Designation: D3212 – 21

An American National Standard

Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals[1]

This standard is issued under the fixed designation D3212; 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 U.S. Department of Defense.

1. Scope*

1.1 This specification covers joints for plastic pipe systems intended for drain, and gravity sewerage pipe at internal or external pressures less than 25-ft head using flexible watertight elastomeric seals. This specification is intended to cover the test requirements, test methods, and acceptable materials. The test methods described for the joints are not intended to be routine quality control tests but to be reliability or performance requirements.

1.2 The text of this specification references notes, footnotes, and appendixes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the specification.

1.3 The following safety hazards caveat pertains only to the test method portion, paragraph 7.5, 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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings

F477 Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe

F913 Specification for Thermoplastic Elastomeric Seals (Gaskets) for Joining Plastic Pipe

3. Types

3.1 This specification covers two types of joints based on effecting watertightness through compression of an elastomeric seal or ring:

3.1.1 *Push-on Joint*—A joint in which an elastomeric ring gasket is compressed in the annular space between a bell end or socket and a spigot end of pipe.

3.1.2 *Mechanical Joint*—A joint made using mechanical means or devices to develop a pressure seal.

4. Materials

4.1 Material used for elastomeric seal in push-on joints shall meet the requirements of either Specification F477 or F913.

4.2 *Lubricant,* if required, shall be suitable for lubricating the parts of the joints in the assembly. The lubricant shall have no deteriorating effects on the gasket and pipe materials.

5. General Requirements

5.1 Joints shall not leak when subjected to the internal and external hydrostatic tests of Section 7 for a period of 10 min.

5.2 All surfaces of the joint upon or against which the gasket bears shall be smooth and free of cracks, fractures, or imperfections.

5.3 *Drawings*—The manufacturer shall furnish drawings of the joint and gasket if requested by the purchaser.

5.4 The gasket shall be the sole element depended upon to make the joint flexible and watertight. The gasket shall be a continuous elastomeric ring.

5.5 In mechanical joints, the pipe spigot shall have a wall thickness sufficient to withstand, without deformation or collapse, the compressive force exerted when the fitting is tightened.

5.6 Some joint designs provide for the angular deflection of a pipe joint, without reducing watertightness. Where greater

[1] This specification is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.20 on Joining.

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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.

***A Summary of Changes section appears at the end of this standard**