Bolted Sleeve-Type Couplings for Plain-End Pipe

Effective date: August 1, 2017.
Committee Personnel

The Steel Water Pipe Manufacturers Technical Advisory Committee (SWPMTAC) Task group for updating C219, which developed this standard, had the following personnel at the time:

Ram N. Satyarthi, Chair

General Interest Members

L. Aulich, Mueller Company, Chattanooga, Tenn. (AWWA)
S. Bradberry, Ford Meter Box Company Inc., Pell City, Ala. (AWWA)
R.J. Card, Manufacturers Consultant, Sugar Hill, Ga. (AWWA)
A. Collins, JCM Industries Inc., Nash, Texas (AWWA)
T. Crail, Straub Coupling, National City, Calif. (AWWA)
J. Forni, Jifco Inc., Livermore, Calif. (AWWA)
B.D. Keil, Northwest Pipe Company, Draper, Utah (AWWA)
J.L. Luka, American SpiralWeld Pipe Company, Columbia, S.C. (AWWA)
J. Olmos, Ameron International, Rancho Cucamonga, Calif. (AWWA)
D. Piontek, Total Piping Solutions Inc., Olean, N.Y. (AWWA)
J. Reinheimer, Robar Industries, Surrey, B.C., Canada (AWWA)
R.N. Satyarthi, Baker Coupling Company Inc., Los Angeles, Calif. (AWWA)
K.L. Shaddix, Smith-Blair Inc., Texarkana, Texas (AWWA)
C. Shelley, Victaulic, Atlanta, Ga. (AWWA)
A. Steffan, Dresser Inc., Bradford, Pa. (AWWA)
G. Tate, Viking Johnson/Crane, Hitchin, United Kingdom (AWWA)
N. Thorgersen, Romac Industries Inc., Bothell, Wash. (AWWA)
D.R. Wagner, Consultant, St. Louis, Mo. (AWWA)
M. Zimmerle, Cascade Waterworks Manufacturing Company, Yorkville, Ill. (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 A. Dechant, Vice-Chair
John L. Luka, Secretary

General Interest Members

J.H. Bambei Jr., Bambei Engineering Services, Arvada, Colo. (AWWA)
W.R. Brunzell, Brunzell Associates Ltd., Skokie, Ill. (AWWA)
<table>
<thead>
<tr>
<th>Name</th>
<th>Company/Institution</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>R.L. Coffey</td>
<td>HDR Engineering Inc.</td>
<td>Omaha, Neb.</td>
</tr>
<tr>
<td>S.N. Foellmi</td>
<td>Black &amp; Veatch Corporation</td>
<td>Irvine, Calif.</td>
</tr>
<tr>
<td>R.L. Gibson</td>
<td>Freese and Nichols Inc.</td>
<td>Fort Worth, Texas</td>
</tr>
<tr>
<td>M.D. Gossett,</td>
<td>HDR, Denver, Colo.</td>
<td></td>
</tr>
<tr>
<td>M.B. Horsley,</td>
<td>Horsley Engineering LLC, Overland Park, Kan.</td>
<td></td>
</tr>
<tr>
<td>R. Issa</td>
<td>AECOM, McKinney, Texas</td>
<td></td>
</tr>
<tr>
<td>R.A. Kufaas</td>
<td>Norske Corrosion &amp; Inspection Services Ltd.</td>
<td>Surrey, B.C., Canada</td>
</tr>
<tr>
<td>J.L. Mattson</td>
<td>Corrosion Control Technologies</td>
<td>Sandy, Utah</td>
</tr>
<tr>
<td>A. Murdock</td>
<td>CH2M, Salt Lake City, Utah</td>
<td></td>
</tr>
<tr>
<td>R. Ortega,</td>
<td>Lockwood, Andrews &amp; Newnam Inc.</td>
<td>Houston, Texas</td>
</tr>
<tr>
<td>E.S. Ralph,</td>
<td>Standards Engineer Liaison, AWWA, Denver, Colo.</td>
<td></td>
</tr>
<tr>
<td>A.E. Romer</td>
<td>AECOM, Orange, Calif.</td>
<td></td>
</tr>
<tr>
<td>J.R. Snow</td>
<td>MWH Americas, Denver, Colo.</td>
<td></td>
</tr>
<tr>
<td>W.R. Whidden</td>
<td>Woolpert, Winter Park, Fla.</td>
<td></td>
</tr>
</tbody>
</table>

**Producer Members**

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

**User Members**


---

* Alternate  
† Liaison, nonvoting  

Copyright © 2017 American Water Works Association. All Rights Reserved.
G.A. Andersen, New York City Bureau of Water Supply, Little Neck, New York (AWWA)
B. Cheng, Metro Vancouver, Burnaby, B.C., Canada (AWWA)
M.E. Conner, San Diego County Water Authority, San Diego, Calif. (AWWA)
S. Hattan, Tarrant Regional Water District, Fort Worth, Texas (AWWA)
T.J. Jordan,* Metropolitan Water District of Southern California, LaVerne, Calif. (AWWA)
P.K. Karna, Tacoma Water, Tacoma, Wash. (AWWA)
M. McReynolds, Metropolitan Water District of Southern California, Oak Park, Calif. (AWWA)
K.R. Parbhoo, Los Angeles Department of Water and Power, Los Angeles, Calif. (AWWA)
M. Turney,* Denver Water, Denver, Colo. (AWWA)

* Alternate
Contents

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

SEC. PAGE

Foreword ix

I Introduction .......... ix

I.A Background .......... ix

I.B History .......... ix

I.C Acceptance .......... ix

II Special Issues .......... x

II.A Advisory Information on Product Application .......... x

II.B Chlorine and Chloramine Degradation of Elastomers .......... x

II.C Gasket Degradation Study .......... xi

III Use of This Standard .......... xi

III.A Purchaser Options and Alternatives .......... xi

III.B Modification to Standard .......... xii

IV Major Revisions .......... xii

V Comments .......... xiii

Standard

1 General

1.1 Scope .......... 1

1.2 Purpose .......... 1

1.3 Application .......... 1

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

3 Definitions .......... 4

4 Requirements

4.1 Permeation .......... 7

4.2 Materials of Construction .......... 7

4.3 Design of Bolted Couplings .......... 9

4.4 Detailed Design and Manufacture .......... 10

4.5 Performance .......... 12

4.6 Coatings .......... 12

4.7 Installation .......... 13

5 Verification

5.1 Inspection .......... 15

5.2 Tests .......... 16

5.3 Nonconformance .......... 17

6 Delivery

6.1 Marking .......... 17

6.2 Packaging and Shipping .......... 18

6.3 Affidavit of Compliance .......... 18

Figures

1 Typical Straight Coupling .......... 5

2 Typical Coupling Configurations .......... 6

Tables

1 Minimum Physical Properties of Gasket Material .......... 8

2 Minimum Center-Sleeve Length .......... 10

3 Maximum Angular Deflection (no in-service movement) .......... 13

4 Pipe-End Diameter Tolerances .......... 14

5 Recommended Centerline Gaps .......... 15