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2014 Catalog

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2011 Building Code Requirements for Structural Concrete (ACI 318-11) and Commentary

ACI 318 is a must-have standard for all professionals engaged in concrete design, construction, and inspection, containing the latest code requirements for structural concrete. The companion commentary, in a side-by-side column format to match the corresponding code requirements, provides background information for code provisions.

The ACI 318-11 edition features some key changes, including design requirements for adhesive anchors, reinforcement detailing requirements for seismic application, and much more.

Over 20 countries worldwide have adopted ACI 318 for use in their national codes.

For additional formats, see page 30.
Order Code: 31811.CAT
$196.50 (ACI members $118.00)

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American Concrete Institute 2014 Catalog

Founded in 1904, the American Concrete Institute is a technical and education society dedicated to improving the design, construction, maintenance, and repair of concrete and masonry structures.

Our annual catalog is a compilation of the products and services we offer. It includes a description of hundreds of technical committee documents, Special Publications, and Symposium Publications. It also includes education and certification publications, seminars, certification programs, and information on how to join ACI.

Symbols and Related Information

Whenever possible, the use of phrases, characters, and numbers has been standardized. For example, the phrase "Also in all MCP formats (Vol. 1)" indicates that a standard or report is also reproduced in the 2014 *Manual of Concrete Practice* (MCP), Part 1, and 2014 MCP CD/USB/online. A similar naming convention applies to the documents contained in the other parts of the MCP. Details relating to the 2014 *Manual of Concrete Practice*, Parts 1 through 7, are found on pages 52-53.

Index numbers such as 301-10 or 302.1R-04 indicate an ACI technical committee document. The number before the decimal point is the sponsoring committee number. If a document is a report, the number is followed by the letter "R." If a document is a TechNote, the number is followed by the letter "T." If no letter is shown, the document is a standard. The last two numbers indicate the year of publication.

Special and Symposium Publications are designated by the letters SP followed by a number. For example, SP-2 designates Special Publication No. 2. CCS denotes concrete craftsman series, and certification publications have "CP" before the product number (such as CP-1(14)).

This catalog is arranged according to technical topics. It can be searched either by the Topical Index in the front of the catalog or by the Numerical Index in the back. Below is a summary of what you will find in this catalog:

The American Concrete Institute is committed to providing knowledge and information on the best use of concrete. If you have any suggestions, comments, or questions about the content of this catalog, please contact Diane Baloh at Diane.Baloh@concrete.org or (248) 848-3706.

