ACI 437.2M-13

(metric)

## Code Requirements for Load Testing of Existing Concrete Structures (ACI 437.2M-13) and Commentary

An ACI Standard

Reported by ACI Committee 437



# **American Concrete Institute®**

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



#### Code Requirements for Load Testing of Existing Concrete Structures and Commentary

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

#### www.concrete.org

ISBN: 978-0-87031-891-7

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

### ACI 437.2M-13

### Code Requirements for Load Testing of Existing Concrete Structures (ACI 437.2M-13) and Commentary

Reported by ACI Committee 437

Carl J. Larosche\*, Chair

Joseph A. Amon Nicholas J. Carino Paolo Casadei John A. Frauenhoffer Nestore Galati<sup>\*</sup> Zareh B. Gregorian Pawan R. Gupta Frederick D. Heidbrink Ashok M. Kakade Danielle D. Kleinhans Andrew T. Krauklis Daniel J. McCarthy Javeed Munshi Antonio Nanni Thomas E. Nehil<sup>\*</sup> Renato Parretti K. Nam Shiu Jeffrey S. West<sup>\*</sup> J. Gustavo Tumialan\*, Secretary

Paul H. Ziehl\*

Consulting Members Marco Arduini Habib M. Zein Alabideen

\*Member of the subcommittee that prepared this report

This code provides requirements for test load magnitudes, test protocols, and acceptance criteria for conducting a load test as a means of evaluating the safety and serviceability of concrete structural members and systems for existing buildings as provided for by ACI 562-13. A load test may be conducted as part of a structural evaluation to determine whether an existing building requires repair and rehabilitation, or to verify the adequacy of repair and rehabilitation measures applied to an existing building, or both. This code contains provisions for both a cyclic load test and a monotonic load test procedure.

**Keywords:** acceptance criteria; cyclic loading; load test; monotonic loading; test load magnitude; test protocol.

#### CONTENTS

#### CHAPTER 1—GENERAL, p. 3

- 1.1—General, p. 3
- 1.2—Scope, p. 3
- 1.3—Purpose, p. 3
- 1.4—Limitations, p. 4
- 1.5—Interpretation, p. 4
- 1.6—Language and units of measurement, p. 4

#### **CHAPTER 2—NOTATION AND DEFINITIONS**, p. 5

- 2.1—Notation, p. 5
- 2.2—Definitions, p. 6

#### CHAPTER 3—REFERENCED STANDARDS, p. 8

#### CHAPTER 4—TEST LOAD, p. 9

- 4.1—Service loads, p. 9
- 4.2—Test load magnitude, p. 9

ACI 437.2M-13 was adopted October 23, 2013, and published May 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.