

American Water Works Association

ANSI/AWWA C209-95

(Revision of ANSI/AWWA C209-90)



AWWA STANDARD
FOR
COLD-APPLIED TAPE COATINGS
FOR THE EXTERIOR OF SPECIAL
SECTIONS, CONNECTIONS, AND
FITTINGS FOR STEEL WATER PIPELINES



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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 C209.

I. Introduction

I.A. *Background.* Coatings for corrosion control can be extremely effective and are considered to be the primary line of defense against corrosion of steel pipeline systems. The requirements of a coating vary with the type of construction, the aggressiveness of the environment in which it will serve, and the system operating conditions. Cold-applied tapes provide ease of application without the use of special equipment and can be applied over a broad application temperature range.

I.B. *History.* The first edition of this standard, designated AWWA C209-76, Standard for Cold-Applied Tape Coatings for Special Sections, Connections and Fittings, was approved on June 20, 1976. The second edition, designated ANSI/AWWA C209-84, with the same title, was approved June 10, 1984, and added shop and field blast cleaning to the coating and application section and revised the maximum overlap requirements. The third edition, ANSI/AWWA C209-90, was approved on June 17, 1990, and established new minimum thicknesses for prefabricated tape rolls and included information on new methods of application by wrapping machines.

II. Special Issues

II.A. *Advisory Information on Product Application.* Currently, tape coatings for special sections, connections, and fittings for underground steel water pipelines generally are used on pipe that has been coated before transportation to the field site. Where allowed by the purchaser, tapes covered by ANSI/AWWA C209 can be used in conjunction with pipe coatings described in ANSI/AWWA C203, Standard for Coal-Tar Protective Coatings and Linings for Steel Water Pipelines—Enamel and Tape—Hot-Applied; ANSI/AWWA C210, Standard for Liquid-Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines; ANSI/AWWA C213, Standard for Fusion-Bonded Epoxy Coating for the Interior and Exterior of Steel Water Pipelines; ANSI/AWWA C214, Standard for Tape Coating Systems for the Exterior of Steel Water Pipelines; ANSI/AWWA C215, Standard for Extruded Polyolefin Coatings for the Exterior of Steel Water Pipelines; and ANSI/AWWA C216, Standard for Heat-Shrinkable Cross-Linked Polyolefin Coatings for the Exterior of Special Sections, Connections, and Fittings for Steel Water Pipelines. However, the compatibility of coating systems is a concern, and the manufacturer of tape covered by this standard should be consulted to establish the degree of compatibility with the pipe-coating system involved.

ANSI/AWWA C209 defines cold-applied tape coating in terms of its performance or its ability to provide long-term protection and corrosion prevention. This standard is intended for use in the exterior coating of steel water pipelines for underground or underwater installation under normal conditions. This standard is based on the best-known experience, but is not intended for unqualified use under all conditions, and 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, consideration should be given to the ability of the coating to resist degradation by ultraviolet light and other atmospheric and environmental conditions.*

II.B. *Mechanical Protection.* When construction or soil conditions exist in which mechanical damage to the coating is likely to occur, the use of an extra thickness of tape, suitable overwrap, and reinforcements or special backfills may be

required. This will depend on the conditions encountered, but in general, an extra thickness of tape or other wrapping should be used. It should be spiral-wrapped, if possible, and bonded or mechanically held in place. Under these conditions, the tape manufacturer should be consulted for specific recommendations.

II.C. Pipe Storage. Because aboveground and environmental conditions for storage sites vary, the manufacturer should be consulted regarding the type of wrap recommended for the specific anticipated storage condition and the necessity for ultraviolet-light protection.

III. Use of This Standard. AWWA has no responsibility for the suitability or compatibility of the provisions of this standard to any intended application by any user. Accordingly, each user of this standard is responsible for determining that the standard's provisions are suitable for and compatible with that user's intended application.

III.A. Purchaser Options and Alternatives. The following items should be covered in the purchaser's specifications:

1. Standard used—that is, AWWA C209, Standard for Cold-Applied Tape Coatings for the Exterior of Special Sections, Connections, and Fittings for Steel Water Pipelines, of latest revision.
2. Any required exceptions to the standard.
3. Descriptions and dimensions of each type of special section for each type of exterior protection.
 - a. Underground—normal or average conditions.
 - b. Underground—unusual conditions (Sec. 1.1.2).
4. Affidavit of compliance, if required (Sec. 6.3).
5. Type of tape (Sec. 4.3.2.1).
6. Tape dimensions (Sec. 4.3.2.3).
7. Tape thickness (Sec. 4.3.2.4).
8. Blast cleaning (Sec. 4.4.2.2).
9. Tape-coating-system total thickness (Sec. 4.4.4). NOTE: The specific application procedure used for each type of coating system is as described by the tape manufacturer. The total thickness to be used is discretionary with the purchaser with due consideration of the tape manufacturer's recommendations.
10. Coating repair (Sec. 4.4.5).
11. Optional inspection (Sec. 5.1.1).
12. Acceptance testing (Sec. 5.3.1). NOTE: When the purchaser specifies that samples of proposed materials shall be submitted for testing by the purchaser, the purchaser's specifications should also address the assignment of associated testing costs. Common industry practice in such cases has been that the cost of initial testing of all coating-material samples originally offered by the constructor were borne by the purchaser. If any initial samples failed to conform to the standard, additional samples could be tested. All costs of testing additional samples were borne by the constructor.

13. Coating-materials tests (Sec. 5.3.2).
14. Provision for pipe bedding and trench backfill (Sec. 4.5.5).
15. Packaging (Sec. 6.2.1).
16. Operating temperature range (Sec. 1.1.1).

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

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

1. The format has been changed to AWWA standard style.
2. The assignment of testing costs (old Sec. 4.2) was removed from the standard and replaced with new Sec. 5.3.1, Acceptance Testing, making assignment of these costs the responsibility of the purchaser. Foreword, Sec. III.A, item 12, Acceptance Testing, was also added.
3. Added a new paragraph to Sec. 4.4.3 (old Sec. 3.2) providing for surface preparation alternatives in locations where emission regulations restrict the use of standard liquid-adhesive systems.
4. Revised Sec. 4.4.4 (old Sec. 3.3), increasing the minimum tape overlap from 1/2 in. (12 mm) to 1 in. (25 mm), and revised Table A.1 accordingly. The maximum nominal pipe size covered by Table A.1 was reduced from 36 in. (900 mm) to 30 in. (750 mm).

V. Comments. If you have any comments or questions about this standard, please call the AWWA Standards and Materials Development Department, (303) 794-7711 ext. 6283, FAX (303) 795-1440, or write to the department at 6666 W. Quincy Ave., Denver, CO 80235.