

ANSI/AWWA **D102-21**  
(Revision of ANSI/AWWA D102-17)

AWWA Standard

# Coating Steel Water-Storage Tanks

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First edition approved by Board of Directors Feb. 11, 1964.

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Approved by American National Standards Institute Jan. 19, 2021.



American Water Works  
Association



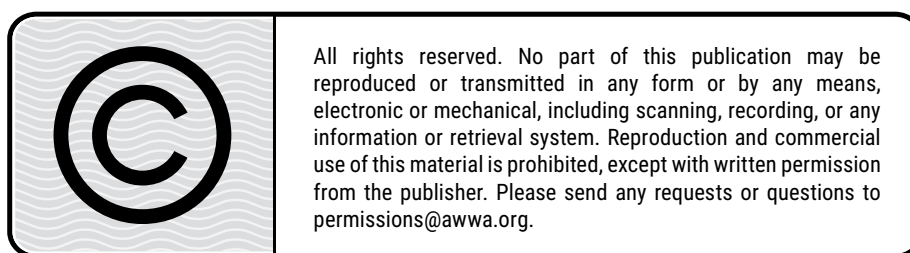
## AWWA Standard

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# Foreword

*This foreword is for information only and is not a part of ANSI/AWWA D102.*

## **I. Introduction.**

I.A. *Background.* The purpose of this standard is to provide an outline of methods and coating systems that can be used for coating or recoating steel tanks for water storage. Immediately after the final approval of ANSI/AWWA D102-17, the AWWA Standards Committee on Steel and Composite Water Storage Tanks directed the D102 Revision Task Force to start work on this edition. The final standards committee letter ballot on this edition closed on Nov. 3, 2020.

I.B. *History.* The first edition of this standard was prepared by a joint committee of AWWA and the New England Water Works Association (NEWWA) and was approved as tentative on May 9, 1952. Revisions were made on June 2, 1953, May 24, 1954, and Aug. 5, 1955. The second edition of this standard was approved as tentative on Jan. 23, 1962 and was approved by the AWWA Board of Directors on Feb. 11, 1964. The third edition was approved on Jan. 28, 1978, and subsequently withdrawn on June 23, 1991. ANSI/AWWA D102 was reissued as the fourth edition and subsequently approved on Feb. 2, 1997. The fifth edition was approved on Jan. 19, 2003; the sixth edition on June 11, 2006; the seventh edition on June 12, 2011; the eighth edition on June 8, 2014; the ninth edition on June 11, 2017; and this tenth edition on Jan. 25, 2021.

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 Water Research Foundation (formerly AwwaRF) and the Conference of State Health and Environmental Managers (COSHEM). 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 state. To evaluate the health effects of products and drinking water additives from such products, state and local agencies may use various references, including

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

1. Specific policies of the state or local agency.
2. Two standards developed under the direction of NSF,<sup>†</sup> NSF/ANSI<sup>‡</sup>/CAN<sup>§</sup> 60, Drinking Water Treatment Chemicals—Health Effects, and NSF/ANSI/CAN 61, Drinking Water System Components—Health Effects.
3. Other references, including AWWA standards, *Food Chemicals Codex*, *Water Chemicals Codex*,<sup>¶</sup> 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/CAN 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/CAN 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 D102 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.

Volatile organic compound (VOC) emission and extractable regulations continue to become more restrictive and vary greatly from state to state and within states. The user of this AWWA standard should review current federal, state or provincial, and local regulations when selecting products in this standard.

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<sup>†</sup> NSF International, 789 North Dixboro Road, Ann Arbor, MI 48105.

<sup>‡</sup> American National Standards Institute, 25 West 43<sup>rd</sup> Street, Fourth Floor, New York, NY 10036.

<sup>§</sup> Standards Council of Canada, 55 Metcalfe Street, Suite 600, Ottawa, ON K1P 6L5 Canada.

<sup>¶</sup> Both publications available from National Academy of Sciences, 500 Fifth Street, NW, Washington, DC 20001.

**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 items should be provided by the purchaser:

1. Standard used—that is, ANSI/AWWA D102, Coating Steel Water-Storage Tanks, of latest revision.
2. Size, style, height, and location of structure.
3. Required coating systems (including finish color) to be used for interior and exterior surfaces (Section 4).
4. Details of federal, state, and local requirements in addition to or superseding the requirements of this standard (Sec. 4.1).
5. Required documentation of paint test or field service data (Sec. 4.3.1, Sec. 4.4.1).
6. ANSI/AWWA D102 contains a default checklist of optional requirements that the purchaser may incorporate into the project documents (see appendix C).

III.B. *Modification to Standard.* Any modification to 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 revision include the following:

1. The scope now reflects the nonapplicability of ANSI/AWWA D102 for any bolted tank, and not just new bolted tanks (Sec. 1.1 and throughout the standard).
2. The term *top capacity level (TCL)* has been changed to *maximum water level (MWL)* (Section 3 and throughout the standard).
3. A new section on Dissimilar Metals/Galvanic Corrosion (Section 6) has been added to the body of the standard.
4. General guidance on selection and use of coating systems in appendix A (Section A.1) has been expanded.
5. Guidance on Interior Coating System No. 6 (ICS-6) has been expanded in appendix A (Sec. A.3.6).
6. Guidance on galvanic corrosion of carbon steel tank components has been added to appendix A (Section A.4).
7. Guidance on cathodic protection systems has been expanded in appendix A (Section A.13).

**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).



**American Water Works  
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**ANSI/AWWA D102-21**  
(Revision of ANSI/AWWA D102-17)

**AWWA Standard**

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# Coating Steel Water-Storage Tanks

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## SECTION 1: GENERAL

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### **Sec. 1.1 Scope**

This standard describes coating systems for coating and recoating the inside and outside surfaces of steel tanks used for potable water storage in water supply service. Coating systems for bolted steel tanks are not described in this standard (see ANSI/AWWA D103).

### **Sec. 1.2 Purpose**

The purpose of this standard is to provide the minimum requirements for coating steel water-storage tanks, including materials, coating systems, surface preparation, application, and inspection and testing.

### **Sec. 1.3 Application**

This standard can be referenced in contract documents for coating steel water-storage tanks. The requirements of this standard apply when this document has been referenced and then only to coating steel water-storage tanks.

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## SECTION 2: REFERENCES

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This standard references the following documents. These documents in the edition specified, or the latest edition if not specified, form a part of this standard