Plastics.
 - (71) ASTM D 2240 – Test Method for Rubber Property—Durometer Hardness.
 - (72) ASTM F 1216 – Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube (1998).
 - (73) ASTM D 5813 – Standard Specification for Cured-In-Place Thermosetting Resin Sewer Pipe (1995).
 - (74) ASTM D 695 – Test Method for Compressive Properties of Rigid Plastics (2001).
 - (75) ASTM D 903 – Test Method for Peel or Stripping Strength of Adhesive Bonds.
 - (76) ASTM D 1682 – Test Methods for Breaking Load and Elongation of Textile Fabric.
 - (77) ASTM D 3039 – Test Method for Tensile Properties of Fiber-Resin Composites.
 - (78) ASTM D 3567 – Practice for Determining Dimensions of “Fiberglass” (Class-Fiber-Thermosetting Resin) Pipe and Fittings.
 - (79) ASTM D 3681 – Test Method for Chemical Resistance of “Fiberglass” (Glass-Fiber-Reinforced Thermosetting Resin) Pipe in a Deflected Condition.
 - (80) ASTM D 3839 – Practice for Underground Installation of “Fiberglass” (Glass-Fiber-Reinforced Thermosetting Resin) Pipe.
 - (81) ASTM D 4814 – Specification for Automotive Spark—Ignition Engine Fuel.

-
- (82) ASTM F 1743 – Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (1996).
 - (83) American Water Works Association (2000). Standard for Cement-Mortar Lining of Water Pipelines in Place – 4 in. (100 mm) and Larger. Denver, CO.
 - (84) Mac Ewen, P.K. and R.W. Naef (1988). Water Main Cleaning and Lining – A Utility Perspective. Conference Proceedings.
 - (85) AWWA C602 – Standard for Cement-Mortar Lining of water Pipelines in Place-4 in (100 mm) and Larger (2000).
 - (86) ASTM A 615 – Standard Specification for Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
 - (87) ASTM C 94 – Standard Specification for Ready-Mixed Concrete.
 - (88) ASTM C 260 – Air Entraining Admixtures for Concrete.
 - (89) ASTM C 494 – Standard Specification for Chemical Admixture for Concrete.
 - (90) ASTM C 796 – Standard Test Method for Foaming Agents for Use in Producing Cellular Concrete Using Preformed Foam.
 - (91) ASTM C 869 – Standard Specification for Foaming Agents Used in Making Preformed Foam for Cellular Concrete.
 - (92) ASTM D 256 – Test Method for Determining the Pendulum Impact Resistance of Notched Specimens of Plastics.
 - (93) ASTM D 1248 – Specification for Polyethylene Plastic Molding and Extrusion Material.
 - (94) ASTM D 2321 – Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
 - (95) ASTM D 2417 – Specification for Perforated, Laminated Wall Bituminized Fiber Pipe for General Drainage.
 - (96) ASTM D 2584 – Standard Test Method for Ignition Loss of Cured Reinforced Resins.
 - (97) ASTM D 5260 – Standard Classification for Chemical Resistance of Poly(Vinyl Chloride) (PVC) Homopolymer and Copolymer Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
 - (98) ASTM F 949 – Standard Specification for Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings.
 - (99) ASTM F 1803 – Standard Specification for Poly (Vinyl Chloride) (PVC) Closed Profile Gravity Pipe and Fittings Based on Controlled Inside Diameter.
 - (100) Brans, J.P., and P. Vincke (1985). A preference ranking organization method: The PROMETHEE method for MCDM. *Management Science*, 31(6):647-656.
 - (101) ASTM Standards on CD ROM (2001). Volume 08.01 – Plastics (I): D256-D2343.
 - (102) ASTM Standards on CD ROM (2001). Volume 08.02 – Plastics (II): D2383-D4322.
 - (103) ASTM Standards on CD ROM (2001). Volume 08.03 – Plastics (III): D4329-latest.

-
- (104) California Department of Transportation (1995). Culvert Rehabilitation Using Plastic Pipe Liners. Design Information Bulletin 76 (DIB-76), <http://www.dot.ca.gov/hq/oppd/dib/db76.htm>, Downloaded August 22, 2001.
- (105) New York Department of Transportation (2001). New Standard Specification Section 602 Rehabilitation of Culvert and Storm Drain Pipe. Engineering Instruction 01-028 (EI 01-028), <http://www.dot.state.ny.us/cmb/consult/eib/files/ei01028.pdf>, Downloaded May 22, 2002.
- (106) New York Department of Transportation (2001). Design Guidelines for Rehabilitation of Culvert and Storm Drain Pipe. Engineering Instruction 01-029 (EI 01-029), <http://www.dot.state.ny.us/cmb/consult/eib/files/ei01029.pdf>, Downloaded May 22, 2002.
- (107) Sukley, R. and B. St. John (1994). Evaluation of Insituform Pipe Rehabilitation. Pennsylvania Department of Transportation, reproduced by U.S. Department of Commerce – National Technical Information Service, Springfield, VA.
- (108) American Pipe & Plastics, Inc. (2002). AM-LinerII – Sewer Pipeline Rehabilitation System. <http://www.amliner.com>, Downloaded July 7, 2002.
- (109) Gwaltney, T. (1998). Pipeline Rehabilitation & Repair. In: Pipelines in the Constructed Environment, Proceedings of the 1998 Pipeline Division Conference, Castonovo, J. and J. Clark (Eds.), American Society of Civil Engineers.
- (110) Hastak, M.H. and S. Gokhale (2000). System for Evaluating Underground Pipeline Renewal Options. *Journal of Infrastructure Systems*, 6(3):105.
- (111) ISCO Industries (2002). Snap-Tite Culvert Liners. <http://www.isco-pipe.com>, Downloaded May 31, 2002.
- (112) Iseley, T., M. Najafi, and D. Bennett (1994). Trenchless Pipeline Rehabilitation With Plastic Materials. In: Buried Plastic Pipe Technology, 2nd Volume – ASTM Special Technical Report (STP) 122, Proceedings of Buried Plastic Pipe Technology Symposium, Eckstein, D. (Ed.), Baltimore, MD.
- (113) Oxner, K.B, and T. Allsup (1999). Advances in Cured-In-Place Pipe Rehabilitation for Pressurized Piping Systems. Insituform Technologies, Inc., http://www.insituform.com/resourceroom/rr2_14.pdf, Downloaded May 31, 2002.
- (114) U.S. Department of Transportation (1996). Standard Specification for Construction of Roads and Bridges on Federal Highway Projects FP-96. U.S. Government Printing Office, Washington DC.
- (115) Short Paper comparing Insituform and cement-mortar lining, <http://www.ameron.com>.
- (116) Pipe material selection policy of the FHWA Federal Lands Highway Division obtainable from <http://www.efl.fhwa.dot.gov/design/manual/pddm.pdf>.
-