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Association**

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ANSI/AWWA C800-14
(Revision of ANSI/AWWA C800-12)

AWWA Standard

Underground Service Line Valves and Fittings

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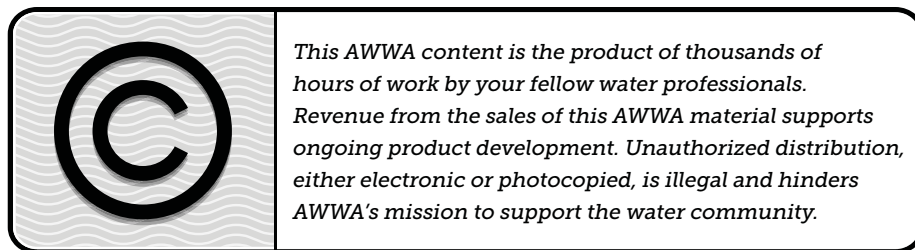
AWWA Standard

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Foreword

This foreword is for information only and is not a part of ANSI/AWWA C800.*

I. Introduction.

I.A. *History.* In 1929, the development of a standard for threads for underground service fittings was undertaken by the American Standards Association (ASA). In 1932, the subcommittee that had been appointed for the task asked to be discharged after it had submitted its proposed standards in the form of two drawings. No action was taken by ASA on these proposed standards.

The American Water Works Association (AWWA) recognized the need for standardization of these threads and appointed a committee in 1940 to prepare a standard. The New England Water Works Association (NEWWA) also appointed a committee to prepare a standard for these threads. The AWWA and NEWWA committees cooperated closely in developing a tentative standard in 1947. This was approved as a standard by AWWA on Sept. 1, 1948, and by NEWWA on Sept. 14, 1948. Revisions to the standard were made effective Jan. 17, 1955. In July 1963, a committee was formed to revise C800-55 regarding the evaluation of types *K* and *L* copper tubing for water services. In the revision, published in 1966, threads representing current practice were established for those fittings generally used in the water utility field. Sizes ½ in. and ⅝ in. were added for inlet and outlet threads for fittings and couplings for use with flared copper service tubing. The 1966 revision introduced an appendix that was not part of the standard, but which listed standards for water service line materials. The appendix was provided for information only because the materials were covered by other standards. The appendix also contained specifications for copper water tubing, red brass pipe, cast-iron pipe, and steel pipe.

In 1974, a standing committee was formed to revise and update C800-66. The committee recognized the need to expand the scope of this standard beyond being a standard covering only threads for underground service fittings. Previous versions of C800 described only the threads for fittings that were in common use in water distribution systems. Subsequently, the scope of the standard was changed to include performance standards for underground service line fittings as well as for the threads. The 1984 revision to C800 was approved by the AWWA Board of Directors on Jan. 29, 1984. Subsequent revisions were approved on Jan. 1, 1990;

* American National Standards Institute, 25 West 43rd Street, Fourth Floor, New York, NY 10036.

Jan. 21, 2001; Jan. 16, 2005, and June 10, 2012. This revision was approved on June 8, 2014.

I.B. *Acceptance.* In May 1985, the US Environmental Protection Agency (USEPA) entered into a cooperative agreement with a consortium led by NSF International* (NSF) to develop voluntary third-party consensus standards and a certification program for direct and indirect drinking water additives. Other members of the original consortium included the Water Research Foundation, (formerly AwwaRF) and the Conference of State Health and Environmental Managers (COSHEM). The American Water Works Association (AWWA) and the Association of State Drinking Water Administrators (ASDWA) joined later.