How to order

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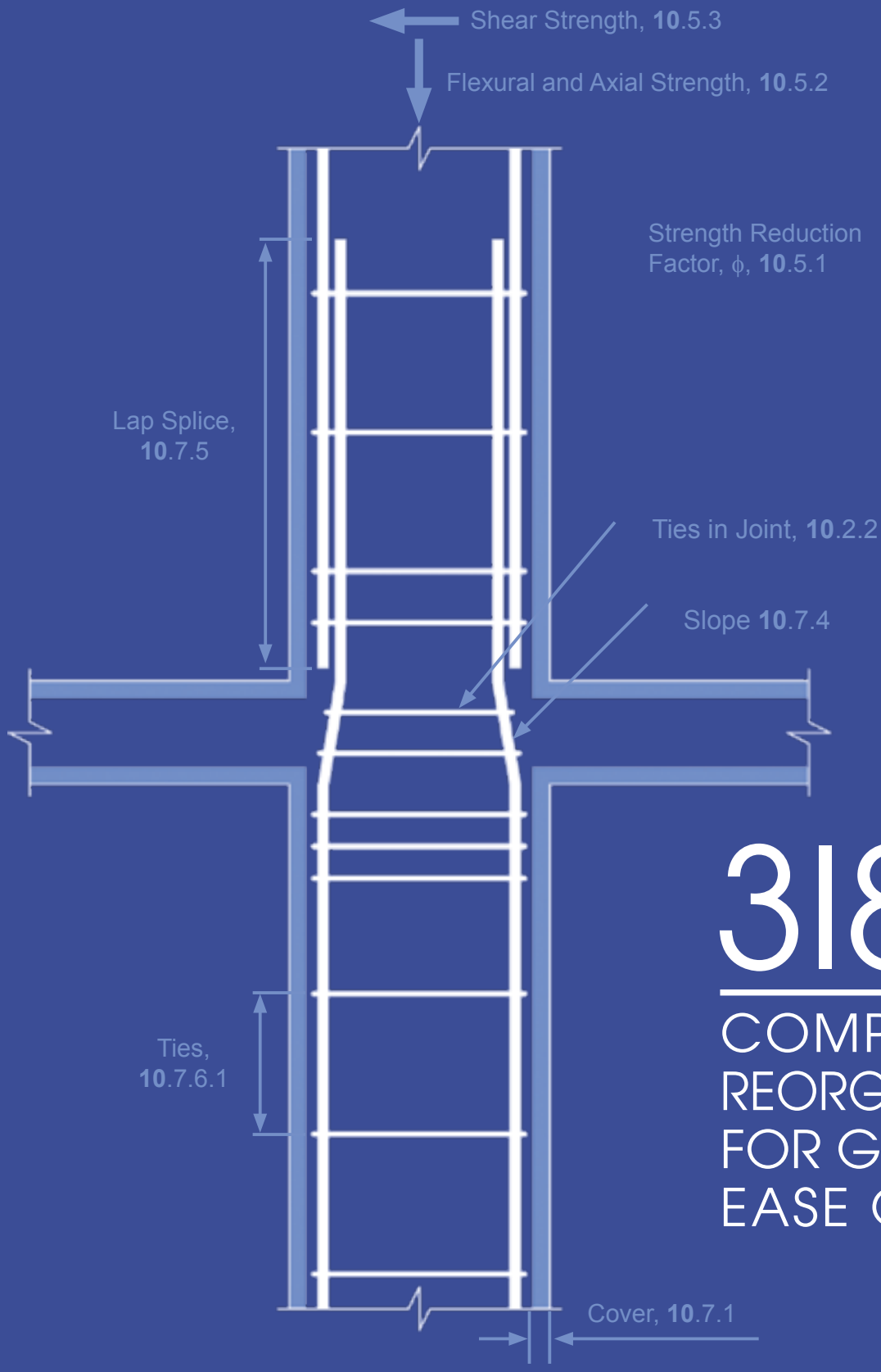
ALL RELEVANT DESIGN AND DETAILING REQUIREMENTS ARE NOTED WITHIN EACH MEMBER CHAPTER.



318-14 CONCRETE CODE

COMPLETELY REORGANIZED FOR GREATER EASE OF USE

Coming Late 2014

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Concrete.org/ACI318

2014 Topical Index

What books do you need?

Technical Committee Documents

Codes, specifications, guides, TechNotes, and reports are all consensus documents prepared by ACI committees and reviewed by ACI's Technical Activities Committee. ACI standards are also open for review by the general public. If a document is a TechNote, the number is followed by the letter "T."

Education Publications

These practice-oriented tools are intended to raise the competence level of concrete producers, contractors, technicians, engineers, and others.

Certification Publications

These publications provide resources for program participants preparing for ACI Certification exams. Each package contains the source document(s) from which the exams are derived, along with study questions, checklists, and information about the ACI Certification program.

Symposium Publications

ACI Symposium Publications are usually compilations of peer-reviewed papers from a seminar, session, or forum at an ACI convention or other conference.

