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Standard Consumer Product Specification for Garden Hose¹

This standard is issued under the fixed designation D 3901; 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 product specification covers requirements and test methods for dimensions, burst strength, low-temperature flexibility, aging, and material stability of garden hose. Requirements and test methods for the hose couplings and methods for identifying products that conform to this product specification are included.

1.2 The values stated in SI units are to be regarded as the standard.

1.3 The following precautionary caveat pertains only to the test method portion, Section 7, of this specification: *This standard does not purport to address the safety problems associated with its use. It is the responsibility of whoever uses this standard to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standard:

D 380 Test Methods for Rubber Hose²

2.2 ANSI Standard:

ANSI/ASME B1.20.7 Hose Coupling Screw Threads³

3. Significance and Use

3.1 The purpose of this product specification is to establish nationally recognized dimensional and quality requirements for garden hose and to provide producers, distributors, and users with a basis for common understanding of the characteristics of this product.

4. Classification

4.1 This product specification covers the following two types of garden hose:

4.1.1 *Type I*—Maintains pressure of 700 kPa at 55°C (100 psi at 131°F).

4.1.2 *Type II*—Maintains pressure of 700 kPa at 40°C (100 psi at 104°F).

5. Ordering Information

5.1 Orders for garden hose should include the following information:

5.1.1 ASTM designation and year of issue,

5.1.2 Type (Section 4),

5.1.3 Material (6.2),

5.1.4 Length (6.3), and

5.1.5 Inside diameter (6.4).

6. Requirements

6.1 *General*—All garden hose represented as complying with this product specification shall meet all of the requirements specified herein. For control purposes, test lengths may be used that are shorter than nominal lengths provided those tests requiring couplings utilize assemblies that are coupled with standard production couplings and equipment.

6.2 *Material*—The type of material used in the hose and the couplings shall be as agreed upon between the purchaser and the seller.

6.3 *Length*—The hose shall have a nominal length in 7.6-m (25-ft) increments, or as otherwise agreed upon between the purchaser and the seller. The tolerance on the nominal length shall be -0% when measured in accordance with 7.2.

6.4 *Inside Diameter*—The hose shall have a nominal inside diameter of 12.5, 16, 20, or 25 mm when specified in SI units or $\frac{1}{2}$, $\frac{3}{8}$, $\frac{3}{4}$, or 1 in. when specified in inch-pound units. The tolerance on the nominal inside diameter shall be ± 0.8 mm (0.031 in.) except for the 25-mm (1-in.) size which shall be 1.6 mm (0.062 in.) when tested in accordance with 7.3.

6.5 *Hose Assembly Integrity*—The hose assembly shall not leak or rupture when tested in accordance with 7.4. Any emergence of air bubbles during this test shall be evidence of leakage. Assemblies subjected to this test shall not be used for testing other requirements.

NOTE—Initial leakage at couplings on reinforced hose resulting from entrapped air in reinforcement being forced out shall not constitute failure.

6.6 *Low-Temperature Flexibility*—The hose shall bend sufficiently for the end to break the surface of a cold-water bath within 15 s, with no evidence of cracking, splitting, or crazing of the specimen, when tested in accordance with 7.5.

6.7 *Coupling Pull-Off*—There shall be no leakage at the couplings when tested in accordance with 7.8. Assemblies subjected to this test shall not be used for testing other requirements.

6.8 *Coupling*—The hose coupling shall be made of corrosion-resistant material such as brass or plastic and shall have threads that will conform to or adequately mate with, or both, the internal or external hose coupling threads as specified by ANSI/ASME B1.20.7 and Table 2. The coupling shall not leak and the threads shall not be deformed when tested in accordance with 7.4.

6.9 *Aging Test*—The hose shall show no cracks or disintegration externally when tested in accordance with 7.6.

¹ This specification is under the jurisdiction of ASTM Committee D-11 on Rubber and is the direct responsibility of Subcommittee D11.31 on Rubber Hose. Current edition approved Oct. 26, 1990. Published May 1991. Originally published as D 3901 - 80. Last previous edition D 3901 - 85.

² Annual Book of ASTM Standards, Vol 09.02.

³ Available from the American National Standards Institute, 1430 Broadway, New York, NY 10018.