Guide for Lap Splice and Development Length of High Relative Rib Area Reinforcing Bars in Tension and Commentary

Reported by Joint ACI-ASCE Committee 408



American Concrete Institute®



Guide for Lap Splice and Development Length of High Relative Rib Area Reinforcing Bars in Tension 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. 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

Guide for Lap Splice and Development Length of High Relative Rib Area Reinforcing Bars in Tension and Commentary

Reported by Joint ACI-ASCE Committee 408

Adolfo B. Matamoros Chair

Theresa M. Ahlborn	David Darwin	Neil M. Hawkins	Max L. Porter
Gyorgy L. Balazs	Richard A. Devries	Roberto T. Leon	Julio A. Ramirez
Robert W. Barnes	Rolf Elighausen	LeRoy A. Lutz	John F. Silva
JoAnn P. Browning	Anthony L. Felder	Denis Mitchell	Ahmet Koray Tureyen
Douglas B. Cleary	Robert J. Frosch	Stravroula J. Pantazopoulou	Jun Zuo
Iames V Cox	Bilal S. Hamad		

This guide provides recommended requirements to determine tension development and splice lengths for high relative rib area bar reinforcement, which are not in commercial production in the U.S. at the time of publication. When such requirements are applicable for a project, the user may incorporate the information in this guide into a legal document; however, this guide is not an ACI standard and shall not be adopted by reference into legal documents.

To assist the user to incorporate the information into a legal document, the relevant portion of the document is written in mandatory language. A commentary to the mandatory language portion is provided for additional information. Commentary provisions begin with an "R," such as "R1.1.1," and are shown in italics.

Keywords: bar reinforcement; bar ribs; bond; development length; high relative rib area; lap splice length.

ACI Committee Reports, Guides, Manuals, 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. 408.3R-2

Chapter 2—Scope, p. 408.3R-2

Chapter 3—Notation and definitions, p. 408.3R-3

3.1—Notation

3.2—Definitions

Chapter 4—Development of high relative rib area bar reinforcement in tension, p. 408.3R-3

Chapter 5—Lap splices of high relative rib area bar reinforcement in tension, p. 408.3R-6

Chapter 6—References, p. 408.3R-7

6.1—Referenced standards and reports

6.2—Cited references

Appendix A—Recommended supplement to ASTM A615/A615M for high relative rib area bars, p. 408.3R-7

A.1—Requirements for deformations

A.2—Relative rib area

A.3—Type of steel

A.4—Referenced documents

ACI 408.3R-09 supersedes ACI 408.3-01 and was adopted and published October 2009. Copyright © 2009, 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.