DETAILING

DURABILITY
See also ALKALI-AGGREGATE REACTION and CORROSION

EDUCATIONAL RESOURCES

ENVIRONMENTAL
See also TANKS

EVALUATION
See also TESTING and NONDESTRUCTIVE EVALUATION

FERROCEMENT

FIBER-REINFORCED CONCRETE

FIBER-REINFORCED POLYMERS (FRPS)
See also REPAIR

FINITE ELEMENT ANALYSIS

FIRE RESISTANCE

FLY ASH
See also POZZOLANS

FORMWORK

FOUNDATIONS

FRACTURE MECHANICS

GROUTING

HIGH-PERFORMANCE CONCRETE

HISTORY

HOT WEATHER

HYDRAULIC STRUCTURES

See also MASS CONCRETE

INSPECTION

JOINTS, MOVEMENT

JOINTS, STRUCTURAL

See also PRECAST CONCRETE

LIGHTWEIGHT CONCRETE

See also AGGREGATES and CELLULAR CONCRETE

MARINE CONCRETE

See also HIGH-PERFORMANCE CONCRETE

MASONRY

See also PLASTERING

MASS CONCRETE

See also HYDRAULIC STRUCTURES

MATERIALS

See also AGGREGATES, CEMENTITIOUS MATERIALS, and ADMIXTURES

MIXTURE PROPORTIONING

See also MATERIALS and MASS CONCRETE

NONDESTRUCTIVE EVALUATION

See also TESTING and EVALUATION

NUCLEAR

See also DESIGN

PARKING LOTS

See also SLABS and PAVEMENTS

PARKING STRUCTURES

See also DURABILITY

PAVEMENTS

See also SLABS and PERVIOUS CONCRETE

PERIODICALS

PERVIOUS CONCRETE

PIPES

PLACING

See also CONSOLIDATION and CURING

PLASTERING

See also MASONRY

POLYMER CONCRETE

POZZOLANS

See also FLY ASH, SLAG, SILICA FUME, CEMENTITIOUS MATERIALS,and ADMIXTURES

PRECAST CONCRETE

See also PARKING STRUCTURES, BRIDGES, and GUIDEWAYS

PRESTRESSED CONCRETE

See also BRIDGES, GUIDEWAYS, PARKING STRUCTURES, and SLABS

QUALITY ASSURANCE

See also INSPECTION

RECYCLING

REINFORCEMENT

See also DETAILING, BOND, and FIBER-REINFORCED POLYMERS (FRPs)

REPAIR

See also CRACKING, and FIBER-REINFORCED POLYMERS (FRPs)

RESIDENTIAL

See also SLABS

SEISMIC AND LATERAL FORCES

See also BRIDGES and REPAIR

SHEAR

See also SLABS

SHELLS

SHOTCRETE

SHRINKAGE-COMPENSATING CONCRETE

See also CEMENTITIOUS MATERIALS

SILICA FUME

See also POZZOLANS

SILOS

See also CHIMNEYS

SLABS

See also PAVEMENTS, PARKING LOTS, and SHEAR

SLAG

See also POZZOLANS

SOIL CEMENT

SPECIFICATIONS

SUSTAINABLE CONCRETE

See also ENVIRONMENTAL, FLY ASH, SILICA FUME, SLAG, and PERVIOUS CONCRETE

TANKS

See also ENVIRONMENTAL

TESTING

See also EVALUATION and NONDESTRUCTIVE EVALUATION

TILT-UP CONSTRUCTION

TOLERANCES

TORSION

A NUMERICAL INDEX IS LOCATED ON PAGES 94-98 OF THIS CATALOG

Publications & Services

ADMIXTURES

Report on Chemical Admixtures for Concrete – 212.3R-10, 2010, 61 pp.

Order Code: 212310.CAT
$86.50 (ACI members $52.00)

Digital Format Only

Chemical admixtures, which are primarily water-soluble substances, are discussed in detail and, in this report, are classified into 13 groups. Chemical admixtures are used on a daily basis in the cast-in-place and precast concrete industries. Twelve categories of admixtures are described in detail as to type, current usage, and their effect on concrete in the plastic and hardened state. Their benefits and common usage are outlined. Prepared by ACI Tech. Comm. 212, also in all MCP formats (Vol. 1).

