



Designation: C1563 – 08 (Reapproved 2021)

Standard Test Method for Gaskets for Use in Connection with Hub and Spigot Cast Iron Soil Pipe and Fittings for Sanitary Drain, Waste, Vent, and Storm Piping Applications¹

This standard is issued under the fixed designation C1563; 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 Several different types of compression gaskets are available for use in connection with hub and spigot cast iron soil pipe and fittings. The purpose of this test method is to establish material criteria and test procedures for compression gaskets used in joining hub and spigot cast iron soil pipe and fittings for sanitary drain, waste, vent, and storm drain piping applications in accordance with the general needs of producers, distributors, and users.

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, 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

[A74 Specification for Cast Iron Soil Pipe and Fittings](#)

[A644 Terminology Relating to Iron Castings](#)

[C564 Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings](#)

¹ This test method 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.

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of terms in this test method, see Terminology [A644](#).

3.1.2 *adhesive lubricant, n*—liquid emulsion chemically cured polychloroprene.

3.1.3 *manufacturer, n*—the entity that molds the compression gaskets covered by this standard.

4. Summary of Test Method

4.1 *Restrained Hydrostatic Joint Test*—In the restrained hydrostatic joint test, two test pieces are prepared such that the inside diameter of the hub and the outside diameter of the spigot conform to the maximum and minimum (respectively) dimensions permitted by Specification [A74](#). The compression gasket to be tested is used to join the test pieces as detailed in [Fig. 1](#). This assembly is then restrained and subjected to hydrostatic pressure, and the performance of the joint assembly is evaluated.

5. Physical Properties, Material, and Marking

5.1 *Physical Properties*—The gaskets governed by this test method are of a compression type and are designed to fit the annular space between the spigot (plain) end of one pipe or fitting and the receptive hub of another, as shown in [Fig. 2](#).

5.1.1 Each compression gasket shall consist of one or more sealing ring(s) that compress to provide an airtight and watertight seal. Compression gaskets shall have an integral flange to prevent the gasket from rolling into the hub during installation.

5.1.2 Each compression gasket shall be designed to permit expansion, contraction, and deflection of assembled piping common to sanitary drain, waste, vent, and storm piping applications.

5.2 *Material*—Compression gaskets governed by this test method shall be made of a compound containing a thermoset elastomer that complies with all of the requirements of Specification [C564](#).

5.3 *Marking*—Compression gaskets governed by this test method shall be marked with raised letters so as to be visible

