

An ACI Standard

Specification for Unreinforced Concrete Parking Lots and Site Paving

Reported by ACI Committee 330

ACI 330.1-14



American Concrete Institute
Always advancing



Specification for Unreinforced Concrete Parking Lots and Site Paving

Copyright by the American Concrete Institute, Farmington Hills, MI. All rights reserved. This material may not be reproduced or copied, in whole or part, in any printed, mechanical, electronic, film, or other distribution and storage media, without the written consent of ACI.

The technical committees responsible for ACI committee reports and standards strive to avoid ambiguities, omissions, and errors in these documents. In spite of these efforts, the users of ACI documents occasionally find information or requirements that may be subject to more than one interpretation or may be incomplete or incorrect. Users who have suggestions for the improvement of ACI documents are requested to contact ACI via the errata website at <http://concrete.org/Publications/DocumentErrata.aspx>. Proper use of this document includes periodically checking for errata for the most up-to-date revisions.

ACI committee documents are intended for the use of individuals who are competent to evaluate the significance and limitations of its content and recommendations and who will accept responsibility for the application of the material it contains. Individuals who use this publication in any way assume all risk and accept total responsibility for the application and use of this information.

All information in this publication is provided "as is" without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose or non-infringement.

ACI and its members disclaim liability for damages of any kind, including any special, indirect, incidental, or consequential damages, including without limitation, lost revenues or lost profits, which may result from the use of this publication.

It is the responsibility of the user of this document to establish health and safety practices appropriate to the specific circumstances involved with its use. ACI does not make any representations with regard to health and safety issues and the use of this document. The user must determine the applicability of all regulatory limitations before applying the document and must comply with all applicable laws and regulations, including but not limited to, United States Occupational Safety and Health Administration (OSHA) health and safety standards.

Participation by governmental representatives in the work of the American Concrete Institute and in the development of Institute standards does not constitute governmental endorsement of ACI or the standards that it develops.

Order information: ACI documents are available in print, by download, on CD-ROM, through electronic subscription, or reprint and may be obtained by contacting ACI.

Most ACI standards and committee reports are gathered together in the annually revised ACI Manual of Concrete Practice (MCP).

American Concrete Institute
3880 Country Club Drive
Farmington Hills, MI 48331
Phone: +1.248.848.3700
Fax: +1.248.848.3701

www.concrete.org

Specification for Unreinforced Concrete Parking Lots and Site Paving

An ACI Standard

Reported by ACI Committee 330

Robert Louis Varner, Chair

David J. Akers
Richard O. Albright
J. Howard Allred
William L. Arent
Joseph P. Bergmaier
Bryan M. Birdwell
David W. Buzzelli
Michael W. Cook
Tim Cost
Michael S. Davy

Norbert J. Delatte
Douglas W. Deno
Edwin H. Gebauer
Nader Ghafoori
Bruce A. Glaspey
Omer Heraclis
Jerry A. Holland
Jim Hoolehan
Kenneth G. Kazanis
Frank A. Kozeliski

Frank Lennox
John R. Love III
Richard E. Miller
Jon I. Mullarky
Matthew A. Offenberger
Scott M. Paik
Nigel K. Parkes
Jan R. Pajinski
David Nelson Richardson
Robert Allen Rodden

David M. Suchorski
Scott M. Tarr
Diep T. Tu
Christopher R. Tull
Don J. Wade
Richard L. Warren

Consulting Member
D. Gene Daniel

This specification covers minimum requirements for the construction of unreinforced concrete parking lots on grade. Included are requirements for submittals, testing and inspection, concrete materials, embedded reinforcement at joints, jointing and sealant material, forms, subgrade preparation, subbase, placing, texturing, curing, jointing, tolerances, and opening to traffic. This specification does not cover requirements for pervious concrete.

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

CONTENTS

(mandatory portion follows)

PART 1—GENERAL, p. 2

- 1.1—Scope, p. 2
- 1.2—Definitions, p. 2
- 1.3—Referenced standards, p. 3
- 1.4—Submittals, p. 3
- 1.5—Storage and handling, p. 3
- 1.6—Testing and inspection, p. 3

PART 2—PRODUCTS, p. 3

- 2.1—Concrete, p. 3
- 2.2—Embedded reinforcement at joints, p. 4
- 2.3—Membrane-forming curing compounds, p. 4
- 2.4—Joint and sealant material, p. 4
- 2.5—Forms, p. 4

