



Standard Practice for Installation of Machine Spiral Wound Poly (Vinyl Chloride) (PVC) Liner Pipe for Rehabilitation of Existing Sewers and Conduits¹

This standard is issued under the fixed designation F1741; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope*

1.1 This practice describes the procedures for the rehabilitation of sewer lines and conduits for existing pipelines 6 to 180 in. in diameter by the insertion of a machine-made field-fabricated spiral wound liner pipe into the existing pipeline using a winding machine which remains stationary in the insertion pit or, alternatively, which travels along the interior of the existing pipeline. These rehabilitation processes can be used in a variety of gravity applications such as sanitary sewers, storm sewers, culverts, and process piping.

1.1.1 When using stationary installation equipment for existing pipelines 6 to 48 in., after insertion, the spiral wound liner pipe is expanded until it presses against the interior surface of the existing pipeline. Alternatively, for existing pipelines 6 to 108 in. in diameter, the spiral wound liner pipe is inserted as a fixed diameter into the existing pipeline and is not expanded, and the annular space between the spiral wound liner pipe and the existing pipe is grouted.

1.1.2 When using the traveling installation equipment for existing pipelines 6 to 180 in. the spiral wound liner pipe is installed in contact with the interior surface of the existing pipeline to form a close fit liner, except in the corners of rectangular pipes or where obstructions or offsets occur. Alternatively, for existing pipelines 6 to 180 in. in diameter and for similar sized existing non circular pipelines such as arched or oval or rectangular shapes, the spiral wound liner is installed as a fixed diameter into the exiting pipeline to form a non-close fit liner and the annular space between the spiral wound liner pipe and the existing pipe is grouted.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

¹ This practice is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.67 on Trenchless Plastic Pipeline Technology.

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1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

1.3.1 Particular attention is drawn to those safety regulations and requirements involving entering into and working in confined spaces.

2. Referenced Documents

2.1 ASTM Standards:²

C39/C39M Test Method for Compressive Strength of Cylindrical Concrete Specimens

C109/C109M Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)

C495 Test Method for Compressive Strength of Lightweight Insulating Concrete

D883 Terminology Relating to Plastics

D1600 Terminology for Abbreviated Terms Relating to Plastics

F412 Terminology Relating to Plastic Piping Systems

F1417 Practice for Installation Acceptance of Plastic Non-pressure Sewer Lines Using Low-Pressure Air

F1697 Specification for Poly(Vinyl Chloride) (PVC) Profile Strip for Machine Spiral-Wound Liner Pipe Rehabilitation of Existing Sewers and Conduit

2.2 Uni-Bell Standard:

UNI-B-5-89 Recommended Practice for the Installation of PVC Sewer Pipe³

3. Terminology

3.1 *General*—Definitions are in accordance with Terminologies D883 and F412. Abbreviations are in accordance with Terminology D1600, unless otherwise indicated.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from Uni-Bell, 2655 Villa Creek Drive, Suite 155, Dallas TX 75234.

*A Summary of Changes section appears at the end of this standard