Tenth ACI International Conference on Superplasticizers and Other Chemical Admixtures – ACI Symposium Publication 288, 2012, CD

Order Code: SP288CD.CAT
$98.50 (ACI members $59.00)

This CD contains 33 papers presented at the Tenth International Conference of Superplasticizers and Other Chemical Admixtures held in Prague, Czech Republic, in October 2012. Topics include Synthesis, Characterization, and Dispersing Performance of a Novel Cycloaliphatic Superplasticizer; Compatibility between Polycarboxylate and Viscosity-Modifying Admixtures in Cement Pastes; Aspects of Gypsum-Free Portland Cement; A Novel Type of PCE Possessing Silyl Functionalities; and much more.

Ninth ACI International Conference on Superplasticizers and Other Chemical Admixtures in Concrete – ACI Symposium Publication 262, 2009, 420 pp.

Order Code: SP262.CAT
$120.50 (ACI members $73.00)

This Symposium Publication includes 30 papers selected from a conference that took place in Seville, Spain, in October 2009. Topics include Use of a Supplemental Agent to Improve Flowability of Ultra-High-Performance Concrete, Performance of Superplasticizers in Blended Cement Systems, and Multifunctional Chemical Admixture to Reduce Quality Control Requirements of Self-Consolidated Concrete.

AESTHETICS

Concrete: A Pictorial Celebration – 2004, 272 pp.

Order Code: ACICEN.CAT
$75.00 (ACI members $60.00)

Concrete: *A Pictorial Celebration* commemorates achievements in the concrete industry and celebrates the utility and beauty of concrete for all applications, whether serving the needs of the earth's inhabitants or inspiring awe as an architect's medium for expression. This hard-cover, coffee-table book is a tribute to architects, engineers, concrete producers, constructors, and artisans who bring concepts to life. The photos show concrete structures ranging from residential foundations to edifices recognized around the world and illustrate the American Concrete Institute's purpose of "advancing concrete knowledge." It is packed with over 250 pages of full-color photos of structures that benefit from the strength, durability, and economy of concrete; and it instills a sense of pride in all who are part of the concrete industry. Concrete: *A Pictorial Celebration* has been awarded the Magnum Opus Grand and Gold Awards and the APEX Award of Excellence.

AGGREGATES

See also LIGHTWEIGHT CONCRETE, MATERIALS, and MIXTURE PROPORTIONING

Guide for Use of Normal Weight and Heavyweight Aggregates in Concrete – 221R-96, 1996 (Reapproved 2001), 28 pp.

Order Code: 22196.CAT
$52.50 (ACI members $31.00)

This guide presents information on sand, gravel, crushed stone, and air-cooled blast-furnace slag aggregate. Topics also include the properties of concrete, methods of determining aggregate properties and limitations of these methods, features of aggregate preparation and handling that have a bearing on concrete quality and uniformity, selection of aggregate, and much more. Prepared by ACI Tech. Comm. 221, also in all MCP formats (Vol. 1).

ACI CERTIFICATION PROGRAMS

Aggregate Base Testing Technician
Aggregate Testing Technician—Levels 1 and 2

ACI administers certification programs for Aggregate Technicians—see pages 15-20 for general program descriptions and training materials. For local program availability and detailed information, visit the Certification Section of ACI's website—**www.ACICertification.org**.

ALKALI-AGGREGATE REACTION

See also DURABILITY

Report on Alkali-Aggregate Reactivity – 221.1R-98, 1998 (Reapproved 2008), 31 pp.

Order Code: 221198.CAT
$58.50 (ACI members $34.00)

This report provides information on alkali-aggregate reactivity (AAR), including alkali-silica reactivity (ASR) and alkali-carbonate reactivity (ACR). Chapters provide an overview of the nature of ASR and ACR reactions, means to avoid deleterious effects of each reaction, methods of testing for potential expansion of aggregates and cement-aggregate combinations, measures to prevent deleterious reactions, and recommendations for evaluation and repair of existing structures. Prepared by ACI Tech. Comm. 221, also in all MCP formats (Vol. 1).

