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(Revision of ANSI/AWWA C225-03)

American Water Works Association

The Authoritative Resource on Safe Water®

AWWA Standard

Fused Polyolefin Coating Systems for the Exterior of Steel Water Pipelines

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Foreword

This foreword is for information only and is not a part of ANSI/AWWA C225.*

I. Introduction.

I.A. *Background.* This standard describes the minimum material and application requirements for a fused polyolefin coating system to be plant-applied to the exterior of steel water pipe for purposes of underground corrosion protection. Currently, the only fused-type coatings for which significant performance experience in this application has been accumulated are based on polyolefin.

I.B. *History.* The fused polyolefin coating system has been in existence since approximately 1988. Steel Pipe New Zealand has been applying this system to large-diameter water pipe for nine years. With an exception of a few water pipe projects around the world, the remainder of the history of this system has been in the oil and gas industry worldwide. The first edition of ANSI/AWWA C225 was approved by the AWWA Board of Directors on Jan. 19, 2003. This second edition was approved on June 24, 2007.

I.C. *Acceptance.* This standard has no applicable information for this section.

II. Special Issues. There are no special issues described in this standard.

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 specified by the purchaser:

1. Standard used—that is, ANSI/AWWA C225, Fused Polyolefin Coating Systems for the Exterior of Steel Water Pipelines, of latest edition.
2. Any exceptions to the standard that may be required.
3. Diameter, length, and location of pipeline.
4. Location of coating application with reference to environmental considerations.
5. Maximum internal operating temperature of the pipeline (Sec. 1.1.1).
6. Requirements for outdoor storage (Sec. 4.3.2.4).
7. Requirements for ultraviolet-light protection (Sec. 4.3.2.4).
8. Requirements for coating system thickness (Tables 2, 3, and 4).

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9. Requirements for polyolefin layers and dimensions (Sec. 4.3.2.3).
10. Requirements for inspection and testing (Sec. 4.3.3 and Section 5).
11. Requirements for cleaning (Sec. 4.4.2.2).
12. Requirements for rubber roller (Sec. 4.4.3.3).
13. Requirements for cutback at pipe ends (Sec. 4.4.3.7).
14. Requirements for coating repair (Sec. 4.4.4).
15. Requirements for field-joint coating (Sec. 4.4.5).
16. Provision for pipe bedding and trench backfill (Sec. 4.5.3).
17. Requirements for coating-materials acceptance testing (Sec. 5.1).
18. Requirements for optional inspection (Sec. 5.2.1).
19. Requirements for coating-system test frequency (Sec. 5.4.1).
20. Requirements for selection of holiday detector (Sec. 5.4.2).
21. Requirements for pipe rejection (Sec. 5.5).
22. Requirements for delivery (Section 6).
23. Requirements for packaging (Sec. 6.2.1).
24. 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.

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

1. Additions of test references in Section 2.
2. Addition and editing of Table 2.
3. Addition and edits in Sec. 4.3 relating to 100 percent solids adhesive layer.
4. Edit to Sec. 4.3.2.1.
5. Addition of test standards to Sec. 5.3.

V. Comments. If you have any comments or questions about this standard, please call the AWWA Volunteer and Technical Support Group at 303.794.7711, FAX at 303.795.7603, write to the group at 6666 West Quincy Avenue, Denver, CO 80235-3098, or e-mail at standards@awwa.org.

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SECTION 1: GENERAL

Sec. 1.1 Scope

This standard describes the materials and application of fused polyolefin coating systems for buried service. This system is applied in pipe coating plants, both portable and fixed, using coating techniques and equipment as recommended by the manufacturer. Normally, these prefabricated, polyolefin coatings are applied as a three-layer system consisting of (1) a liquid adhesive, (2) a corrosion-protection inner layer, and (3) a mechanical-protection outer layer.

1.1.1 *Maximum temperatures.* This standard is intended for pipe in potable-water service. Therefore, the maximum service temperature of this coating is based on the maximum service temperature of potable water. These coating systems will perform 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 and in construction of underwater lines, casing pipe, and river crossings.