In the United States, authority to regulate products for use in, or in contact with, drinking water rests with individual states. Local agencies may choose to impose requirements more stringent than those required by the states.† To evaluate the health effects of products and drinking water additives from such products, state and local agencies may use various references, including

1. An advisory program formerly administered by USEPA, Office of Drinking Water, discontinued on Apr. 7, 1990.
2. Specific policies of the state or local agency.
3. Two standards developed under the direction of NSF, NSF/ANSI 60, Drinking Water Treatment Chemicals—Health Effects, and NSF/ANSI 61, Drinking Water System Components—Health Effects.
4. Other references, including AWWA standards, *Food Chemicals Codex*, *Water Chemicals Codex*,‡ and other standards considered appropriate by the state or local agency.

Various certification organizations may be involved in certifying products in accordance with NSF/ANSI 61. Individual states, or local agencies have authority to accept or accredit certification organizations within their jurisdiction. Accreditation of certification organizations may vary from jurisdiction to jurisdiction.

Annex A, “Toxicology Review and Evaluation Procedures,” to NSF/ANSI 61 does not stipulate a maximum allowable level (MAL) of a contaminant for substances not regulated by a USEPA final maximum contaminant level (MCL). The MALs of an unspecified list of “unregulated contaminants” are based on toxicity testing guidelines

* NSF International, 789 N. Dixboro Rd., Ann Arbor, MI 48105.

† Persons outside the United States should contact the appropriate authority having jurisdiction.

‡ Both publications available from National Academy of Sciences, 500 Fifth St., N.W., Washington, DC 20001.

(noncarcinogens) and risk characterization methodology (carcinogens). Use of Annex A procedures may not always be identical, depending on the certifier.

In an alternative approach to inadvertent drinking water additives, some jurisdictions (including California, Maryland, Vermont, and Louisiana at the time of this writing) are calling for reduced lead limits for materials in contact with potable water. Various third-party certifiers have been assessing products against these lead content criteria, and a new ANSI-approved national standard, NSF/ANSI 372, Drinking Water System Components—Lead Content, was published in 2010.

On Jan. 4, 2011, legislation was signed revising the definition for “lead free” within the Safe Drinking Water Act (SDWA) as it pertains to “pipe, pipe fittings, plumbing fittings, and fixtures.” The changes went into effect on Jan. 4, 2014. In brief, the new provisions to the SDWA require that these products meet a weighted average lead content of not more than 0.25 percent when used with respect to wetted surfaces.

ANSI/AWWA C800 does not address additives requirements. Users of this standard should consult the appropriate state, or local agency having jurisdiction in order to

1. Determine additives requirements, including applicable standards.
2. Determine the status of certifications by parties offering to certify products for contact with, or treatment of, drinking water.
3. Determine current information on product certification.

II. Special Issues.

II.A. *Lead Fittings.* References to lead fittings have been removed from ANSI/AWWA C800 and the attached appendixes. The AWWA Standards Department has available to users of ANSI/AWWA C800 copies of ANSI/AWWA C800-84 information that contains references to lead fittings.

III. Use of This Standard. It is the responsibility of the user of an AWWA standard to determine that the products described in that standard are suitable for use in the particular application being considered.

III.A. *Products Intended for Waterworks Applications.* A variety of valves, fittings, and other water conveyance devices are available on the market for water service. For the user, it is important to distinguish between products designated plumbing style versus waterworks service style and to ensure the proper product is selected for the specific application. Waterworks products are designed and constructed for belowground installation. This helps ensure long-term performance under a variety of installation and service conditions. The specific materials established in ANSI/AWWA C800 were selected to provide long-term performance and corrosion resistance from

both internal and external sources. The user is cautioned that underground service line valves and fittings not compliant with ANSI/AWWA C800 may result in unsatisfactory performance or failure of the product. When in doubt concerning product suitability, contact a waterworks manufacturer for assistance.