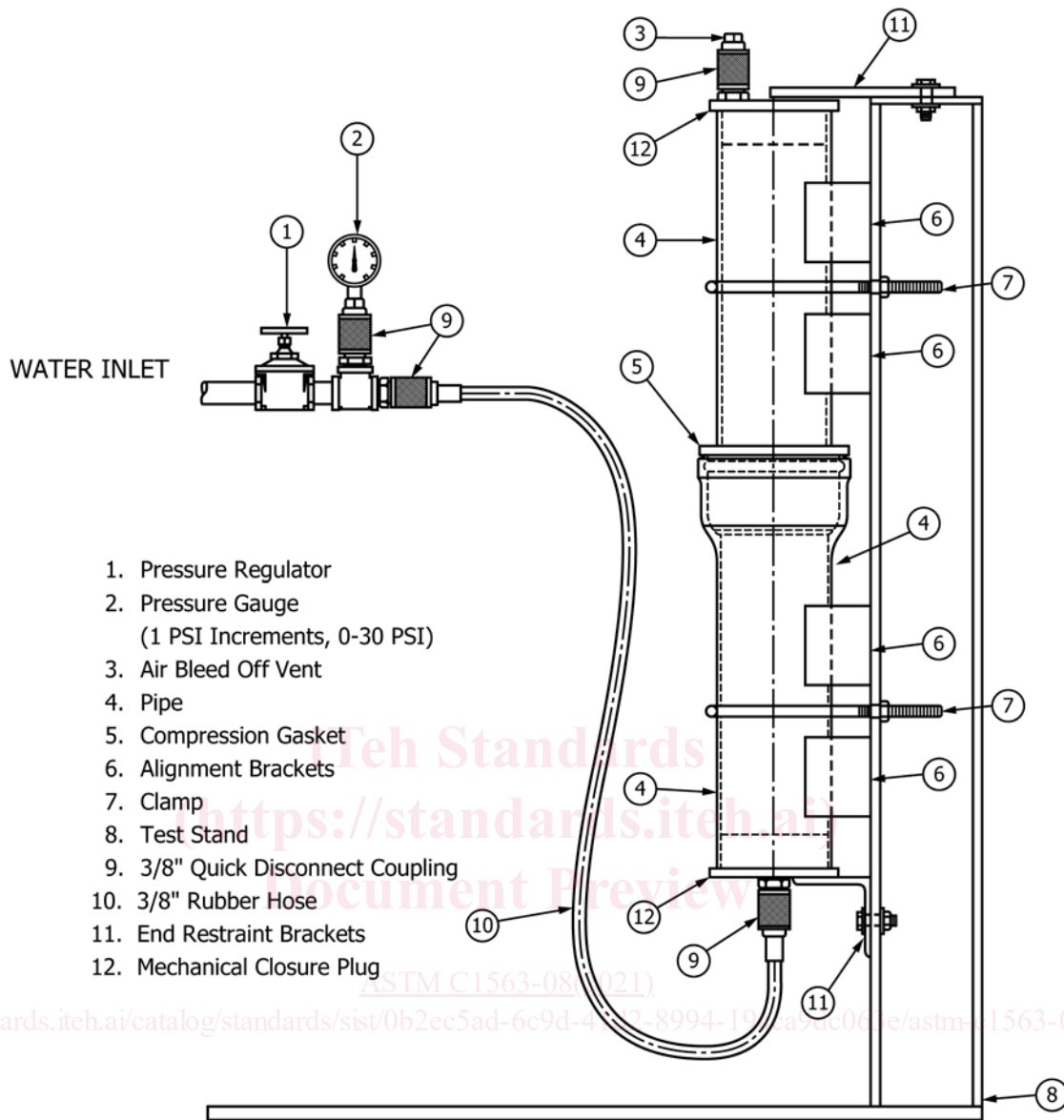


FIG. 1 Restrained Hydrostatic Joint Test Apparatus (Typical)

after installation (see Fig. 3). Each compression gasket shall be plainly marked with pipe size and class, "ASTM C564," "ASTM C1563," country of origin, year of manufacture, and manufacturer's name or registered trademark that readily identifies the manufacturer after installation. The manufacturer shall also be permitted to include mold number and cavity number or other unique markings for use in quality control procedures.

5.3.1 *Pipe Class*—"XH" shall identify gaskets for use in joining extra heavy cast iron soil pipe and fittings. "SV" shall identify gaskets for use in joining service cast iron soil pipe and fittings.

6. Apparatus

6.1 *Restrained Hydrostatic Joint Testing Apparatus*—Assemble apparatus as detailed in Fig. 1.

6.1.1 *Water Pressure Gauge*—To ensure the accuracy of the test pressures, the test apparatus shall utilize a water pressure gauge graduated in increments no greater than 1 psi (7 kPa), and with a maximum gauge pressure no greater than 30 psi (207 kPa). Locate the water pressure gauge within 6 in. vertically of the joint being tested.

7. Hazards

7.1 This test method is for use in evaluating only those compression gaskets complying with Specification C564 and Section 5, Physical Properties, Material, and Marking.

7.2 This test method is a pressurized hydrostatic (water) test. Under no circumstances should pressurized air be substituted for water. All air must be expelled from the testing assembly before the assembly is pressurized.

