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 code 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 on the first page of the Official Notice section of Journal – American Water Works Association. The action becomes effective on the first day of the month following the month of Journal – American Water Works Association 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 or 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 This American National Standard may be revised or withdrawn at any time.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 publication. 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 emailing info@ansi.org.

This AWWA content is the product of thousands of hours of work by your fellow water professionals. Revenue from the sales of this AWWA material supports ongoing product development. Unauthorized distribution, either electronic or photocopied, is illegal and hinders AWWA’s mission to support the water community.

DOI: http://dx.doi.org/10.12999/AWWA.C206.17

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information or retrieval system, except in the form of brief excerpts or quotations for review purposes, without the written permission of the publisher.

Copyright © 2017 by American Water Works Association
Printed in USA

Copyright © 2017 American Water Works Association. All Rights Reserved.
Committee Personnel

The task group for updating ANSI/AWWA C206 had the following personnel:

Nash Williams, Chair

S.A. Arnaout, Forterra, Dallas, Texas (AWWA)
H. Bardakjian, Manufacturer’s Consultant, Glendale, Calif. (AWWA)
J. Buratto, Lifelast Inc., Austin, Texas (AWWA)
R.J. Card, Consultant, Sugarhill, Ga. (AWWA)
D. Dechant, Manufacturer’s Consultant, Aurora, Colo. (AWWA)
J. Forni, Jifco Inc., Livermore, Calif. (AWWA)
B. Hansen, National Welding Corporation, Midvale, Utah (AWWA)
B.D. Keil, Northwest Pipe Company, Draper, Utah (AWWA)
J. Luka, American SpiralWeld Pipe Company, Columbia, S.C. (AWWA)
R. Mielke, Northwest Pipe Company, Raleigh, N.C. (AWWA)
J. Olmos, Ameron International, Rancho Cucamonga, Calif. (AWWA)
G. Ruchti, Consultant, Punta Gorda, Fla. (AWWA)
R.N. Satyarthi, Baker Coupling Company, Los Angeles, Calif. (AWWA)
C. Shelley, Victaulic Company, Atlanta, Ga. (AWWA)
B. Simpson, American SpiralWeld Pipe Company, Columbia, S.C. (AWWA)
M.A. Vanderbosch, CAB Inc., Oakwood, Ga. (AWWA)
N. Williams, National Welding Corporation, Midvale, Utah (AWWA)

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
Dennis Dechant, Vice-Chair
John L. Luka, Secretary

General Interest Members

W.R. Brunzell, Brunzell Associates Ltd., Skokie, Ill. (AWWA)
R.J. Card, Lockwood, Andrews & Newnam, Houston, Texas (AWWA)
R.L. Coffey, HDR Engineering Inc., Omaha, Neb. (AWWA)
S.N. Foellmi, Black & Veatch Corporation, Irvine, Calif. (AWWA)
R.L. Gibson, Freese and Nichols Inc., Fort Worth, Texas (AWWA)
M.D. Gossett,* HDR, Denver, Colo. (AWWA)
M.B. Horsley,* Horsley Engineering LLC, Overland Park, Kan. (AWWA)
R.A. Kufaas, Norske Corrosion & Inspection Services Ltd., Surrey, B.C., Canada (AWWA)
J.L. Mattson, Corrosion Control Technologies, Sandy, Utah (AWWA)
A. Murdock, CH2M HILL, Salt Lake City, Utah (AWWA)
R. Ortega,* Consultant, Houston, Texas (AWWA)
E.S. Ralph,† Standards Engineer Liaison, AWWA, Denver, Colo. (AWWA)
A.E. Romer, AECOM, Orange, Calif. (AWWA)
J.R. Snow, MWH Americas, Denver, Colo. (AWWA)
W.R. Whidden, Woolpert, Winter Park, Fla. (AWWA)