III.B. *Purchaser Options and Alternatives.* The following information should be provided by the purchaser:

1. Standard used—that is, ANSI/AWWA C800, Standard for Underground Service Line Valves and Fittings, of latest revision.
2. Whether compliance with NSF/ANSI 61, Drinking Water System Components—Health Effects is required.
3. Whether compliance with NSF/ANSI 372, Drinking Water System Components—Lead Content, or an alternative lead content criterion, is required.
4. The size and type of fitting or valve.
5. Quantity required.
6. Details of other federal, state or provincial, and local requirements (Sec 4.1.1).
7. Working pressures under which the valve or fitting will be operated after installation—normal or high pressure (Sec. 4.2).
8. Minimum inside diameter of waterway through corporation stops (Sec. 4.3.1.1).
9. If meter setter spacing is other than shown to accommodate meter lengths listed in Table 10 or 11 (Sec. 4.3.14).
10. Type of inlet thread (Sec. 4.4).
11. Size and type of outlet thread (Sec. 4.4).
12. If meter flanges other than oval are required (Sec. 4.4.12).
13. Whether records of factory tests are to be provided (Sec. 5.2.1).
14. Description of special castings or patterns, if required. Special casting markings, if required, should be stated, including location of these markings (Sec. 6.1).
15. Whether an affidavit of compliance is to be provided (Sec. 6.3).

III.C. *Modification to Standard.* Any modification of the provisions, definitions, or terminology in this standard must be provided by the purchaser.

IV. Major Revisions. Major revisions made to the standard in this edition include the following:

1. Foreword, Sec. I.B provides information on lead content criteria and the new NSF/ANSI Standard 372, Drinking Water System Components—Lead Content, as well as recent federal legislation revising the definition of “lead free” in the Safe Drinking Water Act.

2. Foreword, Sec. III.B contains a new purchaser option for compliance with NSF/ANSI 372 or other lead content criterion.

3. ASTM A240/A240M, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications, was added to Section 2, References.

4. An additional material, copper alloy CDA No. C89836, has been added in Sec. 4.1.2, Castings. CDA No. C89836 is virtually identical to an existing material already in ANSI/AWWA C800, CDA No. C89833, which has been used extensively by multiple manufacturers for many years to make products covered by this standard.

5. Sec. 4.1.2.1 has been added regarding the use of CDA No. C83600 only if the product is in compliance with or exempted by US Public Law 111-380, and the product is in compliance with or exempted by the USEPA Safe Drinking Water Act.

6. Section 4.1.3 was created to group cast service saddle materials together in one section with language harmonization with current ASTM standards terminology.

7. Section 4.1.4 was revised to include ASTM A240 and 316L for clarification of existing materials.

8. Saddle corrosion protection requirements were added in section 4.1.5.

9. Section 4.1.6 (previously Sec. 4.1.3), Component parts, was revised to add the phrase "in above- and belowground service applications."

V. Comments. If you have any comments or questions about this standard, please call AWWA Engineering and Technical Services at 303.794.7711, FAX at 303.795.7603, write to the department at 6666 West Quincy Avenue, Denver, CO 80235-3098, or email at standards@awwa.org.

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AWWA Standard

Underground Service Line Valves and Fittings

SECTION 1: GENERAL

Sec. 1.1 Scope

This standard covers valves, fittings, service saddles, and meter setters for use in a service line from the main through the meter valve or meter-setting appurtenance. Valves, fittings, and meter setters described in this standard include ½ in. (12.5 mm) through 2 in. (50.8 mm). Service saddles described have outlet sizes ½ in. (12.5 mm) through 2 in. (50.8 mm) and fit mains of 2 in. (50.8 mm) through 12 in. (304.8 mm). Valves include corporation stops and curb stops. Fittings include various types of couplings and adapters. Service saddles include various types of devices circumferentially attached to the main. Meter setters include various configurations of copper tubing, valves, and fittings for the holding of ⅝-in. (15.875-mm) through 2-in. (50.8-mm) meters.

1.1.1 *Installation.* The performance of products depends on proper installation. The purchaser must follow instructions supplied by or available from the manufacturer. If these instructions are not available, good installation practices shall be followed.