ANSI/AWWA **C714-24**

(Revision of ANSI/AWWA C714-19)

AWWA Standard

Cold-Water Meters for Residential Fire Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes

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American Water Works Association

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STANDARD Since 1881

AWWA Standard

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Contents

All AWWA standards follow the general format indicated subsequently. Some variations from this format may be found in a particular standard.

SEC. PAGE

Foreword

I Introduction ix
I.A Background ix
I.B History ix
I.C Acceptance ix
II Special Issues xii
II.A Use of Residential Fire Sprinkler Meters xii
III Use of This Standard xii
III.A Purchaser Options and Alternatives xii
III.B Modification to Standard xiii
IV Major Revisions xiii
V Comments xiii

Standard

1 General

1.1 Scope 1
1.2 Purpose 2
1.3 Application 2
1.4 Residential Fire Sprinklers 2

2 References 2

3 Definitions 4

4 Requirements

4.1 Materials 5
4.2 General Design 7
4.3 Detailed Design 9

SEC. PAGE

5 Verification

5.1 Basis for Rejection 12

6 Delivery

6.1 Marking 13
6.2 Packaging and Shipping 13
6.3 Affidavit of Compliance 13

Appendix

A Supplemental Information 15
A.1 Units of Measure 15
A.2 Register Types 15
A.3 Tests 15
A.4 Testing Equipment 17
A.5 Registration Accuracy 17
A.6 Periodic Tests 18
A.7 Meter Storage 19
A.8 Installation 19

Tables

1a Characteristics of Residential Fire Service Meters, Meter Only 8
1b Characteristics of Residential Fire Service Meters, with Strainer 8
2 Dimensional Design Limits for Meters and External Connections 8
3 Flange Dimensions 9
4 Maximum Indication on Initial Dial and Minimum Register Capacity 10
A.1 Most Frequently Used Intervals Between Meter Tests 19

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Foreword

This foreword is for information only and is not a part of ANSI/AWWA C714.*

I. Introduction

I.A. *Background*. Since the 1990s, utilities have increasingly found a need to install water meters in applications involving one- and two-family dwellings and manufactured homes that require both domestic service (potable water) and fire sprinkler systems installed in accordance with NFPA† 13D, Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes. This standard provides the minimum requirements for cold-water meters in sizes ¾ in. (20 mm) through 2 in. (50 mm) for these specific applications. It should be noted that meters conforming to ANSI/AWWA C714 will also conform to at least one of the AWWA water meter standards, C700, C701, C708, C710, C712, C713, and C715; meter types outside of the scope of these AWWA standards will not conform to ANSI/AWWA C714.

I.B. *History*. This standard was developed by the AWWA Standards Subcommittee on Cold-Water Meters for Residential Fire Sprinkler Applications, and it was approved by the AWWA Standards Committee on Water Meters. The first edition of the standard was approved by the AWWA Board of Directors on June 9, 2013. The second edition of the standard was approved on June 7, 2019. This edition of the standard was approved on Oct. 14, 2024.

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

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† National Fire Protection Association, One Batterymarch Park, Quincy, MA 02169.

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

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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. Specific policies of the state or local agency.

2. Four standards developed under the direction of NSF:[§] NSF/ANSI/CAN[¶] 60, Drinking Water Treatment Chemicals—Health Effects; NSF/ANSI/CAN 61, Drinking Water System Components—Health Effects; NSF/ANSI/CAN 372, Drinking Water System Components—Lead Content; and NSF/ANSI/CAN 600, Health Effects Evaluation and Criteria for Chemicals in Drinking Water.

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/CAN 61. Individual states or local agencies have authority to accept or accredit certification organizations within their jurisdictions. Accreditation of certification organizations may vary from jurisdiction to jurisdiction.

NSF/ANSI/CAN 600 (which formerly appeared in NSF/ANSI/CAN 60 and 61 as Annex A, "Toxicology Review and Evaluation Procedures") 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 NSF/ANSI/CAN 600 procedures may not always be identical, depending on the certifier.

In 1991, under the Safe Drinking Water Act (SDWA), the USEPA published a federal regulation known as the Lead and Copper Rule (LCR) to minimize lead and copper in drinking water. Numerous revisions to the LCR have taken place since 1991. On Jan. 15, 2021, the USEPA issued the Lead and Copper Rule Revisions (LCRR). On Dec. 6, 2023, the USEPA proposed additional changes in the Lead and Copper Rule Improvements (LCRI). A key provision in the LCRI proposal was to lower the lead action level from 15 ppb to 10 ppb. The LCRI was made final on Oct. 8, 2024.

The ANSI-approved national standard, NSF/ANSI/CAN 372, Drinking Water System Components—Lead Content, was published in 2010. On Jan. 4, 2011,

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[§] NSF International, 789 North Dixboro Road, Ann Arbor, MI 48105.

[¶] Standards Council of Canada, 55 Metcalfe Street, Suite 600, Ottawa, ON K1P 6L5 Canada.

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

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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 revised provisions to the SDWA require that these products meet a weighted average lead content of not more than 0.25 percent. In 2020, the USEPA set a Sept. 1, 2023, deadline for products to meet the new lead content requirements outlined in the "Lead Free" Rule. This new rule outlines that manufacturers are required to be certified to NSF/ANSI/CAN 372.

A majority of US states require ANSI-accredited certification to NSF/ANSI/CAN 61, and many other states either require or recommend compliance with NSF/ANSI/CAN 61.