Producer Members

D.W. Angell,† Standards Council Liaison, American Flow Control, Birmingham, Ala. (AWWA)
S.A. Arnaout, Forterra, Grand Prairie, Texas (AWWA)
H.H. Bardakjian, Consultant, Glendale, Calif. (AWWA)
D. Dechant, Dechant Infrastructure Service, Aurora, Colo. (AWWA)
V. DeGrande,* Ameron Water Transmission Group, Rancho Cucamonga, Calif. (AWWA)
W.B. Geyer, Steel Plate Fabricators Association, Lake Zurich, Ill. (SFPA)
B.D. Keil, Northwest Pipe Company, Draper, Utah (AWWA)
J.L. Luka, American SpiralWeld Pipe Company, Columbia, S.C. (AWWA)
R. Mielke,* Northwest Pipe Company, Raleigh, N.C. (AWWA)
J. Olmos, Ameron Water Transmission Group, Rancho Cucamonga, Calif. (AWWA)
G.F. Ruchti,* Consultant, Punta Gorda, Fla. (AWWA)
B.P. Simpson,* American Cast Iron Pipe Company, Birmingham, Ala. (AWWA)
C.C. Sundberg, Victaulic, Issaquah, Wash. (AWWA)
D. Walker, Avid Protective Products LTD/Tnemec Company, Oakville, Ont., Canada (AWWA)
J.A. Wise, Canus International Sales Inc., Surrey, B.C., Canada (AWWA)

User Members

G.A. Andersen, New York City Bureau of Water Supply, Little Neck, N.Y. (AWWA)
J.H. Bambei Jr., Bambei Engineering Services, Arvada, Colo. (AWWA)

* Alternate
† Liaison, nonvoting
B. Cheng, Metro Vancouver, Burnaby, B.C., Canada  (AWWA)
M.E. Conner, San Diego County Water Authority, San Diego, Calif.  (AWWA)
R.V. Frisz, US Bureau of Reclamation, Denver, Colo.  (BUREC)
S. Hattan, Tarrant Regional Water District, Fort Worth, Texas  (AWWA)
P.K. Karna, Tacoma Water, Tacoma, Wash.  (AWWA)
T.J. Jordan,* Metropolitan Water District of Southern California, La Verne, Calif.  (AWWA)
M. McReynolds, Metropolitan Water District of Southern California, Oak Park, Calif.  (AWWA)
M. Turney,* Denver Water, Denver, Colo.  (AWWA)
N.A. Wigner, Los Angeles Department of Water and Power, Los Angeles, Calif.  (AWWA)

* Alternate
Contents

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

<table>
<thead>
<tr>
<th>SEC.</th>
<th>PAGE</th>
<th>SEC.</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td></td>
<td>4.2</td>
<td>General Requirements .................. 4</td>
</tr>
<tr>
<td>I</td>
<td>Introduction .................. ix</td>
<td>4.3</td>
<td>Joint Types .......................... 5</td>
</tr>
<tr>
<td>I.A</td>
<td>Background .................. ix</td>
<td>4.4</td>
<td>Qualification of Welding Procedures, Welders, and Welding Operators ............. 7</td>
</tr>
<tr>
<td>I.B</td>
<td>History .................. ix</td>
<td>4.5</td>
<td>Welding Electrodes ................... 8</td>
</tr>
<tr>
<td>I.C</td>
<td>Acceptance .................. x</td>
<td>4.6</td>
<td>Welding Procedure Details ............ 8</td>
</tr>
<tr>
<td>II</td>
<td>Special Issues .................. xi</td>
<td>4.7</td>
<td>Repair of Welds ....................... 11</td>
</tr>
<tr>
<td>III</td>
<td>Use of This Standard .................. xi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III.A</td>
<td>Purchaser Options and Alternatives .................. xi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III.B</td>
<td>Modification to Standard .................. xii</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Major Revisions .................. xii</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Standard

1 General

1.1 Scope .................. 1
1.2 Purpose .................. 2
1.3 Application .................. 2

2 References .................. 2

3 Definitions .................. 3

4 Requirements

4.1 Materials .................. 4

5 Verification

5.1 Inspection .................. 11
5.2 Testing .................. 12
5.3 Rejection .................. 13

6 Delivery

6.1 Marking .................. 14
6.2 Packaging and Shipping .................. 14
6.3 Affidavit of Compliance .................. 15

Figures

1 Fillet-Weld Size .................. 9
2 Look-Box for Vacuum Testing of Circumferential Weld Seams .................. 14