



**American Water Works
Association**

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ANSI/AWWA D102-14
(Revision of ANSI/AWWA D102-11)

AWWA Standard

Coating Steel Water-Storage Tanks

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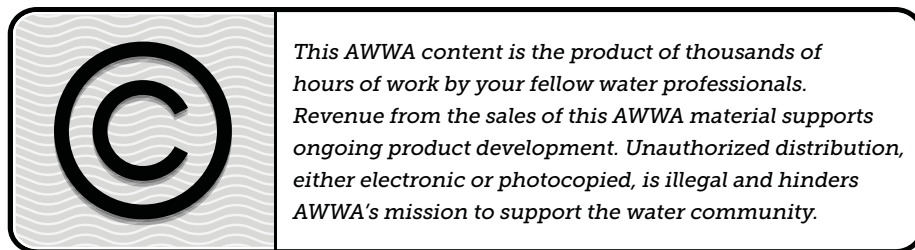
AWWA Standard

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Foreword

This foreword is for information only and is not a part of ANSI/AWWA 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 D102-11, the AWWA Standards Committee on Steel Elevated Tanks, Standpipes, and Reservoirs directed the D102 Revision Task Force to start work on this edition. The final standards committee letter ballot on this edition closed on March 6, 2014.

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 The third edition was approved on Jan. 28, 1978, and subsequently withdrawn on June 23, 1991.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; and this eighth edition on June 8, 2014.

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 all 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 state. To evaluate the health

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

† Water Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235.

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

effects of products and drinking water additives from such products, state and local agencies may use various references, including

1. Specific policies of the state or local agency.
2. Two standards developed under the direction of NSF International, NSF*/ANSI 60, Drinking Water Treatment Chemicals—Health Effects, and NSF/ANSI 61, Drinking Water System Components—Health Effects.
3. 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 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 all 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.

* NSF International, 789 North Dixboro Road, Ann Arbor, MI 48105.

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

III. Use of This Standard. It is the responsibility of the user of this AWWA standard to determine that the products described in this standard are suitable for use in the particular locale and 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. Details of other federal, state or provincial, and local requirements in addition to or superseding the requirements of this standard.
4. Required coating systems (including finish color) to be used for interior and exterior surfaces (Section 4).
5. Required documentation of paint test or field service data (Sec. 4.3.1, 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. Consensus standard references have been updated (Section 2).
2. Requirements for fluorourethane weathering requirements, increased dry film thickness (DFT) minimum of zinc-rich primer, and decreased DFT intermediate coat have been updated (Sec. 4.3.5.1).
3. Waterjetting alternative when overcoating has been updated (Sec. 4.6.2.2.2).
4. Requirements for dehumidification (DH) equipment have been added (Sec. 4.7.1).
5. Language on remedial work at first-anniversary inspection has been revised (Sec. 5.2.3).
6. Zinc-rich primer has been added to OCS-3 (Sec. A.2.3).
7. Language regarding clear coat applications has been revised (Sec. A.2.5, A.2.6, and A.2.7).
8. Dehumidification and low substrate temperature guidance has been added (Sec. A.3).
9. Extensive commentary on inaccessible areas has been added (Sec. A.4).
10. A new section has been added with guidance on containment systems (Sec. A.6.2 and A.7.5).

11. Language on climate control has been revised (Sec. A.7.6).
12. A “key point” on the use of organic pigments has been added (Sec. A.8).
13. The bibliography has been updated (Sec. A.13).
14. The phrase *toxic metals* has been revised to read *regulated heavy metals* (appendix B).
15. The following sections have been added to the Default Checklist (appendix C):
 - a. Sec. 4.2.2 regarding use of dehumidification equipment.
 - b. Sec. 4.6.1 regarding use of dehumidification equipment.
 - c. Sec. 4.7 regarding inaccessible areas.
 - d. Sec. 4.7.1 regarding use of dehumidification equipment.
 - e. Sec. A.3 regarding use of dehumidification equipment.
 - f. Sec. A.4.3 regarding coating of the underside of ground-supported tank bottoms.
 - g. Sec. A.6.2 regarding use of containment systems.
 - h. Sec. A.7.5 regarding use of containment systems.
 - i. Sec. A.7.6 regarding use of climate control systems.

V. Comments. If you have any comments or questions about this standard, please call AWWA Engineering and Technical Services at 303.794.7711, FAX 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

Coating Steel Water-Storage Tanks

SECTION 1: GENERAL

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 new 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 purchase 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.

SECTION 2: REFERENCES

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