



Standard Practice for Proper Use of Mechanical Trenchless Point Repair Sleeve with Locking Gear Mechanism for Pipes of Varying Inner Diameter and Offset Joints¹

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1. Scope

1.1 This practice establishes minimum requirements for good practices for the materials and installation of mechanical trenchless repair sleeve with a locking gear mechanism for pipes of varying inner diameter and offset joints in the range of 6 to 72 in. (150 to 1800 mm).

1.2 This practice applies to storm, potable water, wastewater and industrial pipes, conduits and drainage culverts.

1.3 When the specified materials are used in manufacturing the sleeve and installed in accordance with this practice, the sleeve shall extend over a predetermined length of the host pipe as a continuous, tight fitting, corrosion resistant and verifiable non-leaking pipe repaired using one or more pieces of the repair sleeve mechanism. The maximum internal pressure this sleeve can carry depends on the diameter and the wall thickness, ranging from 10 to 15 bars; the external pressure shall not exceed 1.5 bars.

1.4 All materials in contact with potable water shall be certified to meet NSF/ANSI 61/372.

1.5 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.

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

¹ This practice is under the jurisdiction of ASTM Committee F36 on Technology and Underground Utilities and is the direct responsibility of Subcommittee F36.20 on Inspection and Renewal of Water and Wastewater Infrastructure.

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2. Referenced Documents

2.1 ASTM Standards:²

A240 Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

A666 Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar

2.2 NASSCO Guidelines:³

Specifications for Sewer Collection System Rehabilitation

2.3 European Standard:⁴

EN 681-1 Elastomeric seals—Materials requirement for pipe joint seals used in water and drainage applications—Part 1: Vulcanized rubber

2.4 NSF/ANSI Standards:⁵

NSF/ANSI 61 Drinking water system components

NSF/ANSI 372 Drinking water system components

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *access point, n*—upstream or downstream locations that serve as the point of entry or exit for the point repair of the existing pipe.

3.1.2 *bladder, n*—an apparatus, when pressurized, inflates a tube that presses against the inner pipe walls.

3.1.3 *EPDM rubber, n*—ethylene propylene diene monomer rubber formed to yield wide ranging engineering properties using a synthetic process.

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 National Association of Sewer Service Companies (NASSCO), 2470 Longstone Lane, Suite M, Marriottsville, MD 21104, <http://nassco.org>.

⁴ Available from European Committee for Standardization (CEN), Avenue Marnix 17, B-1000, Brussels, Belgium, <http://www.cen.eu>.

⁵ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.