ANCHORS

Qualification of Post-Installed Mechanical Anchors in Concrete and Commentary – 355.2-07, 2007, 35 pp.

Order Code: 355207.CAT
$62.50 (ACI members $37.00)

ACI 355.2 prescribes testing programs and evaluation requirements for post-installed mechanical anchors intended for use in concrete under the design provisions of ACI 318. Criteria are prescribed for determining whether anchors are acceptable for use in uncracked concrete only, or in cracked as well as uncracked concrete. Performance categories for anchors are established, as are the criteria for assigning anchors to each category. The anchor performance categories are used by ACI 318 to assign capacity reduction factors and other design parameters. Prepared by ACI Tech. Comm. 355, also in all MCP formats (Vol. 4).

Guide for Design of Anchorage to Concrete: Examples Using ACI 318 Appendix D – 355.3R-11, 2011, 124 pp.

Order Code: 355311.CAT
$118.50 (ACI members $72.00)

This guide presents worked examples using the design provisions in ACI 318 Appendix D. Not all conditions are covered in these examples. The essentials of direct tension; direct shear; combined tension and shear; and the common situation of eccentric shear, as in a bracket or corbel, are presented. Prepared by ACI Tech. Comm. 355, also in all MCP formats (Vol. 5).

Qualification of Post-Installed Adhesive Anchors in Concrete (ACI 355.4-11) and Commentary – 355.4-11, 2011, 55 pp.

Order Code: 355411.CAT
$86.50 (ACI members $52.00)

This standard prescribes testing programs and evaluation requirements for post-installed adhesive anchors intended for use in concrete under the design provisions of ACI 318. Testing and assessment criteria are provided for various conditions of use including seismic loading; sustained loading; aggressive environments; reduced and elevated temperatures; and for determining whether anchors are acceptable for use in uncracked concrete only, or acceptable for service both in cracked and uncracked concrete. Criteria are provided for establishing the characteristic bond strength, reductions for adverse conditions and the anchor category and associated job-site quality control requirements. Prepared by ACI Tech. Comm. 355, also in all MCP formats (Vol. 5).

Metric Version of ACI 355.4-11

Order Code: 3554M11.CAT
$86.50 (ACI members $52.00)

Understanding Adhesive Anchors: Behavior, Materials, Installation, Design – ACI Symposium Publication 283, 2012, CD

Order Code: SP283CD.CAT
$77.50 (ACI members $47.00)

This CD contains 18 papers that were presented at sessions sponsored jointly by ACI Committees 355 and 503 at the ACI Spring 2010 Convention in Chicago, IL. The objective of the papers is to provide a reference document and give a better understanding of the performance, capability, and reliability of adhesive anchors installed in concrete. The papers present the design, installation, qualification, and inspection requirements. Other papers discuss the characteristics of sustained load behavior and other specific anchor installation and qualification considerations.

Guide to the Concrete Capacity Design (CCD) Method—Embedment Design Examples – 349.2R-07, 2007, 91 pp.

Order Code: 349207.CAT
$94.50 (ACI members $56.00)

For details, see page 61.

The Reinforced Concrete Design Manual – ACI Special Publication 17, Volume 2, 2012, 201 pp.

BEST SELLER!

Order Code: SP1711V2.CAT
$163.50 (ACI members $101.00)

Anchorage to Concrete. For details, see page 31.

ACI-CRSI CERTIFICATION PROGRAMS

Adhesive Anchor Installer

ACI administers a certification program for adhesive anchor installers and inspectors. See pages 15-20 for general program descriptions. For local program availability and detailed information, visit the Certification section of ACI's website at **www.ACICertification.org**.

See page 16 for information on the Adhesive Anchor Installer Workbook and DVD.

ARCHITECTURAL CONCRETE

Guide to Cast-in-Place Architectural Concrete Practice – 303R-12, 2012, 32 pp.

