



Designation: C915 – 79 (Reapproved 2018)

Standard Specification for Precast Reinforced Concrete Crib Wall Members¹

This standard is issued under the fixed designation C915; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers open- and closed-face precast reinforced concrete crib walls intended to act as earth-retaining structures or as protection against stream encroachment.

NOTE 1—This specification is a manufacturing and purchase specification only, with examples and suggestions for usage. Successful performance of this product depends on the proper selection and assembling of members, proper foundation and bearing material, and consideration of backfill heights, backfill material, drainage, and other engineering and construction considerations. The purchaser of the crib wall members specified herein is cautioned that he must properly correlate the field requirements with the members selected and provide adequate inspection at the construction site.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

A370 Test Methods and Definitions for Mechanical Testing of Steel Products

A615/A615M Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

A616/A616M Specification for Rail-Steel Deformed and Plain Bars for Concrete Reinforcement (Withdrawn 1999)³

A617/A617M Specification for Axle-Steel Deformed and

Plain Bars for Concrete Reinforcement (Withdrawn 1999)³

C31/C31M Practice for Making and Curing Concrete Test Specimens in the Field

C33/C33M Specification for Concrete Aggregates

C39/C39M Test Method for Compressive Strength of Cylindrical Concrete Specimens

C42/C42M Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete

C94/C94M Specification for Ready-Mixed Concrete

C150/C150M Specification for Portland Cement

C173/C173M Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method

C231/C231M Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method

C260/C260M Specification for Air-Entraining Admixtures for Concrete

C309 Specification for Liquid Membrane-Forming Compounds for Curing Concrete

C330/C330M Specification for Lightweight Aggregates for Structural Concrete

C494/C494M Specification for Chemical Admixtures for Concrete

C595/C595M Specification for Blended Hydraulic Cements

C618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete

3. Classification

3.1 Cribbing manufactured in accordance with this specification shall be of open- or closed-face design and shall conform to the standard designs shown in Figs. 1-4.

4. Ordering Information

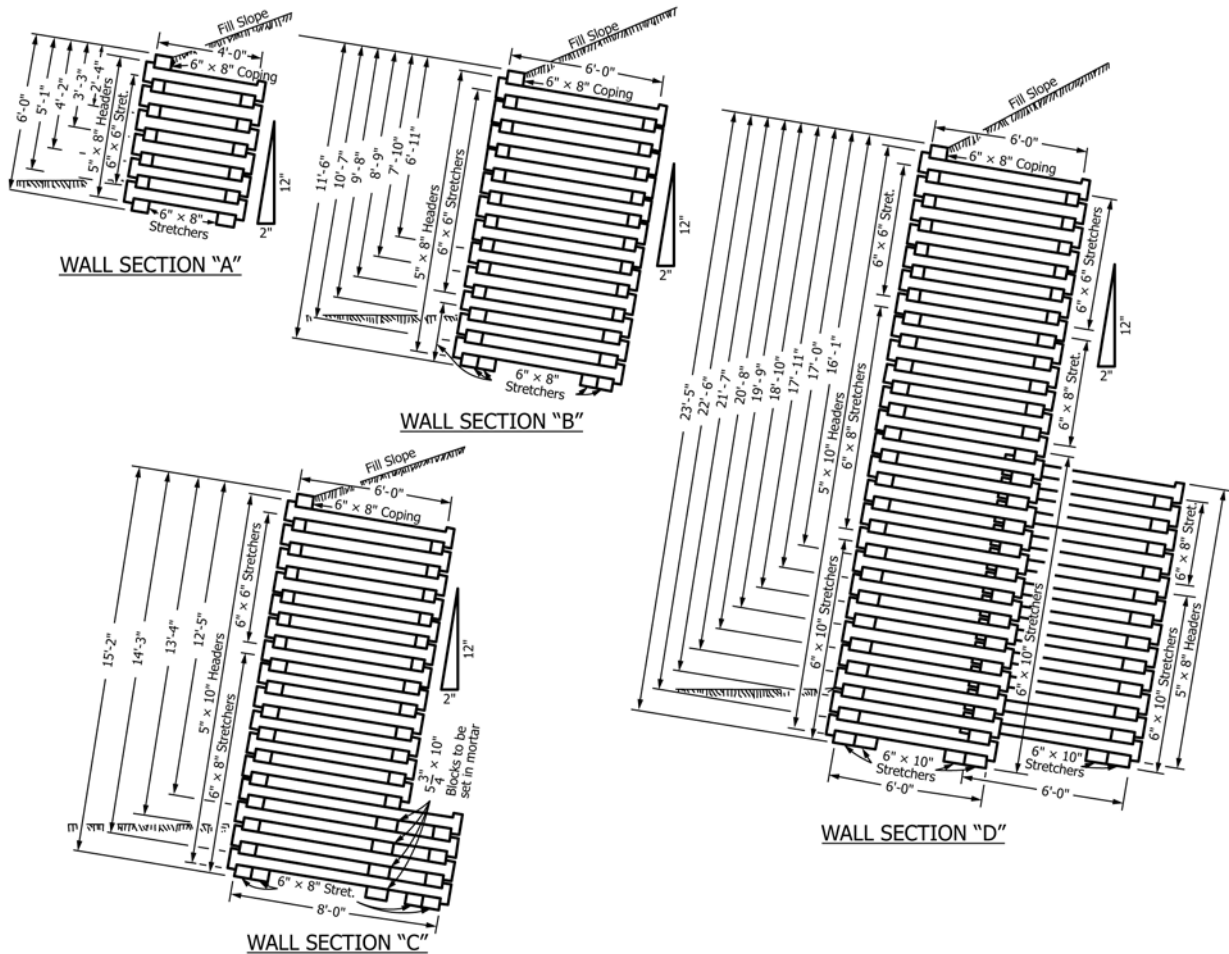
4.1 Acceptability of the crib wall members in all cross sections and lengths produced in accordance with Section 6 shall be determined by the results of cylinder compression tests of the placed concrete and mill certificates for the reinforcing steel and cement. A written statement, signed by the manufacturer, shall verify that the cement, aggregate, admixtures, and reinforcing steel conform to the specifications for materials in Section 5 and that the preparation of equipment, mixing, conveying, placing, consolidating, and curing meet requirements of the applicable standard specifications. The concrete strength as determined by the cylinder

