



Designation: C1628 – 17

Standard Specification for Joints for Concrete Gravity Flow Sewer Pipe, Using Rubber Gaskets¹

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1. Scope

1.1 This specification covers flexible leak resistant joints for concrete gravity flow sewer pipe using rubber gaskets for sealing the joints, where measurable or defined infiltration or exfiltration is a factor of the design. The specification covers the design of joints and the requirements for rubber gaskets to be used therewith, for pipe conforming in all other respects to Specifications C14, C76, C655, C985, and C1417, provided that, if there is conflict in permissible variations in dimension, the requirements of this specification shall govern for joints.

NOTE 1—Infiltration or exfiltration quantities for an installed pipeline are dependent upon many factors other than the joints, and allowable quantities must be covered by other specifications and suitable testing of the installed pipeline and system. This specification covers the design, material, and performance of the rubber gasket joint only. Joints covered by this specification are for hydrostatic pressures up to 13 psi without leakage, when plant tested in accordance with Section 10.

1.2 The values stated in inch-pound units are to be regarded as standard. No other units of measurement are included in this standard.

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.*

2. Referenced Documents

2.1 ASTM Standards:²

- C14 Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
- C76 Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
- C497 Test Methods for Concrete Pipe, Manhole Sections, or Tile

¹ This specification is under the jurisdiction of ASTM Committee C13 on Concrete Pipe and is the direct responsibility of Subcommittee C13.08 on Joints for Precast Concrete Structures.

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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.

- C655 Specification for Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe
- C822 Terminology Relating to Concrete Pipe and Related Products
- C985 Specification for Nonreinforced Concrete Specified Strength Culvert, Storm Drain, and Sewer Pipe
- C1417 Specification for Manufacture of Reinforced Concrete Sewer, Storm Drain, and Culvert Pipe for Direct Design
- C1619 Specification for Elastomeric Seals for Joining Concrete Structures

3. Terminology

3.1 *Definitions*—For definitions of terms relating to concrete pipe, see Terminology C822.

4. Basis of Acceptance

4.1 The acceptability of the pipe joints and gasket shall be determined by the approved design submittal information, results of the physical tests prescribed in this specification, and by inspection to determine whether the pipe joints and gaskets conform to this specification as to design and freedom from defects.

5. Materials and Manufacture for Gaskets

5.1 The gasket shall be fabricated from a rubber compound. The basic polymer shall be natural rubber, synthetic rubber, or a blend of both meeting the physical requirements prescribed in Specification C1619.

5.1.1 Gaskets for standard use shall meet Class E requirements. Gaskets which require oil resistant properties shall meet Class B requirements.

5.2 Circular Cross-Section Gaskets:

5.2.1 Circular cross-section gaskets shall be extruded or molded to the specified size within a tolerance of $\pm 1/64$ in. or ± 1.5 % of the cord diameter, whichever is larger.

5.2.2 Circular cross-section gaskets shall have the nominal design cut length tolerance of ± 3.0 % for extruded and spliced gaskets.

5.2.3 Each gasket shall be manufactured to provide the volume of rubber required by the pipe manufacturer's joint design with a tolerance of ± 3 % for gaskets up to and including