IN-LB Inch-Pound Units

An ACI Standard

Concrete Parking Lots and Site Paving—Specification

Reported by ACI Committee 330

ACI SPEC-330.1-24

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Reported by ACI Committee 330

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This Reference Specification for the Architect/Engineer can be applied to projects providing minimum requirements for construction of concrete parking lots and site paving by citing it in the Project Specification. A mandatory requirements checklist and an optional requirements checklist are provided to assist the Architect/Engineer in supplementing the provisions of this Specification as required or needed by designating or specifying individual project requirements. Included are requirements for submittals, testing and inspection, concrete materials, distributed steel, embedded steel at joints, jointing and sealant material, forms, subgrade preparation, subbase, placing, texturing, curing, jointing, tolerances, and opening to traffic. The materials, processes, quality control measures, and inspection described in this document should be tested, monitored, or performed as applicable only by individuals holding the appropriate ACI certification or equivalent.

Keywords: construction; curing; inspection testing; jointing; pavements; site paving; texturing.

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ACI SPEC-330.1-24 supersedes ACI 330.1-14(20) and was approved by the ACI Standards Board for publication July 2024, and published November 2024. This Specification was first published in 1994 and revised in 2003 and 2014.

PART 1—GENERAL

1.1—Scope

1.1.1 This Specification covers construction of concrete parking lots and site paving on ground, including attached and integral curbs. Site paving includes entrance and exit lanes as well as drive lanes within parking areas. Distributed steel may be required in irregularly shaped panels, and joints may require embedded steel. This distributed and embedded steel is also covered in this Specification.

1.1.2 This Specification is incorporated by Contract Documents and provides requirements for the Contractor.

1.1.3 This Specification governs for construction within its scope, except project-specific Contract Documents govern if there is a conflict.

1.1.4 This Specification governs if there is a conflict with referenced material and testing standards.

1.1.5 Contractor is permitted to submit written alternatives to any provision in this Specification for consideration.

1.1.6 Do not use this Specification in conjunction with ACI 301 unless Contract Documents state that this Specification governs for Work covered by 1.1.1.

1.1.7 Ignore provisions of this Specification that are not applicable to the Work.

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

1.1.9 The Notes to Specifier are not part of this Specification.

1.1.10 *Work not specified*—The following Work is not in the scope of this Specification:

(a) Continuously reinforced pavements
(b) Pervious pavements
(c) Precast pavements

1.2—Interpretation

1.2.1 Unless otherwise explicitly stated, this Specification shall be interpreted using the following principles.

1.2.1.1 Interpret this Specification consistent with the plain meaning of the words and terms used.

1.2.1.2 Definitions provided in this Specification govern over the definitions of the same or similar words or terms found elsewhere.

1.2.1.3 Whenever possible, interpret this Specification so that its provisions are in harmony and do not conflict.

1.2.1.4 Headings are part of this Specification and are intended to identify the scope of the provisions or sections that follow. If there is a difference in meaning or implication between the text of a provision and a heading, the meaning of the text governs.

1.2.1.5 Footnotes are part of this Specification. The meaning of the provision text governs in the event of a difference in meaning or implication between the provision text and a footnote to that provision.

1.2.1.6 Where a provision of this Specification involves two or more items, conditions, requirements, or events connected by the conjunctions "and" or "or," interpret the conjunction as follows:

"and" indicates that all the connected items, conditions, requirements, or events apply
"or" indicates that the connected items, conditions, requirements, or events apply singularly

1.2.1.7 The use of the verbs "may" or "will" indicates that the Specification provision is for information to the Contractor.

1.2.1.8 The phrase "as indicated in Contract Documents" means the Specifier included the provision requirements in Contract Documents.

1.2.1.9 The phrase "unless otherwise specified" means the Specifier may have included an alternative to the default requirement in Contract Documents.

1.2.1.10 The phrase "if specified" means the Specifier may have included a requirement in Contract Documents for which there is no default requirement in this Specification.

1.2.1.11 Unless otherwise stated, the inch-pound system of units is applicable to combined ASTM standards referenced in this Specification.

1.3—Definitions

The following definitions shall govern in this Specification.

accepted—determined by Architect/Engineer to be in compliance with Contract Documents.