The USEPA, Health Canada, and other state and local regulatory agencies have been taking steps to limit per- and polyfluoroalkyl substances, or PFAS, in drinking water. In March 2023, for example, USEPA proposed legally enforceable levels for six different PFAS. These are PFOA, PFOS, PFNA, PFHxS, PFBS, and HFPO-DA (also known as GenX chemicals). USEPA also finalized an MCL for a combination of PFHxS, PFNA, HFPO-DA, and PFBS.

On Apr. 26, 2024, the USEPA finalized primary drinking water standards (MCLs) for these six PFAS compounds. This final National Primary Drinking Water Regulation (NPDWR) requires public water systems to take the following actions:

1. Public water systems must monitor for these PFAS and have three years to complete initial monitoring (by April 2027), followed by ongoing compliance monitoring. Water systems must also provide the public with information on the levels of these PFAS in their drinking water beginning in 2027.
2. Public water systems have five years (by April 2029) to implement solutions that reduce these PFAS if monitoring shows that drinking water levels exceed these MCLs.
3. Beginning in 2029, public water systems that have PFAS in drinking water which violates one or more of these MCLs must take action to reduce levels of these PFAS in their drinking water and must provide notification to the public of the violation.

Water meter manufacturers should avoid using materials where these PFAS compounds are intentionally added as part of the material formation of meter components that come in contact with potable water. As of the effective date of this ANSI/AWWA C714-24 standard (June 1, 2025), these final MCL criteria are expected to be directly adopted in NSF/ANSI/CAN 600 as new health effects criteria for NSF 61, and a task group under the NSF 61 Joint Committee has begun to investigate

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expanding the scope of PFAS testing for drinking water system components within NSF/ANSI/CAN 61.

ANSI/AWWA C714 does not address additive requirements. Users of this standard should consult the appropriate state or local agency having jurisdiction in order to

1. Determine additive 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. *Use of Residential Fire Sprinkler Meters.* The use of residential fire sprinkler meters is a water purveyor choice. The preferable arrangement according to NFPA 13D has no meter on the fire sprinkler supply line. This arrangement limits the devices on the water supply line that could restrict or shut off the water supply during a fire.

Note: Underwriters Laboratories Subjects UL 327A and UL 327B cover UL requirements for residential fire sprinkler meters for residential structures.

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 C714, Standard for Cold-Water Meters for Residential Fire Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes, of latest revision.
2. Whether compliance with NSF/ANSI/CAN 61, Drinking Water System Components—Health Effects; NSF/ANSI/CAN 372, Drinking Water System Components—Lead Content; or an alternative lead content criterion is required.
3. If meters are to be provided with stainless-steel, copper-alloy, or suitable engineering plastic top or bottom covers, and if there is a preference.
4. If meters are to be provided with full polymer liners.
5. Whether an affidavit is to be required that meters provided will continue to deliver water to the system under a locked measuring element condition.
6. If meters are required to be listed by Underwriters Laboratories Inc. (UL), Factory Mutual Insurance Company (FM Global), or other insurance underwriting agency as residential fire meters.
7. Details of federal, state, provincial, territorial, and local requirements (Sec. 4.1).

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8. Size of meters (Sec. 4.2.1) and number of units required.

9. If 1½-in. (40-mm) and 2-in. (50-mm) meters are to be provided with flanged ends or threaded (spud) ends (Sec. 4.3.3).

10. If meters are to be provided with coupling nuts and tailpieces (Sec. 4.3.4).

11. If flanged meters are to be provided with companion flanges, gaskets, bolts, and nuts (Sec. 4.3.5).

12. If meters are to be provided with direct-reading registers or electronic display registers (Sec. 4.3.6).

13. If compliance with ANSI/AWWA C707, Standard for Encoder-Type Remote-Registration Systems for Cold-Water Meters, is to be required for meters that will be connected to encoder-type remote systems (Sec. 4.3.6.1.6).

14. Whether the strainer screen surface area is required to be at least four times, rather than at least two times as provided in Sec. 4.3.9, the cross-sectional area of the pipe waterway.

15. Whether an affidavit of compliance (Sec. 6.3), a certificate of testing for accuracy (Sec. A.3.3), or both are to be provided.

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 edition include the following:

1. Updated information on the USEPA Lead and Copper Rule and regulatory status of per- and polyfluoroalkyl substances, or PFAS, in drinking water has been added to foreword Sec. I.C Acceptance.

2. Information on meter installation methods has been modified (Sec. A.8.3 and Sec. A.8.4). Meter installation methods are covered in more detail in AWWA Manual M6.

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

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ANSI/AWWA C714-24
(Revision of ANSI/AWWA C714-19)

AWWA Standard

Cold-Water Meters for Residential Fire Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes

SECTION 1: GENERAL

Sec. 1.1 Scope

This standard describes cold-water meters used for residential fire sprinkler applications that meet the requirements of NFPA* 13D in one- and two-family dwellings and manufactured homes, in sizes ¾ in. (20 mm) through 2 in. (50 mm), and the materials and workmanship employed in their fabrication. Meter types addressed in this standard for the purpose stated in Sec. 1.2 are positive displacement-type meters meeting the requirements of ANSI†/AWWA C700 or C710, turbine-type meters meeting the requirements of ANSI/AWWA C701, multijet-type meters meeting the requirements of ANSI/AWWA C708, singlejet-type meters meeting the requirements of ANSI/AWWA C712, fluidic-oscillator–type meters meeting the requirements of ANSI/AWWA C713, and electromagnetic- and ultrasonic-type meters meeting the requirements of ANSI/AWWA C715.

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