Order Code: 30312.CAT
$73.50 (ACI members $44.00)

This guide presents recommendations for producing cast-in-place architectural concrete. The importance of specified materials, forming, concrete placement, curing, additional treatment, inspection, and their effect on the appearance of the finished product are discussed. Architectural concrete requires special construction techniques, materials, and requirements that are unique to each project. The specific recommendations and information presented in this guide should be used accordingly. Prepared by ACI Tech. Comm. 303, also in all MCP formats (Vol. 2).

Standard Specification for Cast-in-Place Architectural Concrete – 303.1-97, 1997, 10 pp.

Order Code: 303197.CAT
$29.50 (ACI members $16.00)

This specification includes requirements for the materials, forming, concrete placement, curing, additional treatment, and inspection of architectural concrete. The requirements are for vertical (walls) and horizontal (flatwork) architectural concrete and are written in the three-part section format of the CSI, as adapted by ACI, modified to ACI requirements, and organized by types of architectural concrete. Prepared by ACI Tech. Comm. 303, also in all MCP formats (Vol. 2).

Design Responsibility for Architectural Precast-Concrete Projects – 533.1R-02, 2002, 6 pp.

Order Code: 533102.CAT
$32.50 (ACI members $17.00)

This document outlines the responsibilities for various parties of the design/construction team for architectural precast-concrete projects. Information includes general responsibilities of the architect, engineer of record, general contractor, precaster, erector, and inspector. Prepared by ACI Tech. Comm. 533, also in all MCP formats (Vol. 6).

AUTOCLAVED AERATED CONCRETE

Guide for Design and Construction with Autoclaved Aerated Concrete Panels – 523.4R-09, 2009, 81 pp.

Order Code: 523409.CAT
$88.50 (ACI members $53.00)

This guide is intended for use by architects, engineers, contractors, building officials, and manufacturers. Its purpose is to present, in a single source, information that can help those individuals design, specify, and construct with factory-reinforced panels of autoclaved aerated concrete (AAC). In this guide, introductory information on AAC is first presented, followed by a description of its manufacture, guidance on structural design using reinforced panels, and guidance on construction with such panels. The body of this guide ends with an extensive background chapter on the material characteristics of AAC, and the structural behavior and design of AAC elements. Prepared by ACI Tech. Comm. 523, also in all MCP formats (Vol. 6).

BLAST AND IMPACT

Behavior of Concrete Structures Subjected to Blast and Impact Loadings – ACI Symposium Publication 281, 2011, CD

Order Code: SP281CD.CAT
$80.50 (ACI members $49.00)

This CD contains 15 papers that were presented at sessions sponsored by ACI Committees 447 and 370 at the ACI Fall 2010 Convention in Pittsburgh, PA. In this publication, engineers report on how they are approaching the challenging task of predicting the response of structures subjected to blast and impact loading. Both experimental and analytical efforts are represented, often in tandem. The analytical approaches taken include single-degree-of-freedom modeling, highly nonlinear transient dynamic finite element simulations, and coupled Lagrangian-Eulerian simulations. Papers in the publication cover the design and evaluation of new and existing structures, as well as techniques for strengthening existing structures.

BOND

See also REINFORCEMENT

Bond and Development of Straight Reinforcing Bars in Tension – 408R-03, 2003 (Reapproved 2012), 49 pp.

Order Code: 40803.CAT
$106.50 (ACI members $63.00)

This report describes bond and development of straight reinforcing bars under tensile load. Bond behavior and the factors affecting bond are discussed, including concrete cover and bar spacing, bar size, transverse reinforcement, bar geometry, concrete properties, steel stress and yield strength, bar surface condition, bar casting position, development and splice length, distance between spliced bars, and concrete consolidation. Descriptive equations and design provisions for development and splice strength are presented and compared using a large database of test results. The contents of the database are summarized and a protocol for bond tests is presented. Prepared by ACI Tech. Comm. 408, also in all MCP formats (Vol. 5).

Report on Bond of Steel Reinforcing Bars under Cyclic Loads – 408.2R-12, 2012, 35 pp.