Architect/Engineer—the architect, engineer, architectural firm, or engineering firm developing Contract Documents, or administering the Work under Contract Documents, or both.

cold weather—when air temperature has fallen to, or is expected to fall below, 40°F during the protection period; protection period is defined as the time recommended to prevent concrete from being adversely affected by exposure to cold weather during construction.

Construction Documents—written and graphic documents and specifications prepared or assembled for describing the location, design, materials, and physical characteristics of the elements of a project necessary for obtaining a building permit and construction of the project.

construction joint—interface between concrete placements intentionally created to facilitate construction.

Contract Documents—set of documents that form the basis of a contractual relationship between an Owner and Contractor or design-builder. These documents are defined by the contractual agreement and can contain contract forms, contract conditions, specifications, drawings, addenda, and contract changes.

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

location of cracking resulting from the dimensional change of different parts of the structure (sometimes referred to as control joints).

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

distributed steel—nonstructural deformed steel bars or welded wire used to restrain random cracks.

dowels—smooth bars or plates, usually steel placed across a joint to transfer vertical load while allowing the joint to open and close.

drawings—graphic presentations that detail requirements for Work and may include written notes.

embedded steel—dowels or tie bars used at joints to enhance load transfer or to prevent panel migration.

free edge—pavement abutting an undoweled isolation joint or edge of pavement.

hot weather—one or more conditions including, but not limited to, high ambient temperature, high concrete temperature, low relative humidity, or wind that impairs the quality of freshly mixed or hardened concrete by accelerating the rate of moisture loss and rate of cement hydration, or otherwise causing detrimental results.

inspection agency—person, firm, or entity under contract for providing inspection services.

isolation joint—separation between adjacent sections of a concrete structure to allow relative movement in three directions and through which all the bonded reinforcement is interrupted.

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

panel—individual concrete pavement slab bordered by joints or slab edges.

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

site paving—paved areas intended for uses other than vehicle parking or access drives, including entrance and exit lanes as well as drive lanes within parking areas.

specialty engineer—individual representing Contractor who is licensed to practice engineering as defined by the statutory requirements of the professional licensing laws of the state or jurisdiction in which the project is to be constructed.

Specification—written document that details requirements for Work.

stabilizing agent—binder materials, including hydrated lime, fly ash, hydraulic cement, and slag cement, used to mix into soils to improve geotechnical properties such as compressibility, strength, permeability, and durability.

submit—provide to Architect/Engineer for review.

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

testing agency—person, firm, or entity under contract for providing testing services.

tie bar—reinforcing bar, commonly a deformed reinforcing bar, intended to transmit tension through a contraction or construction joint.

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

1.4—Referenced standards

American Concrete Institute (ACI)

ACI 117-10(2015)—Specification for Tolerances for Concrete Construction and Materials and Commentary

ACI 301-20—Specifications for Concrete Construction

ASTM International

ASTM A36/A36M-19—Standard Specification for Carbon Structural Steel

ASTM A615/A615M-20—Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

ASTM A820/A820M-22—Standard Specification for Steel Fibers for Fiber-Reinforced Concrete

ASTM C31/C31M-23—Standard Practice for Making and Curing Concrete Test Specimens in the Field

ASTM C33/C33M-23—Standard Specification for Concrete Aggregates

ASTM C39/C39M-24—Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens

ASTM C42/C42M-20—Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete

ASTM C78/C78M-22—Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)

ASTM C94/C94M-24a—Standard Specification for Ready-Mixed Concrete

ASTM C114-24—Standard Test Methods for Chemical Analysis of Hydraulic Cement

ASTM C138/C138M-23—Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete

ASTM C143/C143M-20—Standard Test Method for Slump of Hydraulic-Cement Concrete

ASTM C150/C150M-22—Standard Specification for Portland Cement

ASTM C171-16—Standard Specification for Sheet Materials for Curing Concrete

ASTM C172/C172M-17—Standard Practice for Sampling Freshly Mixed Concrete

ASTM C173/C173M-24a—Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method

ASTM C231/C231M-24—Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method

ASTM C260/C260M-10a(2016)—Standard Specification for Air-Entraining Admixtures for Concrete

ASTM C295/C295M-19—Standard Guide for Petrographic Examination of Aggregates for Concrete

ASTM C309-19—Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

ASTM C494/C494M-19e1—Standard Specification for Chemical Admixtures for Concrete

ASTM C595/C595M-23—Standard Specification for Blended Hydraulic Cements

ASTM C618-23e1—Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete