



Designation: C 923 – 02

Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals¹

This standard is issued under the fixed designation C 923; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers the minimum performance and material requirements for resilient connectors used for connections between reinforced concrete manholes conforming to Specification C 478 and pipes, between wastewater structures and pipes, and between precast reinforced concrete pipe and laterals.

1.1.1 These connectors are designed to minimize leakage between the pipe and manhole, and between the pipe and lateral.

1.2 A complete metric companion to Specification C 923 has been developed—C 923M; therefore, no metric equivalents are presented in this specification.

NOTE 1—This specification covers the design, material, and performance of the resilient connection only. Connections covered by this specification are adequate for hydrostatic pressures up to 13 psi (30 ft) without leakage when tested in accordance with Section 7. Infiltration or exfiltration quantities for an installed system are dependent upon many factors other than the connections between manhole structures and pipe, and allowable quantities must be covered by other specifications and suitable testing of the installed pipeline and system.

1.3 The following precautionary caveat pertains only to the test methods portion, Section 7, of this specification: *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.* For a specific precaution statement, see 7.2.5.

2. Referenced Documents

2.1 ASTM Standards:

A 493 Specification for Stainless Steel and Steel Wire and

Wire Rods for Cold Heading and Cold Forging²
A 666 Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar²
C 478 Specification for Precast Reinforced Concrete Manhole Sections³
C 822 Terminology Relating to Concrete Pipe and Related Products³
D 395 Test Methods for Rubber Property—Compression Set⁴
D 412 Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers—Tension⁴
D 471 Test Method for Rubber Property—Effect of Liquids⁴
D 543 Test Method for Resistance of Plastics to Chemical Reagents⁵
D 573 Test Method for Rubber—Deterioration in an Air Oven⁴
D 624 Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomer⁴
D 746 Test Method for Brittleness Temperature of Plastics and Elastomers by Impact⁵
D 883 Terminology Relating to Plastics⁵
D 1171 Test Method for Rubber Deterioration—Surface Ozone Cracking Outdoors or Chamber (Triangular Specimens)⁴
D 1566 Terminology Relating to Rubber⁴
D 2240 Test Method for Rubber Property—Durometer Hardness⁴

NOTE 2—For more information about wastewater structures, see C 913 Specification for Precast Concrete Water and Wastewater Structures.³

3. Terminology

3.1 Definitions:

3.1.1 Terms relating to plastics and rubber shall be as defined in Terminologies D 883 and D 1566, respectively.

¹ This specification is under the jurisdiction of ASTM Committee C13 on Concrete Pipe and is the direct responsibility of Subcommittee C13.06 on Manholes and Specials.

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² Annual Book of ASTM Standards, Vol 01.03.

³ Annual Book of ASTM Standards, Vol 04.05.

⁴ Annual Book of ASTM Standards, Vol 09.01.

⁵ Annual Book of ASTM Standards, Vol 08.01.