



Standard Specification for Rubber Rings for Asbestos-Cement Pipe¹

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

1. Scope

1.1 This specification covers rubber rings used to seal the joints of asbestos-cement pipe conforming to Specifications C 296, C 428, C 644, and C 668.

1.2 A specification is given for (1) natural or synthetic rubber rings, or both, where resistance to oil or solvents is not required, and (2) synthetic rubber rings for services involving resistance to oil or solvents.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 The following safety hazards caveat pertains only to the test methods portion, Section 9, of this standard: *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.*

2. Referenced Documents

2.1 ASTM Standards:

- C 296 Specification for Asbestos-Cement Pressure Pipe²
- C 428 Specification for Asbestos-Cement Nonpressure Sewer Pipe²
- C 644 Specification for Asbestos-Cement Nonpressure Small-Diameter Sewer Pipe³
- C 668 Specification for Asbestos-Cement Transmission Pipe²
- 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 573 Test Method for Rubber—Deterioration in an Air Oven⁴
- D 865 Test Method for Rubber—Deterioration by Heating

in Air (Test Tube Enclosure)⁴

D 1415 Test Method for Rubber Property—International Hardness⁴

D 2137 Test Methods for Rubber Property—Brittleness Point of Flexible Polymers and Coated Fabrics⁴

D 2240 Test Method for Rubber Property—Durometer Hardness⁴

2.2 Other Document:

Rubber Manufacturers Association (RMA), Rubber Handbook MO-1—Molded, Extruded, Lathe-Cut and Cellular Products⁵

3. Composition and Manufacture

3.1 The ring shall consist of a properly vulcanized virgin rubber compound. Virgin rubber is defined as one containing no scrap, reclaim, or rubber substitutes.

3.2 If a joint is used in the manufacture of the ring, the strength of the spliced joint shall be such that the ring will withstand the stretch test described in 9.8 with no visible separation or peeling.

4. Physical Requirements

4.1 Sample rings taken from the shipment shall conform to the requirements for physical properties prescribed in Table 1 when tested in accordance with the test methods specified in Section 9.

5. Dimensions and Tolerances

5.1 The rings shall conform to the dimensions specified by the manufacturer of the pipe in which the rings are to be used, with a RMA Class 3 (see 2.2) tolerance of ± 0.25 up to 25 mm (± 0.010 up to 1 in.) on all cross-section dimensions, and $\pm 1\%$ on all diametral dimensions, unless otherwise agreed upon by the pipe manufacturer and the ring supplier.

NOTE 1—The design and tolerances of asbestos-cement pipe are not sufficiently standardized to permit interchangeability of rings in many cases from pipe of one manufacturer to that of another.

6. Workmanship

6.1 The surface shall be smooth and free of pitting, cracks, blisters, air marks, and any other imperfection that would affect

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² Annual Book of ASTM Standards, Vol 04.05.

³ Discontinued—see 1981 Annual Book of ASTM Standards, Part 16.

⁴ Annual Book of ASTM Standards, Vol 09.01.

⁵ Available from RMA, 1400 K St., NW, Washington, DC 20005.