

### Concrete Craftsman Series Concrete Fundamentals



CCS-0(16)



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# Concrete Craftsman Series Concrete Fundamentals

CCS-0 Concrete Fundamentals was originally written by ACI Committee E703, Concrete Construction Practices.

The 2016 edition of CCS-0 was reviewed and approved by an Education Task Group including: William Nash, William Palmer, Michael Pedraza, David Suchorski, and Scott Tarr. Thank you to the Task Group members for their thoughtful and thorough review of the fundamental material.





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#### PREFACE

This is one of six books in the Concrete Craftsman Series published by the American Concrete Institute. This book is intended for anyone who wants an introduction to concrete and concrete construction. Craftsmen in the concrete field may find it particularly useful as a guide for good practice.

Two other books in this series cover common concrete topics. "CCS-1 Slabs-on-Ground" covers good construction practices for slabs and is the basis for the ACI Flatwork Finisher Certification exam. "CCS-4 Shotcrete for the Craftsman" covers shotcrete construction practices and is the basis for the ACI Shotcrete Nozzleman Certification exam. CCS-4 is also available in a Spanish language edition.

Decorative concrete topics are covered in "CCS-5 Placing and Finishing Decorative Concrete Flatwork." This book provides details about the materials, equipment, and techniques required to successfully install decorative concrete flatwork.

Two other books that are part of this series are no longer in publication. "CCS-2 Cast-in-Place Walls," described formwork, reinforcement, placing of concrete, curing, and wall finishes. "CCS-3 Supported Beams and Slabs," provided technical background on such subjects as shoring, reshoring, form removal, reinforcement placement, and concrete placing, finishing, and curing.

Because this book went back to cover the fundamentals, it is numbered accordingly. "CCS-0 Concrete Fundamentals," starts with the most basic question of all, "What is concrete?" Other sections cover materials, basic construction practices, and testing. This book is a good starting point for someone in the concrete industry, whether they are an apprentice, a journeyman, a foreman, a material supplier, or even a young engineer without field experience. This book is not a design aid but rather a guide to good practice.

The design of concrete structures is the responsibility of a professional engineer. Designs are usually reviewed and approved by local building authorities and are governed by codes such as the International Building Code (IBC), or other local building codes that usually reference "Building Code Requirements for Structural Concrete (ACI 318) and Commentary." This book is not a replacement for these documents. Plans and specifications for a specific project, and local building code requirements are required to be followed, even if they differ from the information in this book.



*Fig.* 0.1—*Project plans and specifications should be followed. Practices described in this book are not a replacement for project plans*