



Designation: D2911/D2911M – 16 (Reapproved 2023)

Standard Specification for Dimensions and Tolerances for Plastic Bottles¹

This standard is issued under the fixed designation D2911/D2911M; 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 the thread configuration and dimensions for finishes for plastic bottles with screw-type closures, having a maximum capacity of 18.9 L (5 gal) and a maximum bottle dimension of 305 mm (12 in.). Included are tolerances for bottle capacity and body dimensions.

1.2 *Units*—The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system are not necessarily exact equivalents; therefore, to ensure conformance with the standard, each system shall be used independently of the other, and values from the two systems shall not be combined.

1.3 The following precautionary caveat pertains only to the test methods portion, Section 8 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.*

NOTE 1—There is no known ISO equivalent to this standard.

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

D618 Practice for Conditioning Plastics for Testing

D1898 Practice for Sampling of Plastics (Withdrawn 1998)³

¹ This specification is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.19 on Film, Sheeting, and Molded Products.

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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 The last approved version of this historical standard is referenced on www.astm.org.

3. Terminology

3.1 *Definitions*:

3.1.1 *bottle finish*—the configuration of the neck or opening of the bottle which serves to engage specific parts of the closure in order to securely attach it to the bottle.

3.1.2 *bottle height*—the maximum dimension of a bottle in a plane perpendicular to the bottle base when the bottle is setting in its normal upright position.

3.1.3 *bottle thickness*—the smaller dimension in a plane parallel to the bottle base.

3.1.4 *bottle width*—the larger dimension in a plane parallel to the bottle base.

4. Dimensions and Recommended Variations

4.1 *Recommended Variations in Overflow Capacity*—In overflow capacity recommended variations of plastic bottles up to 18.9 L (5 gal) in size shall be in accordance with Table 1.

4.2 *Recommended Variations in Body Dimensions*—The recommended variations in the body dimensions of plastic bottles covered by this specification shall be in accordance with Table 2.

4.3 *Finish Dimensions and Design*—The bottle finish dimensions and design for the nine finishes covered by this specification shall be in accordance with Figs. 1-8 and Tables 3-10.

5. Sampling

5.1 A batch or lot shall be considered as a unit of manufacture.

5.2 Unless otherwise agreed upon between manufacturer and purchaser, the material shall be sampled in accordance with the procedure described in Section 9 of Practice D1898. Adequate statistical sampling prior to packaging shall be considered an acceptable alternative.

6. Conditioning

6.1 *Conditioning*—Condition the test specimens in accordance with Procedure A of Practice D618, unless otherwise specified by contract or the relevant ASTM material specification. Conditioning time is specified as a minimum. Temperature and humidity tolerances shall be in accordance with