PART 3—EXECUTION, p. 4

- 3.1—Subgrade preparation, p. 4
- 3.2—Subbase, p. 4
- 3.3—Setting forms, p. 4

- 3.4—Placing embedded reinforcement at joints, p. 4
- 3.5—Batching, mixing, and delivery, p. 4
- 3.6—Placing and finishing fixed-form pavement, p. 4
- 3.7—Placing and finishing slipform and laser-guided screed pavements, p. 5
- 3.8—Edging, p. 5
- 3.9—Final surface texture, p. 5
- 3.10 Tolerances, p. 5
- 3.11—Curing, p. 5
- 3.12—Hot- or cold-weather construction, p. 5
- 3.13—Jointing, p. 5
- 3.14—Opening to traffic, p. 6

NOTES TO SPECIFIER, p. 6

General notes, p. 6

(nonmandatory portion follows)

FOREWORD TO CHECKLISTS, p. 6

MANDATORY REQUIREMENTS CHECKLIST, p. 7

OPTIONAL REQUIREMENTS CHECKLIST, p. 8

SUBMITTALS CHECKLIST, p. 8

ACI 330.1-14 became effective July 22, 2014, and was adopted and published November 2014.

Copyright © 2014, American Concrete Institute

All rights reserved including rights of reproduction and use in any form or by any means, including the making of copies by any photo process, or by electronic or mechanical device, printed, written, or oral, or recording for sound or visual reproduction or for use in any knowledge or retrieval system or device, unless permission in writing is obtained from the copyright proprietors.

(mandatory portion follows)

PART 1—GENERAL

1.1—Scope

1.1.1 This specification covers requirements for the construction of unreinforced concrete parking lots and site paving on grade, including attached and integral curbs. Site paving includes entrance and exit lanes as well as drive lanes within parking areas.

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

1.1.3 The Notes to Specifiers are not part of this specification.

1.2—Definitions

The following definitions govern in this specification. For definitions not given below, refer to “ACI Concrete Terminology (ACE CT)”, <http://www.concrete.org/Tools/ConcreteTerminology.aspx>

accepted—determined to be satisfactory by Architect/Engineer or Owner.

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

cold weather—a period when the average daily ambient temperature is below 40°F (5°C) for more than three successive days. Note: The average daily temperature is the average of the highest and lowest temperature during the period from midnight to midnight. When temperatures above 50°F (10°C) occur during more than half of any 24-hour duration, the period shall no longer be regarded as cold weather.

construction joint—the surface where two successive placements of concrete meet, where the first placement has hardened before the next placement.

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

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. (Commonly referred to as “control joints.”)

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

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

free edge—the edge of pavement abutting an isolation joint or the edge of the pavement against which no concrete is placed.

hot weather—job-site conditions that accelerate the rate of moisture loss or rate of cement hydration of freshly mixed concrete, including an ambient temperature of 27°C (80°F)

or higher, and an evaporation rate that exceeds 1 kg/m²/h, or as revised by the Architect/Engineer.

isolation joint—a separation between adjacent parts of a structure that allows relative movement in two or more directions. Isolation joints are usually vertical planes located to avoid formation of cracks in the structure.

mild exposure condition—an environment in which the concrete will not be exposed to freezing and thawing or to deicing agents.

moderate exposure condition—an environment, normally in temperate climate regions, in which concrete will only occasionally be exposed to moisture and will not be saturated prior to freezing and where no deicing agents or other aggressive chemicals are used.

Owner—the corporation, association, partnership, individual, public body, or authority with whom the Contractor enters into an agreement and for whom the Work is constructed.

panel—an 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 when specified in Contract Documents.

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 documents of a technical society, organization, or association, including the building codes of local or state authorities, which are referenced in Contract Documents.

severe exposure condition—an environment, normally in cold climate regions, in which concrete may be saturated, or in almost continuous contact with moisture prior to freezing, and where deicing agents are used.

site paving—paved areas intended for uses other than vehicle parking or access drives; for example, pedestrian or wheeled traffic or storage of products, materials, or trailers.

subbase—the layer in the pavement system between the subgrade and the concrete pavement.

subgrade—the soil prepared and compacted to support a structure or a pavement system.

submit—provide to Architect/Engineer for review.

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

supplementary cementitious material (SCM)—inorganic material such as fly ash, silica fume, metakaolin, or slag cement that reacts pozzolanically or hydraulically.

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

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

unreinforced concrete pavement—concrete pavement that does not contain distributed deformed reinforcing bars or welded-wire reinforcement.