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EAST AFRICAN STANDARD

Standard specification for flexible poly (vinyl chloride) (PVC) gaskets used in connection of water closets to sanitary drainage system

EAST AFRICAN COMMUNITY

Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in East Africa. It is envisaged that through harmonized standardization, trade barriers which are encountered when goods and services are exchanged within the Community will be removed.

In order to meet the above objectives, the EAC Partner States have enacted an East African Standardization, Quality Assurance, Metrology and Test Act, 2006 (EAC SQMT Act, 2006) to make provisions for ensuring standardization, quality assurance, metrology and testing of products produced or originating in a third country and traded in the Community in order to facilitate industrial development and trade as well as helping to protect the health and safety of society and the environment in the Community.

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East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

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Introduction

In the preparation of this East African Standard, the following source was consulted extensively:

ASTM A1045:2008, *Standard Specification for Flexible Poly (Vinyl Chloride) (PVC) Gaskets used in Connection of Water Closets to Sanitary Drainage System*

Assistance derived from this source and others inadvertently not mentioned is hereby acknowledged.

Draft for comments only — Not to be cited as East African Standard



Standard Specification for Flexible Poly (Vinyl Chloride) (PVC) Gaskets used in Connection of Water Closets to Sanitary Drainage System¹

This standard is issued under the fixed designation A1045; 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 material and performance requirements for plasticized PVC compression gaskets used in the connection of residential and commercial water closets to 3 and 4-in. sanitary drainage pipe. These type gaskets are inserted into and compress against the inside diameter of the sewer pipe while attaching to the water closet with a flexible adhesive. The result is a gas- and water-tight seal.

1.2 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.

1.3 *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 to determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

A644 Terminology Relating to Iron Castings

D5926 Specification for Poly (Vinyl Chloride) (PVC) Gaskets for Drain, Waste, and Vent (DWV), Sewer, Sanitary, and Storm Plumbing Systems

3. Terminology

3.1 *Definitions*— For definitions of terms in this specification refer to Terminology A644.

4. Materials and Manufacture

4.1 These type gaskets are manufactured principally from virgin injection grade plasticized PVC compounds. Recycled materials may be used in this product in accordance with Section 5.

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.

4.2 Adhesives used in the attachment of water closet gaskets shall be compatible with the component gasket material and the sanitary drain system. Butyl rubber-based adhesives are known to have such characteristics.

5. Gasket Requirements

5.1 Physical and mechanical properties of plasticized PVC gaskets for the connection of water closets to the sanitary drainage system shall comply with Specification D5926.

5.2 Gaskets shall be tested in accordance with Section 9 on pipe samples complying with applicable industry standards of maximum and minimum dimensions. It shall be permissible to machine pipe samples to attain maximum or minimum dimensions, or both.

5.3 The gasket assembly when tested in accordance with Section 9 shall not leak.

5.4 The gasket shall accommodate water closets and closet flanges conforming to applicable industry standards.

6. Dimensions, Mass, and Permissible Variations

6.1 Gaskets shall conform to the dimensions and dimensional tolerances as agreed upon between the supplier and purchaser. All dimensions shall be compatible with the dimensions and tolerances of the specific pipe materials and sizes and water closet to which it is designed to join.

7. Workmanship, Finish and Appearance

7.1 The surface of preformed gaskets shall be smooth and free from pitting, cracks, blisters, air marks, or any other imperfections that may affect product performance in service

7.2 Neither the flash thickness nor the flash extension shall exceed $\frac{1}{32}$ in. (1 mm).

7.3 Mold release, oil, or grease used in the manufacturing process will have a detrimental effect on the ability of the adhesive to adhere to the flanged surface of the water closet gasket. Care should be taken not to contaminate the flanged surface of the gasket.

8. Sampling, Tests, and Retests

8.1 Test specimens representative of the gaskets to be used shall be randomly selected from the manufactured lot for testing. The manufactured lot shall be a minimum of eight hours old. Tests shall be performed at room temperature.

8.2 Where there is a failure in the original test, the entire test shall be rerun with twice the number of samples and any failure shall be cause for rejection.

9. Test Method for Assembled Gaskets

9.1 *Test Apparatus*—The apparatus used to conduct this test shall be designed as illustrated in Fig. 1. The test apparatus

shall be constructed of clear acrylic with a polished finish.

9.2 *Significance and Use*—This test method is useful in determining the ability of the gasket assembly to provide a permanent seal against water, sewer, sewer gas and the like in water closet to sewer pipe applications.

9.3 *Hazards*—This is a pressurized hydrostatic test and under no circumstances shall water be substituted with air.

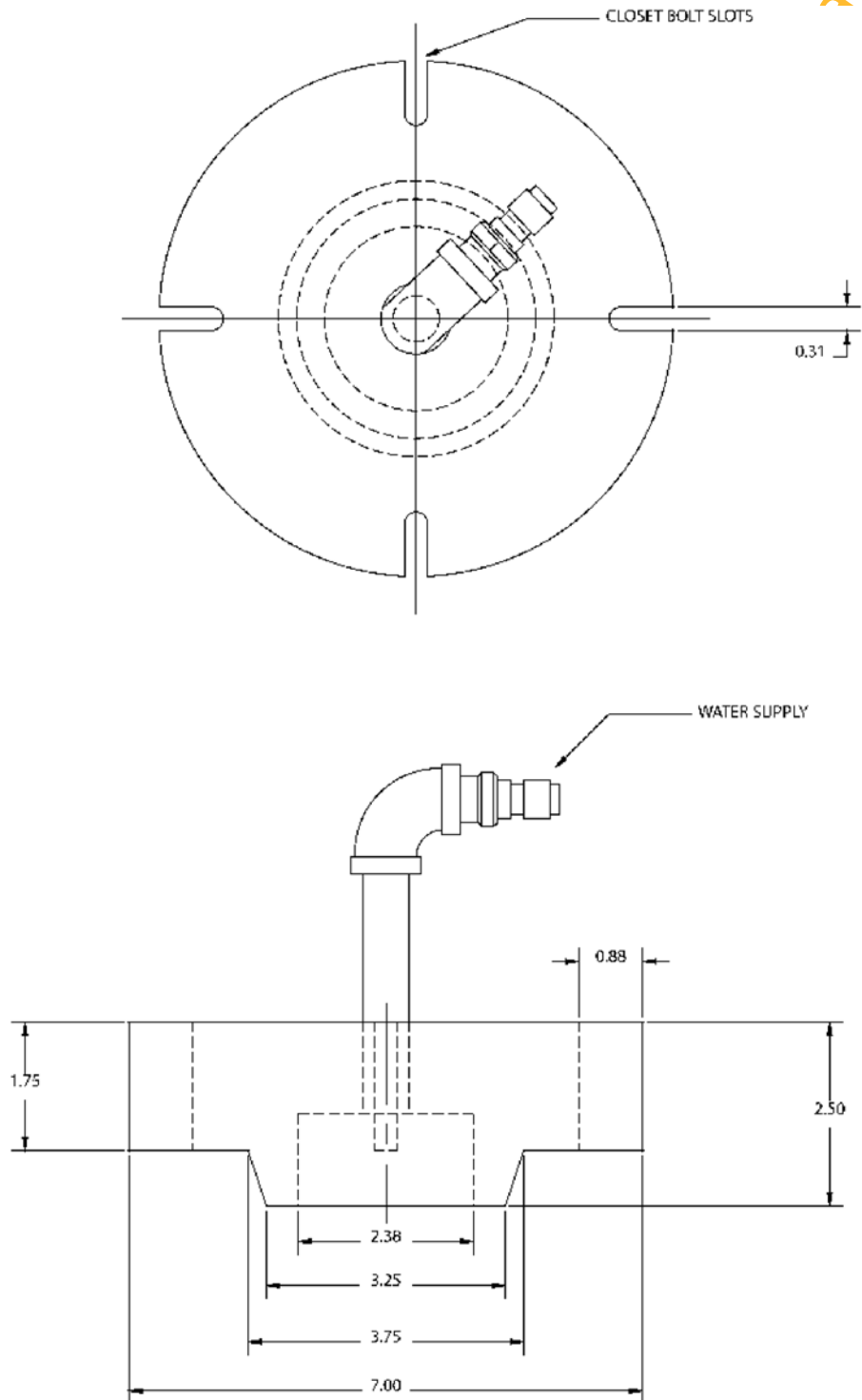


FIG. 1 Test Apparatus

Care should be taken in expelling all air prior to pressurizing the test assembly. Wear eye protection during pressure tests and strictly adhere to safety precautions at all times.

9.4 *Procedure*—Hydrostatic Joint Tightness Test: Wipe the surface of the test apparatus with denatured alcohol. Apply the gasket assembly to the test apparatus. Insert the test apparatus assembly into the test pipe providing a 0.500 in. (12.7 mm) to 0.750 in. (19.1 mm) spacer between the test apparatus and the closet flange. Securely tighten the test apparatus to the closet flange, fill the assembly with water expelling all air, pressurize to 4.3 psi for a period of 15 min. Any leakage shall result in failure. Refer to Fig. 2.

10. Certification

10.1 The gasket manufacturer shall keep appropriate production and testing records showing compliance to this speci-

fication, including certified documentation from the PVC compound producer showing compliance with Specification D5926. The manufacturer shall be required to provide said information at the request of the purchaser.

11. Product Marking

11.1 Each gasket shall be marked with the manufacturer's name or trademark, or both.

11.2 The type and size of pipe for which the gasket is or the manufacturer's product identification shall be marked on or attached to each gasket.

11.3 All gaskets shall be marked with the designation ASTM _____ showing compliance to this specification.

12. Keywords

12.1 flexible gaskets; plasticized; poly(vinyl chloride) (PVC); sanitary drainage; water closet gaskets

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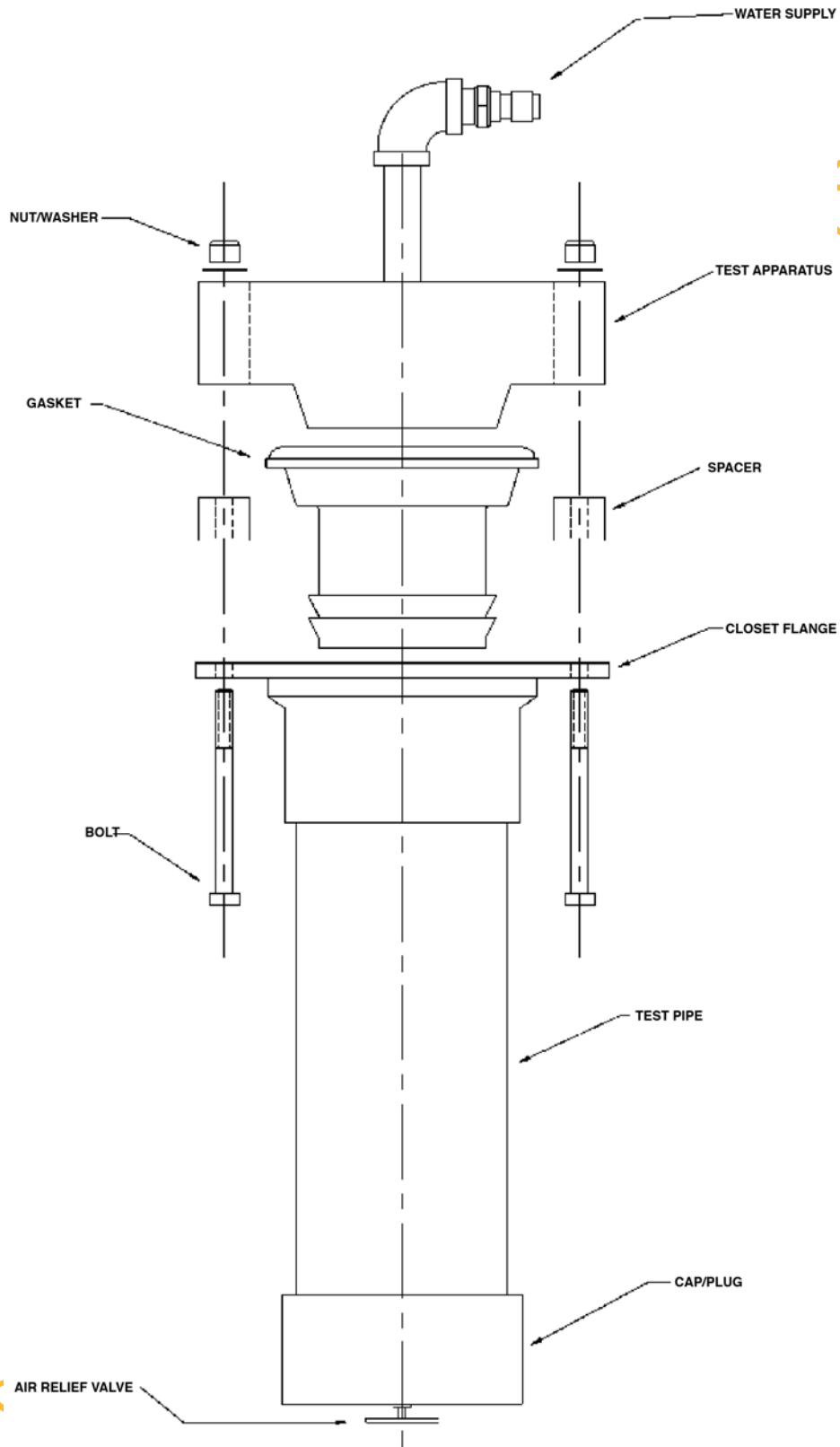


FIG. 2 Test Assembly—Exploded View

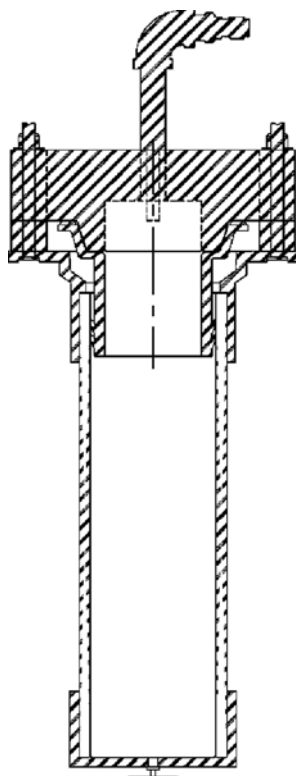


FIG. 3 Test Assembly—Cross Section View

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