



**American Water Works
Association**

Dedicated to the World's Most Important Resource®

ANSI/AWWA C105/A21.5-18
(Revision of ANSI/AWWA C105/A21.5-10)

AWWA Standard

Polyethylene Encasement for Ductile-Iron Pipe Systems

Effective date: December 1, 2018.

First edition approved by AWWA Board of Directors in 1972.

This edition approved June 9, 2018.

Approved by American National Standards Institute Sep. 21, 2018.



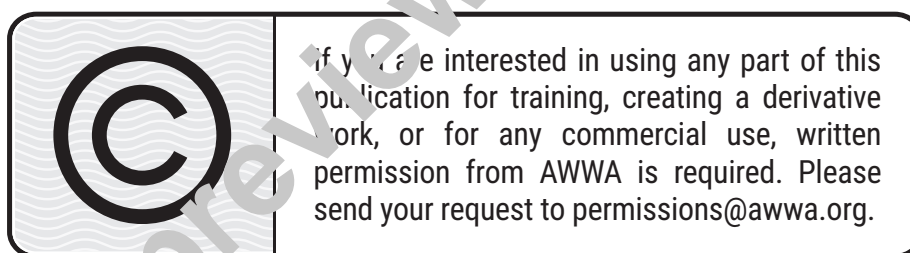
AWWA Standard

This document is an American Water Works Association (AWWA) standard. It is not a specification. AWWA standards describe minimum requirements and do not contain all of the engineering and administrative information normally contained in specifications. The AWWA standards usually contain options that must be evaluated by the user of the standard. Until each optional feature is specified by the user, the product or service is not fully defined. AWWA publication of a standard does not constitute endorsement of any product or product type, nor does AWWA test, certify, or approve any product. The use of AWWA standards is entirely voluntary. This standard does not supersede or take precedence over or displace any applicable law, regulation, or codes of any governmental authority. AWWA standards are intended to represent a consensus of the water industry that the product described will provide satisfactory service. When AWWA revises or withdraws this standard, an official notice of action will be placed in the Official Notice section of *Journal AWWA*. The action becomes effective on the first day of the month following the month of *Journal AWWA* publication of the official notice.

American National Standard

An American National Standard implies a consensus of those substantially concerned with its scope and provisions. An American National Standard is intended as a guide to aid the manufacturer, the consumer, and the general public. The existence of an American National Standard does not in any respect preclude anyone, whether that person has approved the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standard. American National Standards are subject to periodic review, and users are cautioned to obtain the latest editions. Producers of goods made in conformity with an American National Standard are encouraged to state on their own responsibility in advertising and promotional materials or on tags and labels that the goods are produced in conformity with particular American National Standards.

CAUTION NOTICE: The American National Standards Institute (ANSI) approval date on the front cover of this standard indicates completion of the ANSI approval process. This American National Standard may be revised or withdrawn at any time. ANSI procedures require that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of ANSI approval. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute, 25 West 43rd Street, Fourth Floor, New York, NY 10036; (212) 642-4900, or e-mailing info@ansi.org.



ISBN-13, print: 978-1-62576-324-4

eISBN-13, electronic: 978-1-61300-494-4

DOI: <http://dx.doi.org/10.12999/AWWA.c105.18>

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including scanning, recording, or any information or retrieval system. Reproduction and commercial use of this material is prohibited, except with written permission from the publisher.

Copyright © 2018 by American Water Works Association
Printed in USA

Contents

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

SEC.	PAGE	SEC.	PAGE
Foreword		4.4	Installation 5
I	Introduction..... ix	5	Verification
I.A	Background..... ix	5.1	Inspection and Affidavit of Compliance..... 12
I.B	Research..... x	6	Delivery 12
I.C	History..... x	Appendix	
II	Special Issues xi	A	Notes on Procedures for Soil Survey Tests and Observations and Their Interpretation to Determine Whether Polyethylene Encasement Should Be Used..... 13
II.A	Useful Life of Polyethylene xi	Figures	
II.B	Type of Material..... xii	1	Installation Method A 6
II.C	Exposure to Sunlight xii	2	Slack-reduction Procedure for Installation Methods A and B.... 7
II.D	Copper Service Connections xii	3	Modified Installation Method A..... 7
III	Use of This Standard xii	4	Modified Method A in Wet Trench Conditions 9
III.A	Purchaser Options and Alternatives xii	5	Installation Method B 9
III.B	Modification to Standard xiii	6	Installation Method C..... 10
IV	Major Revisions..... xiii	7	Preferred Method for Making Direct Service Taps on Polyethylene-encased Iron Pipe 10
V	Comments xiii	Tables	
Standard		1	Polyethylene Tube and Sheet Sizes For Push-on Joint Pipe 5
1	General	A.1	Soil-test Evaluation..... 16
1.1	Scope..... 1		
1.2	Purpose 1		
1.3	Application 1		
2	References 2		
3	Definitions 2		
4	Requirements		
4.1	Materials 3		
4.2	Tube Size or Sheet Width 4		
4.3	Marking 4		



**American Water Works
Association**

Dedicated to the World's Most Important Resource®

ANSI/AWWA C105/A21.5-18
(Revision of ANSI/AWWA C105/A21.5-10)

AWWA Standard

Polyethylene Encasement for Ductile-Iron Pipe Systems

SECTION 1: GENERAL

Sec. 1.1 Scope

This standard describes materials and installation procedures for polyethylene encasement to be applied to underground installations of ductile-iron pipe. This standard also may be used for polyethylene encasement of fittings, valves, and other appurtenances to ductile-iron pipe systems.

Sec. 1.2 Purpose

The purpose of this standard is to provide the minimum requirements for polyethylene sheet and tubes to be used for external corrosion protection of buried ductile-iron pipe, fittings, and appurtenances.

Sec. 1.3 Application

This standard or sections of this standard can be referenced in documents for the purchasing and installation of polyethylene sheet or tubes for corrosion protection of buried ductile-iron pipe, fittings, and appurtenances.