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(metric)

Specification for Pervious Concrete Pavement

An ACI Standard

Reported by ACI Committee 522

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Specification for Pervious Concrete Pavement

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This Specification covers materials, preparation, forming, placing, finishing, jointing, curing, and quality control of pervious concrete pavement. Provisions governing testing, evaluation, and acceptance of pervious concrete pavement are included.

This Reference Specification can be made applicable by citing it in the Project Specifications. The Architect/Engineer can supplement this reference specification, as needed, by specifying individual project requirements.

Keywords: construction; curing; inspection; jointing; parking lots; testing.

CONTENTS

(nonmandatory portion follows)

ACI 522.1M-13 supersedes ACI 522.1-08, became effective May 22, 2013, and was published October 2013.

PART 1—GENERAL

1.1—Scope

1.1.1 This Specification provides requirements for the construction of pervious concrete pavement.

1.1.2 If the requirements of this Specification conflict with the Contract Documents, the Contract Documents shall govern.

1.1.3 Values in this Specification are stated in SI units. A companion Specification in inch-pound units is also available.

1.1.4 Plus (+) tolerance increases the amount or dimension to which it applies, or raises a deviation from level. Minus (–) tolerance decreases the amount or dimension to which it applies, or lowers a deviation from level. Where only one signed tolerance is specified (+ or –), there is no specified tolerance in the opposing direction.

1.2—Definitions

acceptable or **accepted**—determined to be satisfactory by architect/engineer.

acceptance—acknowledgment by Architect/Engineer that submittal or completed Work is acceptable.

Architect/Engineer—the architect, engineer, architectural firm, or engineering firm developing contract documents or administering the work under contract documents, or both.

Contract Documents—a set of documents supplied by owner to bidders during bidding phase of a construction project, These documents include general requirements, contract forms, contract conditions, specifications, drawings, and addenda .

Contractor—the person, firm, or entity under contract for construction of the Work.

construction joint—the surface where two successive placements of concrete meet, across which it may be desirable to achieve bond.

contraction joint—formed, sawed, or tooled groove in a concrete structure to create a weakened plane to regulate the location of cracking.

design void content—the percentage of voids of a unit volume of pervious concrete based on the theoretical mixture proportions and design density and where the unit volume includes the volume of the solids and the voids.

early-entry dry-cut saw—a tool designed to produce joints in concrete commencing 1 to 4 hours after finishing.

hardened density—the dry density of pervious concrete as determined by Paragraphs 8.3 and 9.3 of ASTM C140-12.

hydration-stabilizing admixtures—set-retarding admixtures, conforming to ASTM C494/C494M Type B or D, that can predictably reduce the hydration rate of cement for applications requiring the management of time of setting of returned concrete, reducing the hydration rate of cement fines in water from concrete production, or for applications requiring extended delivery time of ready mixed concrete.

isolation joint—a normally vertical interface allowing relative movement without transferring sufficient tension, compression, or traction forces to negatively affect the performance of a pavement structure.

Owner—the corporation, association, partnership, individual, public body, or authority for whom the Work is constructed.

panel—a concrete element that is relatively thin with respect to other dimensions and is bordered by joints or edges.

permitted—accepted by or acceptable to Architect/Engineer, usually pertaining to a request by Contractor, or when specified in Contract Documents.

pervious pavement—a pavement comprising material with sufficient continuous voids to allow water to pass from the surface to the underlying layers.

Project Drawings—graphic presentation of project requirements.

Project Specification—written document that details requirements for the Work in accordance with service parameters and other specific criteria.

referenced standards—standardized mandatory-language documents of a technical society, organization, or association, including codes of local or state authorities, which are incorporated by reference in Contract Documents.

subbase—the layer in a pavement system between the subgrade and the base course, or between the subgrade and a pervious concrete pavement.

submittal—document or material provided to Architect/Engineer for review and acceptance.

Work—the entire construction or separately identifiable parts thereof required to be furnished under Contract Documents.

1.3—Referenced standards

1.3.1 Standards of ACI and ASTM cited in this Specification are listed by name and designation, including year.

1.3.1.1 *American Concrete Institute*

306.1-90—Standard Specification for Cold Weather Concreting

1.3.1.2 *ASTM International*

C42/C42M-13—Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete

C94/C94M-13—Standard Specification for Ready Mixed Concrete

C140-12—Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units

C150/C150M-12—Standard Specification for Portland Cement

C171-07—Standard Specification for Sheet Materials for Curing Concrete

C172/C172M-10—Standard Practice for Sampling Freshly Mixed Concrete

C174/C174M-12—Standard Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores

C260/C260M-10—Standard Specification for Air-Entraining Admixtures for Concrete

C494/494M-12—Standard Specification for Chemical Admixtures for Concrete