Designation: D6536/D6536M – 00 (Reapproved 2010)ε1

Standard Test Method for Measuring the Dip Tube Length of a Mechanical Pump Dispenser[1]

This standard is issued under the fixed designation D6536/D6536M; 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.

ε1 NOTE—Units information was editorially revised in December 2010.

1. Scope

1.1 This test method covers the measurement technique for a dip tube of a mechanical pump dispenser.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the 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 determine the applicability of regulatory limitations prior to use.*

2. Significance and Use

2.1 This test method is to be used to measure the length of a specified dip tube from the bottom of the sealing surface to the end of the dip tube in a mechanical pump dispenser.

2.2 This test method is to be used to measure the exposed length of a specified dip tube of a mechanical pump dispenser.

3. Apparatus

3.1 *Thin Metal Ruler,* with minimum gradients of 1 mm or 1⁄16 in., or both, along with a zero index at the end of the ruler.

3.2 *Calipers.*

4. Procedure

TEST METHOD "A"—MEASUREMENT OF OVERALL DIP TUBE LENGTH

NOTE 1—This test method is used when the exposed sealing surface of the mechanical pump dispenser is large enough to measure from.

4.1 While holding the mechanical pump dispenser with its axis in a horizontal plane, place the zero index end of the ruler against the bottom of the seal surface. Fig. 1—dimension "X."

4.2 If needed, straighten the dip tube out so that it is parallel with the length of the ruler.

4.3 Measure the overall length of the dip tube to within a full millimetre or 1⁄16 in. length.

4.4 Record the length measured in 5.1.

TEST METHOD "B"—MEASUREMENT OF EXPOSED DIP TUBE LENGTH

NOTE 2—This test method is used in all applications.

4.5 While holding the mechanical pump dispenser with its axis in a horizontal plane, place the zero index end of the ruler against the bottom end of the body. Fig. 1—dimension "Z."

4.6 If needed straighten the dip tube out so that it is parallel with the length of the ruler.

4.7 Measure the exposed length of the dip tube to within a full millimetre or 1⁄16 in. length.

4.8 Record the length measured in 5.1.

5. Report

5.1 Report the following information:
5.1.1 Type of mechanical pump dispenser,
5.1.2 Dip tube length measured, and
5.1.3 Method used.

6. Precision and Bias

6.1 *Precision*—The precision of this test method is within a range of plus or minus 1 mm or 1⁄16 in. from the specified length depending on the unit of measure used: millimetres or inches. An examination of the results of dip tube length measurements from __ technicians in one lab found that ten pumps measured under Test Method "A" had a range in length specified from ___ in. long. Data is currently being gathered.

6.2 *Bias*—This test method has no bias because an accepted reference or referee value is not available.

[1] This test method is under the jurisdiction of ASTM Committee D10 on Packaging and is the direct responsibility of Subcommittee D10.33 on Mechanical Dispensers.

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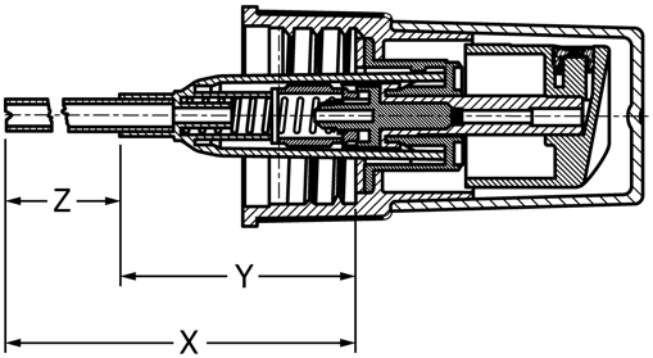

FIG. 1 Overall Dip Tube Length "X" Versus Exposed Dip Tube Length "Z"

7. Keywords

7.1 dip tube length; dip tube measurement; mechanical pump dispenser