



Designation: C1089 – 06

Standard Specification for Spun Cast Prestressed Concrete Poles¹

This standard is issued under the fixed designation C1089; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers spun cast prestressed concrete poles for use as structural supports for streetlights; traffic signals; and transmission, distribution, and communication lines.

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.

2. Referenced Documents

2.1 ASTM Standards:²

A82/A82M Specification for Steel Wire, Plain, for Concrete Reinforcement

A416/A416M Specification for Steel Strand, Uncoated Seven-Wire for Prestressed Concrete

A421/A421M Specification for Uncoated Stress-Relieved Steel Wire for Prestressed Concrete

A496/A496M Specification for Steel Wire, Deformed, for Concrete Reinforcement

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

A617/A617M Specification for Axle-Steel Deformed and Plain Bars for Concrete Reinforcement (Withdrawn 1999)³

A641/A641M Specification for Zinc-Coated (Galvanized) Carbon Steel Wire

A722/A722M Specification for Uncoated High-Strength Steel Bars for Prestressing Concrete

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

C33 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

C150 Specification for Portland Cement

C172 Practice for Sampling Freshly Mixed Concrete

C260 Specification for Air-Entraining Admixtures for Concrete

C330 Specification for Lightweight Aggregates for Structural Concrete

C494/C494M Specification for Chemical Admixtures for Concrete

C595 Specification for Blended Hydraulic Cements

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

2.2 AASHTO Standard:

Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals (LTS-2)⁴

2.3 ANSI Standard:

National Electrical Safety Code⁵

2.4 PCI Guides:

Guide for Design of Prestressed Concrete Poles⁶

Guide Specification for Prestressed Concrete Poles⁶

3. Terminology

3.1 Definitions:

3.1.1 *cracking load*—a load which creates a bending moment of enough magnitude to produce a tensile stress greater than the sum of induced compression plus the tensile strength of the concrete resulting in tensile cracks on the tension face of the pole.

3.1.2 *spun pole*—a pole in which the concrete is distributed and compacted through centrifugal force.

3.1.3 *ultimate load*—maximum load the pole will carry in the specified direction, before the concrete or steel will reach its limiting state.

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.

⁴ Available from American Association of State Highway and Transportation Officials, 444 N. Capitol Street, NW, Washington, DC 20001.

⁵ Available from American National Standards Institute, 25 W. 43rd St., 4th Floor, New York, NY 10036.

⁶ Available from Prestressed Concrete Institute, 209 West Jackson Blvd., Chicago, IL 60606.