

American Water Works Association
ANSI/AWWA C501-92
(Revision of ANSI/AWWA C501-87)



AWWA STANDARD
FOR
CAST-IRON SLUICE GATES



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AMERICAN WATER WORKS ASSOCIATION

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Foreword

This foreword is for information only and is not a part of AWWA C501.

I. History of Standard. The original AWWA standard for sluice gates was approved as tentative in June 1941. The tentative standard was revised and approved in 1967 as AWWA Standard C501.

Revisions to AWWA C501 include the following:

<i>Designation</i>	<i>Date of Approval</i>
AWWA C501-41T	June 26, 1941
AWWA C501-67	June 4, 1967
AWWA C501-80	Jan. 28, 1980
AWWA C501-87	June 14, 1987

II. 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 consortium included the American Water Works Association Research Foundation (AWWARF), the Conference of State Health and Environmental Managers (COSHEM), the American Water Works Association (AWWA), and the Association of State Drinking Water Administrators (ASDWA). The consortium is responsible for the cooperative effort of manufacturers, regulators, product users, and other interested parties that develop and maintain the NSF standards.

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

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, ANSI†/NSF‡ 60, Drinking Water Treatment Chemicals—Health Effects, and ANSI/NSF 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.

*Persons in Canada, Mexico, and non-North American countries should contact the appropriate authority having jurisdiction.

†American National Standards Institute Inc., 11 W. 42nd St., New York, NY 10036.

‡NSF International, 3475 Plymouth Rd., Ann Arbor, MI 48106.

§Both publications available from National Academy of Sciences, 2102 Constitution Ave. N.W., Washington, DC 20418.

Various certification organizations may be involved in certifying products in accordance with ANSI/NSF 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.

Appendix A, "Toxicology Review and Evaluation Procedures," to ANSI/NSF 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 Appendix A procedures may not always be identical, depending on the certifier.

AWWA C501-92 does not address additives requirements. Thus, 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.

III. Use of This Standard. When placing orders for sluice gates to be manufactured in accordance with this standard, the following data should be included in the purchaser's specifications:

1. Standard used—that is, AWWA C501-92, Standard for Cast-Iron Sluice Gates.
2. Number of units required.
3. Size and type of closure—conventional or flush-bottom.
4. If an actuator stand is needed (Sec. 3.14).
5. Operating media and pressure (refer to ANSI/AWWA C540, Standard for Power-Actuating Devices for Valves and Sluice Gates).
6. Any drawings and material specifications required of the supplier or of the manufacturer (Sec. 1.4 and Sec. 1.5).
7. Affidavit of compliance (Sec. 1.6) if required.
8. If test records must be viewed (Sec. 2.2).
9. Acceptable materials (Sec. 2.3).
10. Design head measured from surface of water to centerline of gate, in feet (metres), for the following:
 - a. Seating head.
 - b. Unseating head.
11. Operating head measured from surface of water to centerline of gate, in feet (metres).
12. Length and shape of wall thimble (Sec. 3.10).
13. Rising stem or nonrising stem (Sec. 3.11).
14. Type of lift mechanism—manual, electric-motor-driven, or hydraulic-cylinder. If electric-motor-driven or hydraulic-cylinder, the purchaser should refer to ANSI/AWWA C540.
15. Omission of stem covers (Sec. 3.14.5) if not required.
16. Leakage tests in the shop (Sec. 4.2.2) and in the field (Sec. 6.8) if required.
17. Inspection by purchaser if required (Sec. 5.1).
18. Definition of any special design and construction required for conditions beyond the scope of this standard, such as throttling service or downward acting gates, including intended operation frequency and duration.

19. Frequency of operation and special operating conditions, such as ice formation.

20. An installation-requirement drawing showing clearances, wall thickness, details of wall pipe and thimble installation, and location of operator.

IV. Modification to Standard. Any modification of the provisions, definitions, or terminology in this standard must be provided in the purchaser's specifications.

V. Major Revisions. The following items are the principal changes in this standard from the previous edition:

1. Definitions have been modified (Sec. 1.2).
2. Sections II and IV in the foreword to the standard have been added.
3. Style and format have been revised to conform with current practice.
4. A requirement for the thrust nut to be able to withstand the thrust developed when a 40-lb (178-N) effort is placed on the handwheel or crank (with a safety factor of 5) has been added (Sec. 3.7).
5. Painting requirements have been modified (Sec. 3.13 and Sec. 3.14.8).
6. An additional force, P_3 , has been added to Eq A.2 in appendix A.

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