Order Code: 408212.CAT
$75.50 (ACI members $46.00)

This report summarizes research on bond strength and behavior of steel reinforcing bars under cyclic loads. The report provides a background to bond problems, discusses the main variables affecting bond performance, and describes bond behavior under cyclic loads. Two general types of cyclic loads are addressed: high-cycle (fatigue) and low-cycle (earthquake and similar). Analytical bond models are described, design recommendations are provided for both high- and low-cycle fatigue, and suggestions for further research are given. Prepared by ACI Tech. Comm. 408, also in all MCP formats (Vol. 5).

Guide for Lap Splice and Development Length of High Relative Rib Area Reinforcing Bars in Tension and Commentary – 408.3R-09, 2009, 8 pp.

Order Code: 408309.CAT
$38.50 (ACI members $23.00)

Digital Format Only

This guide provides recommended requirements to determine tension development and splice lengths for high relative rib area bar reinforcement. Prepared by Joint ACI-ASCE Comm. 408, also in all MCP formats (Vol. 5).

BRIDGES

See also GUIDEWAYS and REPAIR

Seismic Analysis and Design of Concrete Bridge Systems – 341.2R-97, 1997 (Reapproved 2003), 25 pp.

Order Code: 341297.CAT
$57.50 (ACI members $33.00)

This document provides a summary of the analysis, modeling, and design of concrete bridges subjected to strong earthquakes and is intended to complement existing documents from AASHTO, Caltrans, and UBC. The report summarizes analysis and design considerations for concrete bridges with seismic isolation, as well as general seismic design considerations. Prepared by ACI Tech. Comm. 341, also in all MCP formats (Vol. 3).

Seismic Evaluation and Retrofit Techniques for Concrete Bridges – 341.3R-07, 2007, 29 pp.

Order Code: 341307.CAT
$59.50 (ACI members $35.00)

This document provides a summary of seismic evaluation and retrofit techniques for reinforced concrete bridges. The document is intended to be useful to practicing engineers and academic researchers. Three primary phases of a retrofit program are described: seismic vulnerability evaluation, evaluation of the seismic demands and capacities, and selection and design of the retrofit measures. General descriptions of appropriate linear and nonlinear analysis methods to evaluate the seismic response of an existing bridge are provided. Various retrofit measures for individual bridge components are described. Prepared by ACI Tech. Comm. 341, also in all MCP formats (Vol. 3).

Analysis and Design of Reinforced Concrete Bridge Structures – 343R-95, 1995 (Reapproved 2004), 158 pp.

Order Code: 34395.CAT
$155.50 (ACI members $92.00)

This report provides guidelines for the analysis and design of reinforced, prestressed, and partially prestressed concrete bridges. Prepared by ACI Tech. Comm. 343, also in all MCP formats (Vol. 3).

Guide for the Analysis and Design of Reinforced and Prestressed Concrete Guideway Structures – 343.1R-12, 2012, 34 pp.

Order Code: 343112.CAT
$75.50 (ACI members $46.00)

This guide presents a procedure for the design and analysis of reinforced and prestressed concrete guideway structures for public transit and design guidance for elevated transit guideways. The engineer is referred to the appropriate highway and railway bridge design codes for items not covered in this document. Prepared by ACI Tech. Comm. 343, also in all MCP formats (Vol. 3).

Guide for Concrete Highway Bridge Deck Construction – 345R-11, 2011, 42 pp.

Order Code: 34511.CAT
$78.50 (ACI members $47.00)

The service-life performance of concrete bridge decks, including maintenance, repair, and rehabilitation needs, is directly related to the care exercised from the preconstruction through post-construction period. This guide provides recommendations for bridge deck construction based on considerations of durability, concrete materials, reinforcement, placing, finishing and curing, and overlays. Prepared by ACI Tech. Comm. 345, also in all MCP formats (Vol. 3).

Guide for Maintenance of Concrete Bridge Members – 345.1R-06, 2006, 20 pp.