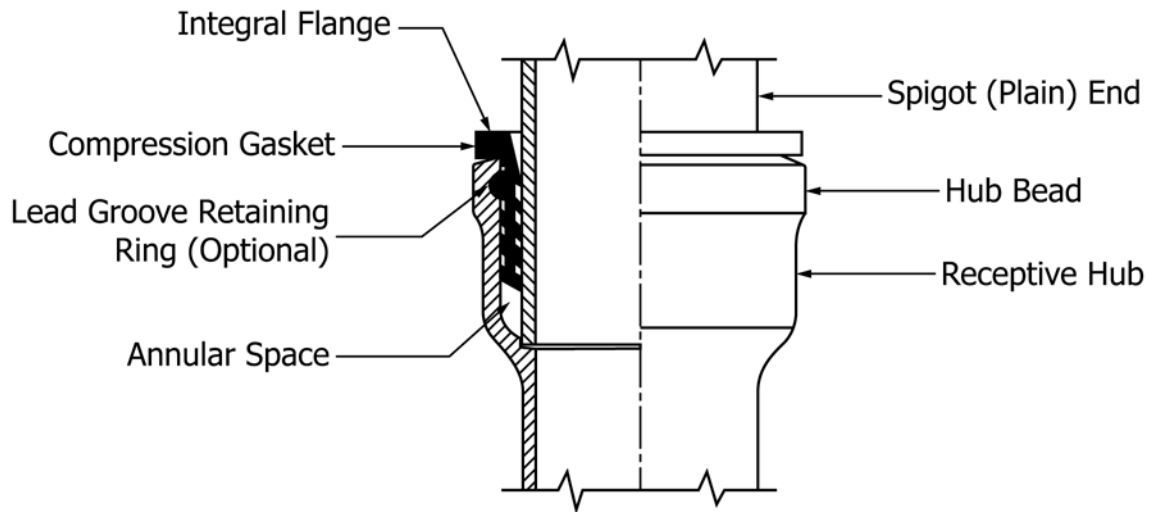


FIG. 2 Compression Gasket Joint

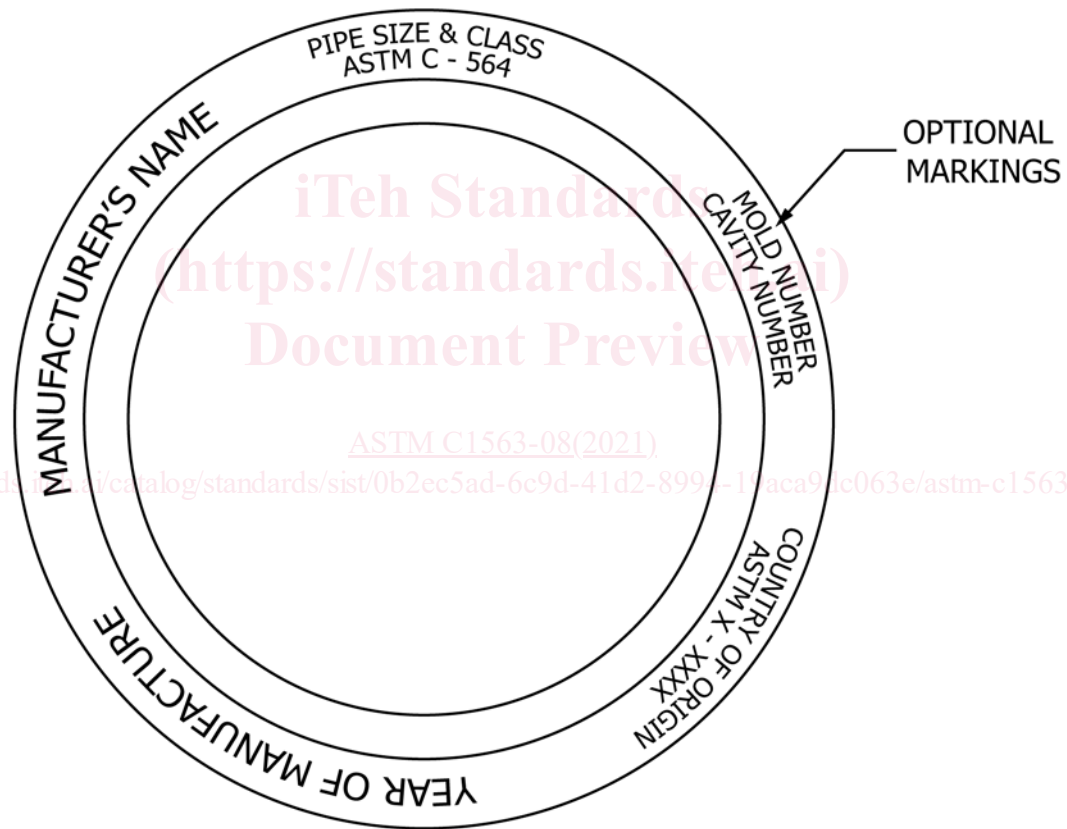


FIG. 3 Marking Location (Typical)

8. Sampling, Test Pieces, and Test Units

8.1 Gaskets of each size and classification under production shall be inspected and tested by the manufacturer to verify compliance with this test method.

8.2 Gaskets for inspection and testing shall be obtained by first article selection and at regular intervals during the course

of production. Testing and inspection of samples shall be performed not less than once for each gasket size and lot of raw material.

8.3 The manufacturer shall maintain a record of all inspections and tests to enable the manufacturer to comply with Section 12, Certification.