



Standard Specification for Flexible Transition Couplings for Underground Piping Systems¹

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1. Scope

1.1 This specification describes the properties of devices or assemblies suitable for use as flexible transition couplings, hereinafter referred to as couplings, for underground drainage and sewer piping systems.

1.2 Couplings that may include bushings, inserts, or shear rings and conform to the requirements of this standard are suitable for joining plain end pipe or fittings. The pipe to be joined shall be of similar or dissimilar materials, size, or both.

1.3 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.

1.4 The ASTM standards referenced herein shall be considered mandatory.

1.5 The committee with jurisdiction over this standard is not aware of another comparable standard for materials covered in this standard.

2. Referenced Documents

2.1 ASTM Standards:²

- A240/A240M Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
- A493 Specification for Stainless Steel Wire and Wire Rods for Cold Heading and Cold Forging
- A644 Terminology Relating to Iron Castings
- D395 Test Methods for Rubber Property—Compression Set
- D412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension
- D471 Test Method for Rubber Property—Effect of Liquids

¹ This specification is under the jurisdiction of ASTM Committee A04 on Iron Castings and is the direct responsibility of Subcommittee A04.75 on Gaskets and Coupling for Plumbing and Sewer Piping.

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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.

- D543 Practices for Evaluating the Resistance of Plastics to Chemical Reagents
- D573 Test Method for Rubber—Deterioration in an Air Oven
- D624 Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
- D638 Test Method for Tensile Properties of Plastics
- D1149 Test Methods for Rubber Deterioration—Cracking in an Ozone Controlled Environment
- D2240 Test Method for Rubber Property—Durometer Hardness
- D3045 Practice for Heat Aging of Plastics Without Load
- D6147 Test Method for Vulcanized Rubber and Thermoplastic Elastomer—Determination of Force Decay (Stress Relaxation) in Compression

3. Terminology

3.1 *Definitions*—For definitions of terms used in this standard, see Terminology A644.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *center stop, n*—an integral part of the gasket centered on its axial length intended to limit the insertion depth of the pipe to be coupled.

3.2.2 *clamp assembly, n*—that portion of the coupling excluding the gasket.

3.2.3 *coupling, n*—the complete assembly.

3.2.4 *fitting, n*—parts of a pipeline other than straight pipe couplings, or valves.

3.2.5 *flexible transition couplings, n*—devices used to form a leakproof joint between sections of plain end pipe or fittings of the same or different materials, of the same or different size, or any combination of materials or pipe sizes.

3.2.6 *free torque, n*—the torque value expressed in lbf-in./Nm when the clamp is tightened four revolutions of the screw nut; while in the free state, this value does not include any breakaway effects due to staking or passage of the band ends beyond the screw heads.

3.2.7 *inserts, n*—a bushing or ring placed into the coupling socket to accommodate pipe materials of differing outside diameters.