ANSI/AWWA **C214-24**

(Revision of ANSI/AWWA C214-20)

AWWA Standard

Machine-Applied Polyolefin Tape Coatings for Steel Water Pipe

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American Water Works Association

Approved American National Standard ANSI

STANDARD Since 1881

AWWA Standard

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Committee Personnel

The Steel Water Pipe Manufacturers Technical Advisory Committee (SWPMTAC) Task Group for AWWA C214, which revised this standard, had the following personnel at the time:

Cindy Patton, *Chair*
Sam Thomas, *Vice-Chair*

D. D'Ambrosio, Polyguard Products, Houston, Tex.
J. Bertsche, Seal for Life Industries, Sandy Hook, Conn.
G. Davidenko, Northwest Pipe Company, Saginaw, Tex.
D. Dechant, Dechant Infrastructure Services, Aurora, Colo.
A. Fletcher, Steel Mains Pty Ltd, Melbourne, Australia
B.D. Keil, Northwest Pipe Company, South Jordan, Utah
D. Libby, Chase Corporation, Westwood, Mass.
R. Mielke, Northwest Pipe Company, Raleigh, N.C.
C. Patton, Seal for Life Industries, Spring, Tex.
F. Rampton, Trenton Corporation, Ann Arbor, Mich.
B.P. Simpson, American Cast Iron Pipe Company, Birmingham, Ala.
S. Thomas, Liberty Coating Co., Pelham, N.H.
E. Welles, Amcorr Products and Services, Houston, Tex.

The AWWA Standards Committee on Steel Pipe, which reviewed and approved this standard, had the following personnel at the time of approval:

John H. Bambei, Jr., *Chair*
Bob J. Card, *Vice-Chair*
John L. Luka, S*ecretary*

General Interest Members

S.A. Arnaout (*alternate*), Stantec, Plano, Tex.
J.H. Bambei, Jr., Bambei Engineering Services, Arvada, Colo.
R.J. Card, Lockwood, Andrews & Newnam, Inc., Suwanee, Ga.
R.L. Gibson, Freese and Nichols, Inc., Fort Worth, Tex.
M.D. Gossett, HDR, Denver, Colo.

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M.B. Horsley (*alternate*), Horsley Engineering LLC, Overland Park, Kans.
R. Issa, AECOM, McKinney, Tex.
C.H. Kirby (*alternate*), Lockwood, Andrews & Newnam, Inc., Houston, Tex.
R.A. Kufaas, Norske Corrosion & Inspection Services Ltd., Abbotsford, B.C.
A.S. Maughn (*alternate*), Freese & Nichols, Inc. Dallas, Tex.
D.L. McPherson (*alternate*), HDR, Charlotte, N.C.
A. Murdock, Jacobs, Holladay, Utah
R. Ortega, Aurora Technical Services, Houston, Tex.
E.S. Ralph (*liaison, nonvoting*), Standards Engineer Liaison, AWWA, Denver, Colo.
J.R. Snow, Stantec, Denver, Colo.
A.M. Stanton, Black & Veatch, Los Angeles, Calif.
W.R. Whidden, Woolpert, Orlando, Fla.

Producer Members

H.H. Bardakjian, Consultant, Glendale, Calif.
D. Dechant, Dechant Infrastructure Service, Aurora, Colo.
D.W. Dunker, Thompson Pipe Group, Rialto, Calif.
B.D. Keil, Northwest Pipe Company, Salt Lake City, Utah
J.L. Luka, American SpiralWeld Pipe Company, Columbia, S.C.
R. Mielke (*alternate*), Northwest Pipe Company, Raleigh, N.C.
L. Prinsloo, Victaulic, Easton, Pa.
B.E. Ripley (*alternate*), Victaulic, Lexington, S.C.
G.F. Ruchti (*alternate*), Consultant, Punta Gorda, Fla.
B.P. Simpson (*alternate*), American Cast Iron Pipe Company, Birmingham, Ala.
R. Wu (*alternate*), Thompson Pipe Group, Grand Prairie, Tex.

User Members

L. Adams, US Bureau of Reclamation, Denver, Colo.
G.A. Andersen, New York City Bureau of Water Supply, Little Neck, N.Y.
B. Cheng, Metro Vancouver, Burnaby, B.C.
B. Fountain, San Diego County Water Authority, San Diego, Calif.
J. Fox, Tampa Bay Water, Clearwater, Fla.
J. Garcia (*alternate*), Metropolitan Water District of Southern California, La Verne, Calif.
S. Hattan, Tarrant Regional Water District, Fort Worth, Tex.
M. Lobik, Springfield Water and Sewer Commission, Agawam, Mass.

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T. Peng, Metropolitan Water District of Southern California, Los Angeles, Calif.

G. Ramon (*liaison, nonvoting*), Standards Council Liaison, Little Rock Water Reclamation Authority, Little Rock, Ark.

V. Scutelnicu, Los Angeles Water and Power, Los Angeles, Calif.

J. Shieh (*alternate*), Los Angeles Water and Power, Los Angeles, Calif.

M. Turney (*alternate*), Denver Water, Denver, Colo.

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Foreword

This foreword is for information only and is not a part of ANSI/AWWA C214.*

I. Introduction.

I.A. *Background*. This standard describes the minimum material and application requirements for prefabricated plastic tape to be plant applied to the exterior of steel water pipe to protect the pipe against underground corrosion. Currently, the only polyolefin tape coatings for which significant performance experience in this application has been accumulated are based on polyethylene. However, this standard can also be used to qualify tapes that are based on other polyolefin materials.

