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Standard Specification for Spun Cast Prestressed Concrete Poles[1]

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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.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

A82/A82M Specification for Steel Wire, Plain, for Concrete Reinforcement (Withdrawn 2013)[3]

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A496/A496M Specification for Steel Wire, Deformed, for Concrete Reinforcement (Withdrawn 2013)[3]

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A617/A617M Specification for Axle-Steel Deformed and Plain Bars for Concrete Reinforcement (Withdrawn 1999)[3]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

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

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-5)[4]

2.3 *IEEE Standard:*

National Electrical Safety Code[5]

2.4 *PCI Guides:*

Guide for Design of Prestressed Concrete Poles[6]

Guide Specification for Prestressed Concrete Poles[6]

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

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