¹ This specification is under the jurisdiction of ASTM Committee C27 on Precast Concrete Products and is the direct responsibility of Subcommittee C27.20 on Architectural and Structural Products.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.



NOTE 1—Surface drainage should not be permitted to flow directly against the face of the cribbing.

NOTE 2—Walls should be separated into 96-ft sections by the provision of double rows of headers.

NOTE 3—In using these typical sections for designing walls of intermediate height, the drawing should be read from the top down until the desired height is reached. Base details are repeated for intermediate heights.

NOTE 4—In areas of aggressive environment, Type II cement or protective coatings, or both, may need to be used to avoid deterioration of the walls.

NOTE 5—Metric Conversion: 1 ft = 304.8 mm 1 in. = 25.4 mm 1 lb = 0.453592 kg 1 ft³ = 0.028317 m³

FIG. 1 Open-Faced Concrete Crib Wall

compression tests shall be as specified in 6.3, and the test method shall conform to the requirements of Test Method C39/C39M. The manufacturer's statement shall also certify adherence to tolerance dimensions of Section 9.

4.2 Acceptability of the concrete strength of completed cribbing produced in accordance with Section 6 may also be determined by compressive tests of concrete cores in accordance with Test Method C42/C42M.

5. Materials

5.1 *Cement*—Portland cement shall conform to the requirements of Specification C150/C150M or shall be portland blast-furnace slag cement or portland-pozzolan cement conforming to the requirements of Specification C595/C595M.

5.2 *Aggregates*—Aggregates shall conform to Specification C33/C33M or C330/C330M. The nominal maximum size aggregate shall not be greater than 3/4 in. (19.0 mm).

5.3 *Admixtures*—Air-entraining admixtures shall conform to Specification C260/C260M. Chemical admixtures shall conform to Specification C494/C494M. Fly ash or other pozzolanic admixtures shall conform to the requirements of Specification C618.

5.4 *Water*—Water used for curing, washing aggregates, and mixing concrete shall be free of oils, organic materials, and other substances that may be deleterious to concrete or steel; it should not contain concentrations of chlorides in excess of 1000 ppm or sulfates in excess of 1000 ppm.

5.4.1 If water of higher chloride content is used by reason of nonavailability of water of recommended quality, the manufacturer must obtain approval from the user.

5.5 *Steel Reinforcement*—Steel reinforcement shall consist of bars conforming to Specifications A615/A615M, A616/A616M, or A617/A617M.