Designation: C1089 – 19

Standard Specification for Spun Cast Prestressed Concrete Poles[1]

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.

1. Scope

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

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

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]

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

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

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

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

A706/A706M Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement

A722/A722M Specification for High-Strength Steel Bars for Prestressed Concrete

A996/A996M Specification for Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement

A1064/A1064M Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete

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

C150/C150M Specification for Portland Cement

C172/C172M Practice for Sampling Freshly Mixed Concrete

C260/C260M Specification for Air-Entraining Admixtures for 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

2.2 *AASHTO Standard:*

Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals (LTS-5)[3]

2.3 *IEEE Standard:*

National Electrical Safety Code[4]

2.4 *PCI Guides:*

Guide for Design of Prestressed Concrete Poles[5]

Guide Specification for Prestressed Concrete Poles[5]

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.

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

[4] Available from Institute of Electrical and Electronics Engineers, Inc. (IEEE), 445 Hoes Ln., Piscataway, NJ 08854, http://www.ieee.org.

[5] Available from Prestressed Concrete Institute, 209 West Jackson Blvd., Chicago, IL 60606.