



**American Water Works  
Association**

**ANSI/AWWA C223-13**  
(Revision of ANSI/AWWA C223-07)

**AWWA Standard**

# Fabricated Steel and Stainless-Steel Tapping Sleeves

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## Foreword

*This foreword is for information only and is not a part of ANSI\*/AWWA C223.*

### **I. Introduction.**

I.A. *Background.* Fabricated tapping sleeves are used to provide outlets on piping systems. They are made by several producers, and though details differ, all tapping sleeves provide similar features. They provide a means of attaching a tapping valve and tapping machine and a means of sealing onto or around the existing pipe.

I.B. *History.* The first edition was approved by the Board of Directors on June 16, 2002. The second edition was approved on June 24, 2007. This edition was approved on June 9, 2013.

I.C. *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 American Water Works Association Research Foundation (AwwaRF, now Water Research Foundation) 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.<sup>†</sup> Local agencies may choose to impose requirements more stringent than those required by the state. 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,<sup>‡</sup> NSF/ANSI 60, Drinking Water Treatment Chemicals—Health Effects, and NSF/ANSI 61, Drinking Water System Components—Health Effects.

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

<sup>†</sup> Persons outside the United States should contact the appropriate authority having jurisdiction.

<sup>‡</sup> NSF International, 789 N. Dixboro Road, Ann Arbor, MI 48105.

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

ANSI/AWWA C223 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.** This standard has no applicable information for this section.

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

1. Standard used—that is, ANSI/AWWA C223, Fabricated Steel and Stainless-Steel Tapping Sleeves, of latest revision.
2. Whether compliance with NSF/ANSI 61, Drinking Water System Components—Health Effects, is required.
3. Quantity.
4. Type of pipe(s), including specification to which it is made, or specification and tolerance of outside diameter.

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\* Both publications available from National Academy of Sciences, 500 Fifth Street, NW, Washington, DC 20001.

5. Nominal pipe size(s).
6. Wall thickness or class of pipe.
7. Type of service (i.e., line content, aboveground or belowground, etc.)
8. Rated pressure, transient pressure, and test pressure.
9. Operating temperature range.
10. Flange specification, including dimensions for accommodating tapping valve fit-up.
11. Tapping sleeve and tapping-sleeve flange material.
12. Documentation requirements.
13. Requirements for test connections and postinstallation pressure testing.
14. Outlet size and type (Flanged, MJ adaptor, etc.).
15. Actual outside diameter (OD) of pipe, including any coatings and pipe length available for installation of tapping sleeve (Section 3).
16. Details of other federal, state or provincial, and local requirements (Sec. 4.2.1).
17. Special requirements, such as coatings, gasket material, and bolting (Sec. 4.3.1).
18. Inspection by the purchaser (Sec. 5.1.2).

III.B. *Purchaser's Proof Test.* The purchaser may specify individual hydrostatic proof testing. If individual hydrostatic proof testing is required, the assembled fabricated tapping sleeve shall be shop tested at a maximum of 1.5 times the rated pressure. The test shall be considered successful if no leakage is detected during 1 hr of sustained pressure at this level.

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 changes made to the standard in this revision include the following:

1. Added definitions for MJ adaptor, potable water, reclaimed water, and wastewater (Section 3)
2. Updated the definitions for rated pressure and transient pressure for consistency (Section 3)
3. Added a minimum yield strength for bolts (Sec. 4.2.5)
4. Added a reference to AWWA C228 in Sec. 4.2.3.2 and Sec. 4.3.2.

**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](mailto:standards@awwa.org).

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# **Fabricated Steel and Stainless-Steel Tapping Sleeves**

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## **SECTION 1: GENERAL**

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### **Sec. 1.1 Scope**

This standard describes fabricated steel and stainless-steel tapping sleeves used to provide outlets and branches on existing pipe with or without interruption of service. They are intended for pipe sizes 4 in. (100 mm) through 48 in. (1,200 mm) with branch outlets through 36 in. (900 mm). This standard includes requirements for materials, dimensions, tolerances, finishes, and testing. This standard is not intended to apply to tapping sleeves welded to pipe. Fabricated tapping sleeves are intended for the transmission and distribution of water, reclaimed water, and wastewater, and for use in other water-supply system facilities. For outlets and main sizes greater than those specified, consult the manufacturer.

### **Sec. 1.2 Purpose**

The purpose of this standard is to provide the minimum requirements for fabricated tapping sleeves for various pipe materials, including components, testing, and marking requirements.