Guide for Conducting a Visual Inspection of Concrete in Service

Reported by ACI Committee 201



American Concrete Institute[®]

This is a preview. Click here to purchase the full publication.



American Concrete Institute[®] Advancing concrete knowledge

Guide for Conducting a Visual Inspection of Concrete in Service

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. Proper use of this document includes periodically checking for errata at **www.concrete.org/committees/errata.asp** 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.

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 38800 Country Club Drive Farmington Hills, MI 48331 U.S.A. Phone: 248-848-3700 Fax: 248-848-3701

www.concrete.org

This is a preview. Click here to purchase the full publication.

ACI 201.1R-08

Guide for Conducting a Visual Inspection of Concrete in Service

Reported by ACI Committee 201

Russell L. Hill Chair

Jon B. Ardahl^{*} Andrew J. Boyd Paul W. Brown Ramon J. Carrasquillo Rachel J. Detwiler Jonathan E. Dongell[†] Per Fidjestol Harvey H. Haynes Geoffrey Hichborn, Sr. Eugene D. Hill, Jr.[‡] William G. Hime Charles J. Hookham R. Doug Hooton Brian B. Hope Donald J. Janssen Roy H. Keck Mohammad S. Khan Kimberly E. Kurtis Joseph F. Lamond Michael L. Leming

Mohamad A. Nagi Robert E. Neal Charles K. Nmai Karthik H. Obla Robert C. O'Neill David A. Rothstein Mauro J. Scali Hannah C. Schell Jan P. Skalny

Stella Lucie Marusin

Kevin J. Folliard

Secretary

Niels Thaulow Michael D. A. Thomas[†] Paul J. Tikalsky David Trejo Claude B. Trusty, Jr. Thomas J. Van Dam[†] Orville R. Werner, II Terry J. Willems Michelle L. Wilson[†]

*Subcommittee 201-C Chair during revision. *Subcommittee 201-C members who revised this guide.

[‡]Deceased.

This guide provides terminology to perform and report on the visual condition of concrete in service. It includes a checklist of the many details that may be considered in making a report and descriptions for various concrete conditions associated with the durability of concrete.

Keywords: chemical attack; concrete durability; corrosion; cracking; deterioration; discoloration; environments; joints; oxidation; popouts; scaling; serviceability; spalling; staining; surface defects; surface imperfections.

ACI Committee Reports, Guides, Manuals, Standard Practices, and Commentaries are intended for guidance in planning, designing, executing, and inspecting construction. This document is 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. The American Concrete Institute disclaims any and all responsibility for the stated principles. The Institute shall not be liable for any loss or damage arising therefrom.

Reference to this document shall not be made in contract documents. If items found in this document are desired by the Architect/Engineer to be a part of the contract documents, they shall be restated in mandatory language for incorporation by the Architect/Engineer.

CONTENTS Chapter 1—Introduction, p. 201.1R-2

- 1.1—Scope
- 1.2—Introduction
- 1.3—References

Chapter 2—Descriptions of distress, p. 201.1R-2

- 2.1—Cracking
- 2.2—Distress
- 2.3—Textural features and phenomena relative to their development

Chapter 3—Visual inspection report and checklist, p. 201.1R-12

Appendix, p. 201.1R-14

ACI 201.1R-08 supersedes ACI 201.1R-92 (Reapproved 1997) and was adopted and published July 2008.

Copyright © 2008, 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.