



AWWA C201-66

American Water Works Association

AWWA STANDARD
for
**FABRICATED ELECTRICALLY WELDED STEEL
WATER PIPE**

This "Standard for Fabricated Electrically Welded Steel Water Pipe" is based upon the best known experience and is intended for use under normal conditions. It is not designed for unqualified use under all conditions and the advisability of its use for any installation must be subjected to review by the engineer responsible.

First Edition approved Apr. 25, 1940; Second Edition approved May 15, 1960;
Third Edition approved Jan. 23, 1966.

Distributed by
AMERICAN WATER WORKS ASSOCIATION
Incorporated
2 Park Avenue, New York, N.Y. 10016

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Latest Revisions to C201

This Third Edition of AWWA Standard C201 includes a number of revisions approved by the AWWA Board of Directors on Jan. 23, 1966. Provision has been made to permit the contractor to determine the physical properties of the material from test specimens taken from the pipe after fabrication; provision has been made for purchasing the steel on a "chemical basis;" a section on affidavit of compliance has been added; important changes have been made for clarification in Sec. 6.3 regarding condition of pipe at delivery, rejection, and reconditioning; and several other changes have been made that are editorial in nature or that are for clarification of the intent of the standard.

Designation: As a result of these revisions, the designation of the standard has been changed from "C201-60T" to "C201-66."

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AWWA C201-66

AWWA Standard for
Fabricated Electrically Welded Steel
Water Pipe

Section 1—General

Sec. 1.1—Scope

This standard covers the manufacture of fabricated straight-butt seam or spiral-butt seam electrically welded steel pipe intended for the conveyance of water, or other special sections that are required for closures, curves, or changes in alignment or grade to meet special conditions. For the purpose of this standard, fabricated pipe shall be defined as steel pipe fabricated from plates or sheets; the properties of the material are determined prior to fabrication. At the option of the contractor, however, and if agreed to by the purchaser, the physical properties of the material may be determined from tests made on specimens taken from the pipe after fabrication.

Sec. 1.2—Definitions

Under this standard the following definitions shall apply:

1.2.1. *Purchaser*: a person, firm, corporation, or governmental subdivision entering into a contract or agreement for the purchase of any materials or for any work to be performed

1.2.2. *Contractor*: the person, firm, or corporation executing the contract

or agreement with the purchaser to furnish any material or perform any work

1.2.3. *Inspector*: the inspector or those assistants of the purchaser properly authorized and limited by the particular duties entrusted to them

1.2.4. *Fusion welding*: the process of welding metals in the molten or molten and vaporous state without the application of mechanical pressure or blows

1.2.5. *Root*: the zone at the bottom of the cross-sectional space provided to contain a fusion weld

1.2.6. *Throat*: the thickness of weld along a straight line passing through the root, excluding weld metal above plate surface

1.2.7. *Fillet weld*: a weld of approximately triangular cross section whose throat lies in a plane disposed approximately 45 deg with respect to the surfaces of the parts joined. The size of a fillet weld shall be expressed in terms of the width in inches of one of its adjacent fused legs, the shorter if unequal

1.2.8. *Butt weld*: a weld whose throat lies in a plane disposed approximately 90 deg with respect to the surface of at least one of the parts joined.

The size of a butt weld shall be expressed in terms of its net throat dimensions in inches, excluding weld metal above plate surface. A double-welded butt joint is one in which the filler metal is added to both sides. A single-welded butt joint is one in which the filler metal is added to one side only.

1.2.9. *Flame cutting*: the process of severing metal by means of a gas flame

1.2.10. *Nominal wall thickness*: the named or given thickness as distinguished from the actual or measured thickness

1.2.11. *Spiral-seam fusion-butt-welded pipe*: pipe in which the line of the fusion seam is a helix on the barrel of the pipe

1.2.12. *Straight-seam fusion-butt-welded pipe*: pipe in which the line of the fusion seam parallels the axis of the pipe

1.2.13. *Resistance-welded pipe*: pipe made by a series of operations in which the flat-rolled material is cold shaped into tubular form, and the union of the seam effected by the application of heat and pressure. The welding heat is generated at the seam by resistance to the flow of an electric current in a circuit of which the pipe to be welded forms a part.

1.2.14. *Ladle analysis*: the chemical analysis taken at the time the steel is being cast into ingots

1.2.15. *Check analysis*: the chemical analysis taken from the skelp or plate

1.2.16. *Coupon (weld coupon)*: a pair of test plates of specified dimensions made from metal of the same specifications and thickness as the pipe wall, prepared for welding, and attached to a pipe shell being welded at the end of a longitudinal joint so that

the edges to be welded in the test plates are a continuation of, and exactly similar to, the corresponding edges of the longitudinal joint. The pair of plates is then made into a single weld test specimen by having the weld metal deposited in the test plates continuously with the weld metal deposited in the longitudinal joint by the same technique

1.2.17. *Girth seam*: a circumferential welded seam lying in one plane, used to join lengths of straight pipe or to join pieces of mitered pipe to form fabricated elbows or turns

1.2.18. *Grade of material*: the designation given to a material according to its chemical analysis or physical properties.

1.2.19. *Chemical basis*: Steel ordered to a specific chemical composition range. Such physical characteristics of steel plates and sheets as strength, ductility, and weldability are directly related to the amount of the chemical constituents in the steel, and such physical characteristics can be determined by controlling the amounts of these chemicals.

Sec. 1.3—Supplementary Details to Be Specified by Purchaser

When purchasing pipe under this standard, the purchaser shall provide specific supplementary information regarding the following details:

1.3.1. The standard with which the pipe is to conform—that is, AWWA C201-66

1.3.2. Whether an affidavit of Compliance (Sec. 1.9) is required

1.3.3. Whether or not the physical properties of the material may be determined by tests on specimens taken from the fabricated pipe (Sec. 1.1, 2.1.1, 2.1.3)