I.B. *History*. The first edition of this standard was approved by the AWWA Board of Directors on Jan. 30, 1983. The second edition was approved on June 22, 1989, and had an effective date of Jan. 1, 1990. The third edition was approved June 17, 1995, and had an effective date of Dec. 1, 1996. Subsequent revisions to ANSI/AWWA C214 were approved by the AWWA Board of Directors on Jan. 23, 2000; Jan. 21, 2007; Jan. 19, 2014; and Oct. 26, 2020. This edition was approved on June 8, 2024.

II. Special Issues.

II.A. *Advisory Information on Product Application*. This standard defines the performance of prefabricated polyolefin tape coatings establishing the quality desired for long-term protection and prevention of corrosion. It is intended for the exterior coating of steel water pipelines for underground or underwater installation under normal conditions. It is based on the best-known experience but is not designed for unqualified use under all conditions. The advisability of its use for any installation must be reviewed by the purchaser. If an extended period of aboveground storage of coated pipe is anticipated, the ability of the outer wrap to resist degradation from ultraviolet light and other atmospheric and environmental conditions should be considered.

Future air emission regulations may restrict the use of liquid adhesives described in this standard. If this occurs, consult the manufacturer for equivalent alternatives.

* American National Standards Institute, 1180 Avenue of the Americas, 10th Floor, New York, N.Y. 10036.

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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 C214, Machine-Applied Polyolefin Tape Coatings for Steel Water Pipe, of latest revision.
2. Any required exceptions to the standard.
3. Diameter, length, and location of pipeline.
4. Location of coating application with reference to environmental considerations.
5. Operating temperature range (Sec. 1.1.1).
6. Conditions not described (Sec. 1.1.2).
7. Determining nonpolyolefinic material (Tables 1, 2, and 3; Sec. 4.3.1.2; and Sec. 4.3.1.3).
8. Outdoor storage (Sec. 4.3.1.3).
9. Coating-system thickness (Tables 1, 2, and 4, and Sec. 4.3.1.4).
10. Inspecting and testing (Section 5).
11. Weld seam treatment (Sec. 4.5.2).
12. Hard-rubber roller use (Sec. 4.5.4.1).
13. Roll temperature (Sec. 4.5.4.1 and Sec. 4.5.4.2).
14. Cutback at pipe ends (Sec. 4.5.4.3).
15. Coating repair (Sec. 4.7.2).
16. Coating of field joints (Sec. 4.8).
17. Coating materials prequalification (Sec. 5.1).
18. Quality assurance and records (Sec. 5.3).
19. Inspection and testing by the purchaser (Sec. 5.4).
20. Holiday detector use (Sec. 5.5.2).
21. Adhesion requirement and test frequency (Sec. 5.5.3).
22. Coating-system thickness test frequency (Sec. 5.5.4).
23. Nonconforming pipe (Sec. 5.6).
24. Delivery (Section 6).
25. Packaging (Sec. 6.2.1).
26. Affidavit of compliance, if required (Sec. 6.3).

III.B. *Modification to Standard.* Any modification to the provisions, definitions, or terminology in this standard must be provided by the purchaser.

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IV. Major Revisions. The major revisions made to the standard in this edition include the following:

1. Added Sec. 1.4 Other substrates to discuss considerations when C214 is referenced for substrates other than carbon steel.
2. Added ANSI/AWWA C217 and ANSI/AWWA C232 to Section 2 References.
3. Removed portions of Secs. 4.3.1.2 and 4.3.1.3 that referred to nonpolyolefinic material.
4. The sections on supplying tape in roll form on hollow cores were deleted (previous Sec. 4.3.2.2.1 and Sec. 4.3.2.3.1).
5. In Sec. 4.3.1.4 Coating-system thickness, a sentence was added for required coating thickness based on diameter.
6. Removed Sec. 4.3.3 Tests.
7. Some additional acceptable coatings were added to Sec. 4.8.1 Coating of welded and mechanical field joints.
8. Updated Sec. 4.9.1 General under Sec. 4.9 Field Procedures.
9. The reference to ASTM D1000 was deleted from Sec. 5.5.3 Adhesion.
10. In Sec. 5.5.3.5 Frequency of testing, the frequency of quality control testing on pipes was revised.
11. Sec. 6.2.1 Packaging was revised.

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 e-mail at standards@awwa.org.

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ANSI/AWWA C214-24
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AWWA Standard

Machine-Applied Polyolefin Tape Coatings for Steel Water Pipe

SECTION 1: GENERAL

Sec. 1.1 Scope

This standard describes the materials and application of prefabricated polyolefin tape coating systems in coating plants at fixed sites using coating techniques and equipment as recommended by the tape coating manufacturer. For normal construction considerations, tape coatings are applied as a three-layer system consisting of (1) liquid adhesive, (2) corrosion-preventive tape (inner layer), and (3) mechanical-protective tape (outer layer). This standard establishes the minimum requirements for tape coating systems used on the exterior of steel water pipes. Continuous monitoring of application procedures for the tape coating systems shall be performed by the applicator.

1.1.1 *Maximum temperatures.* AWWA pipe coating standards are written for and based on the service temperature of potable water. These coating systems have performed at higher temperatures. Consult the coating manufacturer for conditions and limitations.

1.1.2 *Conditions not described in this standard.* This standard does not describe the additional materials and procedures that may be required for difficult conditions, such as those encountered in rocky areas or where soil conditions are known to be severe and in construction of underwater lines, casing pipe, and river

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