

ACI 309.2R-15

Guide to Identification and Control of Visible Surface Effects of Consolidation on Formed Concrete Surfaces

Reported by ACI Committee 309



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Reported by ACI Committee 309

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This document provides guidelines for identifying and controlling visible effects on the surface of concrete as it relates to consolidation on precast or cast-in-place-formed concrete surfaces. A perfectly homogenous and blemish-free concrete element is difficult, if not impossible, to achieve. This document, therefore, does not define an acceptable level of quality, as this should be defined in the contract documents.

This guide explores the direct and indirect cause-and-effect relationships, as well as other factors, concerning concrete surface appearance. Photographs are included in this document to illustrate typical concrete surface finish effects that are a departure from absolute perfection. Negative surface effects in concrete can be minimized by proper planning during the design and specification stages. Significant consolidation factors that minimize undesirable concrete negative surface effects are also discussed.

Keywords: bugholes; consistency; consolidation; construction joints; discoloration; form offset; formwork (construction); layer lines; mixture proportioning; plastic settlement cracking; preplaced-aggregate concrete; quality control; sand streaking; surface air voids; surface defects; vibration; workability.

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CONTENTS

CHAPTER 1—INTRODUCTION AND SCOPE, p. 2

- 1.1—Introduction, p. 2
- 1.2—Scope, p. 2

CHAPTER 2—DEFINITIONS, p. 2

- 2.1—Definitions, p. 2

CHAPTER 3—FACTORS CAUSING NEGATIVE SURFACE EFFECTS, p. 2

- 3.1—General causes of negative surface effects, p. 2
- 3.2—Design considerations of structural members, p. 2
- 3.3—Specifications, p. 4
- 3.4—Forms, p. 4
- 3.5—Properties of fresh concrete, p. 6
- 3.6—Placement, p. 7
- 3.7—Consolidation, p. 7
- 3.8—Special construction conditions, p. 7

CHAPTER 4—NEGATIVE SURFACE EFFECTS, p. 8

- 4.1—Honeycomb, p. 8
- 4.2—Air voids in formed surfaces, p. 8
- 4.3—Formstreaking, p. 8
- 4.4—Aggregate transparency, p. 8
- 4.5—Color variation, p. 8
- 4.6—Sand streaking, p. 9
- 4.7—Layer lines, p. 9

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