



Designation: C 990 – 03

Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants¹

This standard is issued under the fixed designation C 990; 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 specification covers joints for precast concrete pipe and box, and other sections using preformed flexible joint sealants for use in storm sewers and culverts which are not intended to operate under internal pressure, or are not subject to infiltration or exfiltration limits. Joint material used in horizontal applications is intended to prevent the flow of solids through the joint.

1.2 For precast concrete manhole sections and other vertical structures, which are subject to internal or external pressure, infiltration or exfiltration limits are not prohibited from being specified. Joints in vertical structures covered by this specification are intended mainly to prevent the flow of solids or fluids through the joint.

1.3 This specification is to be used with pipe and structures conforming in all respects to Specifications C 14, C 76, C 478, C 506, C 507, C 655, C 985, and C 1433, provided that if there is a conflict in permissible variations in dimensions, the requirements of this specification shall govern.

1.4 This specification is the companion to SI specification C 990M; therefore, no SI equivalents are shown in this specification.

1.5 *This standard does not purport to address all of the safety problems, 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.*

NOTE 1—This specification covers the material and performance of the joint and sealant only. Infiltration and exfiltration quantities for installed sections are dependent on factors other than the joints which must be covered by other specifications and suitable testing of the installed pipeline.

2. Referenced Documents

2.1 ASTM Standards:

¹ This specification is under the jurisdiction of ASTM Committee C13 on Concrete Pipe and is the direct responsibility of Subcommittee C13.08 on Rubber Gaskets.

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C 14 Specification for Concrete Sewer, Storm Drain, and Culvert Pipe²

C 76 Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe²

C 478 Specification for Precast Reinforced Concrete Manhole Sections²

C 506 Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe²

C 507 Specification for Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe²

C 655 Specification for Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe²

C 822 Terminology Relating to Concrete Pipe and Related Products²

C 969 Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines²

C 972 Test Method for Compression—Recovery of Tape Sealant³

C 985 Specification for Nonreinforced Concrete Specified Strength Culvert, Storm Drain, and Sewer Pipe²

C 1433 Specification for Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers²

D 4 Test Method for Bitumen Content⁴

D 6 Test Method for Loss on Heating of Oil and Asphaltic Compounds⁴

D 36 Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)⁴

D 71 Test Method for Relative Density of Solid Pitch and Asphalt (Displacement Method)⁴

D 92 Test Method for Flash Fire Points by Cleveland Open Cup⁴

D 113 Test Method for Ductility of Bituminous Materials⁵

D 217 Test Method for Cone Penetration of Lubricating Grease⁶

D 482 Test Method for Ash from Petroleum Products⁶

² Annual Book of ASTM Standards, Vol 04.05.

³ Annual Book of ASTM Standards, Vol 04.07.

⁴ Annual Book of ASTM Standards, Vol 04.04.

⁵ Annual Book of ASTM Standards, Vol 04.03.

⁶ Annual Book of ASTM Standards, Vol 05.01.