PVC PIPE ASSOCIATION
TECHNICAL BRIEF

UNDERSTANDING THE AWWA C900-16 STANDARD FOR PVC PRESSURE PIPE

AWWA published its new C900 standard in August 2016. C900-16 now includes all of the AWWA PVC pipe sizes, rendering the AWWA C905 standard obsolete. The Uni-Bell PVC Pipe Association has prepared a guide to the new standard that explains the changes from the previous standards and provides other pertinent information of interest to specifiers and designers. This tech brief examines some of the important information found in the new standard and covered in the Guide.

NEW SIZES AND PRESSURE CLASS - OPTIMIZING COST-EFFECTIVE DESIGN

The largest size in the previous C905-10 standard was 48-inch. C900-16 added two larger sizes (54- and 60-inch), expanded the number of pressure classes, and added sizes to existing pressure classes. A total of 44 pipe products were added to the 93 already included in the C900-07/C905-10 product mix, so C900-16 now includes 137 pipe options. This wide range of alternatives will allow engineers to fine-tune their designs and optimize cost-effectiveness.

OTHER MAJOR REVISIONS

Below is a summary of some of the major changes in AWWA C900-16 from the earlier C900-07 and C905-10 standards:

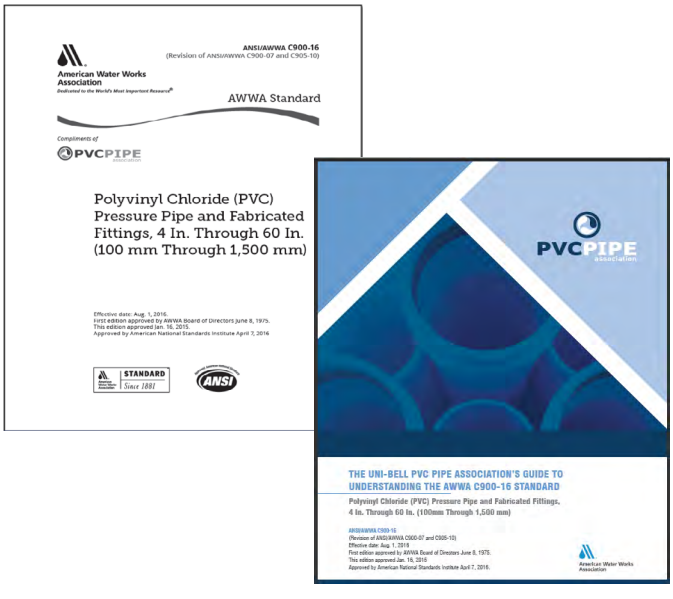
- Expansion of scope — non-potable water applications have been included
- Pipe testing – new tests
  - o Ring-tensile test (apparent strength at yield) — this test was added as an alternative to the burst-pressure test
  - o Hydrostatic integrity test for non-standard pipe lengths – alternative testing method
  - o Qualification test for fused joints — this joint type has become available since the last edition of C900
- Pipe marking — new requirements
  - o Allowable angular joint deflection — to prevent confusion, the allowable axial deflection (in degrees) must now be printed on each length of pipe
  - o Hydrostatic integrity test — more marking information is required regarding testing frequency

Also included is discussion of how to resolve differences between the C900 standard and the AWWA M23 Manual "PVC Pipe — Design and Installation."

WHAT THE GUIDE PROVIDES

The Guide provides information on all of the subjects listed above. In addition, the following topics are covered:

- Discussion of the requirements that remained unchanged from the old standards to the new C900-16
- Conflicts with Manual M23 – how to resolve differences between the C900 standard and the AWWA M23 Manual "PVC Pipe — Design and Installation."
- Updates to project certifications – what happens to existing specifications when a new standard is published
- Cyclic pressure design example – this example is the same as the one found in Appendix B of the standard, but additional information is provided



To order the C900-16 standard from AWWA, click here.

For an electronic copy of Uni-Bell's C900-16 guide, click here.

References: AWWA C900-07 "Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 12 In. (100 mm Through 300 mm), for Water Transmission and Distribution" (2007); C905-10 "Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 In. through 48 In. (350 mm through 1,200 mm)" (2010); AWWA C900-16 "Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 60 In. (100 mm Through 1,500 mm)" (2016); AWWA Manual M23 "PVC Pipe — Design and Installation" (2002); "Uni-Bell's Guide to Understanding the AWWA C900-16 Standard" (2017)

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