



Standard Specification for Elastomeric Water Bottles¹

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1. Scope

1.1 This specification covers requirements for molded, non-fabric reinforced, elastomeric water bottles with closure and screw stopper, generally used with hot or cold water in personal hygiene and health care.

1.2 The safe and proper use of elastomeric water bottles is beyond the scope of this specification except for the user instructions in 9.2.

2. Referenced Documents

2.1 ASTM Standards:

D 412 Test Methods for Vulcanized Rubbers and Thermoplastic Rubbers and Thermoplastic Elastomers—Tension²

D 471 Test Method for Rubber Property—Effect of Liquids²

D 573 Test Method for Rubber—Deterioration in An Air Oven²

D 865 Test Method for Rubber—Deterioration By Heating in Air (Test Tube Enclosure)²

3. Materials and Manufacture

3.1 The bottle shall be manufactured from an elastomeric compound that conforms to the requirements in Section 5.

3.2 The stopper shall be manufactured from a noncorrosive metal or a polymeric material.

3.3 The bottle and stopper shall not be toxic, sensitizing, locally irritating, or otherwise harmful under normal conditions of use.

4. Construction

4.1 The water bottle shall consist of an integral body and closure designed for use with hot or cold water.

4.2 The closure and stopper shall form a leakproof seal when closed and tested in accordance with 9.2.5.

4.3 The capacity of the bottle shall be determined as follows:

4.3.1 Measure the volume of water at room temperature required to fill the bottle to the underside of the closure while held by the bottle neck.

5. Physical Requirements

5.1 The bottle shall conform to the requirements in Table 1.

5.2 All tests shall be made at least 24 h after manufacture, and not later than 60 days after delivery to the user or testing agency, on bottles before use. If it is necessary to buff the bottle compound to obtain specimens, values which are 80 % of those for tensile strength and ultimate elongation in Table 1 shall be deemed to meet the requirements of this specification.

6. Workmanship, Finish, and Appearance

6.1 The water bottle shall be free of defects that affect serviceability, such as holes, thin spots, air bubbles, embedded particles, and tackiness. Inner surfaces of the bottle shall not adhere to each other.

7. Sampling

7.1 Sampling, inspection levels, and acceptable quality level (AQL) shall conform to those agreed between the seller and purchaser.

7.2 In the absence of a sampling plan, three water bottles shall be selected at random from the lot for test.

8. Product Marking

8.1 Each water bottle shall be permanently marked with the following information:

8.1.1 Date of manufacture. A date code is permissible.

8.1.2 Name or trademark of the manufacturer or distributor.

9. Packaging and Package Marking

9.1 The individually wrapped water bottle shall be packaged in a suitable container to minimize contact with light, oils, grease, electrical discharge, ozone, or other agents that might cause premature deterioration.

9.1.1 The package shall indicate the name or trademark of the manufacturer or distributor, the capacity of the bottle, and conformance with this specification.

9.2 Each package shall include the following minimum user instructions:

9.2.1 Use only plain water in or on this bottle,

9.2.2 When used as a hot water bottle, use water well below the boiling point,

9.2.3 Fill bottle only two-thirds full,

9.2.4 Let out air and water vapor before threading the stopper gently and securely into the bottle,

9.2.5 Test for leakage by turning the bottle upside down and pressing it firmly,

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² *Annual Book of ASTM Standards*, Vol 09.01.