Order Code: 345106.CAT
$53.50 (ACI members $32.00)

This document addresses typical problems and presents potentially cost-effective maintenance techniques for concrete bridge elements. It provides guidance for engineers and maintenance staff and details methods of repairing and inspecting bridges. Specific topics include an introduction to bridge maintenance; concrete bridge deterioration; considerations in bridge design; drainage and washing; sealing; maintenance patching; joints, cracks, and control joints; and techniques for bridge maintenance. Prepared by ACI Tech. Comm. 345, also in all MCP formats (Vol. 3).

Guide for Widening Highway Bridges – 345.2R-13, 2013, 15 pp.

NEW!

Order Code: 345213.CAT
$55.50 (ACI members $34.00)

This document provides design professionals and constructors with general guidelines for bridge widening. This guide emphasizes construction practices, but because construction sequence, structure type, framing details, and other decisions critical to the success of the work are determined during the design phase, some discussion of design concepts are included. Prepared by ACI Tech. Comm. 345, also in all MCP formats (Vol. 3).

Recent Advances in Maintenance and Repair of Concrete Bridges – ACI Symposium Publication 277, 2011, CD

Order Code: SP277CD.CAT
$74.50 (ACI members $45.00)

This CD contains 12 papers that were presented at sessions sponsored by ACI Committee 345 at the ACI Spring 2010 Convention in Chicago, IL. The papers contain information relating to the current technology for concrete bridge repair and maintenance. The papers discuss case studies of damage and corresponding repair, state-of-the-art repair technologies, evaluation and inspection techniques, and maintenance of existing concrete bridges.

Structural Concrete in Performance-Based Seismic Design of Bridges – ACI Symposium Publication 271, 2010, CD

Order Code: SP271CD.CAT
$63.50 (ACI members $38.00)

This CD consists of seven papers that were presented at a session sponsored by ACI Committee 341 at the ACI Fall Convention in St. Louis, MO, in November 2008. The papers focus on the most recent advancements in performance-based seismic design of reinforced concrete bridges, including analytical and experimental studies and design and construction practices, with relevant information related to reinforced concrete bridges based on performance-based design.

CELLULAR CONCRETE

See also CONTROLLED LOW-STRENGTH MATERIALS

Guide for Cast-in-Place Low-Density Cellular Concrete – 523.1R-06, 2006, 13 pp.

Order Code: 523106.CAT
$42.50 (ACI members $26.00)

This guide provides information on the materials, properties, design, proper handling, and applications of cast-in-place low-density cellular concretes having oven-dry densities of 50 lb/ft^3 (800 kg/m^3) or less. Roof deck systems and geotechnical applications often incorporate these low-density cellular concretes. Prepared by ACI Tech. Comm. 523, also in all MCP formats (Vol. 6).

Guide for Precast Cellular Concrete Floor, Roof, and Wall Units – 523.2R-96, 1996, 5 pp.

Order Code: 523296.CAT
$26.50 (ACI members $16.00)

Digital Format Only

This guide presents information on materials, properties, design, fabrication, and handling of precast concrete floor, roof, and wall units having oven-dry weights of 50 lb/ft^3 (800 kg/m^3) or less. The recommendations apply to precast reinforced cellular concrete units that are designed and factory-produced for use in structures. Prepared by ACI Tech. Comm. 523, also in all MCP formats (Vol. 6).

Guide for Cellular Concretes Above 50 pcf and for Aggregate Concretes Above 50 pcf with Compressive Strengths Less Than 2500 psi – 523.3R-93, 1993, 16 pp.

Order Code: 523393.CAT
$32.50 (ACI members $18.00)

Digital Format Only

This guide presents information on materials, fabrication, properties, design, and handling of cellular concretes. With oven-dry densities greater than usual density range of the concrete considered is 50 pcf to 120 pcf. Concretes in the lower end of this range are generally used for thermal and sound insulation fills for roofs, walls, and floors. The higher densities are used in cast-in-place walls, floors, and roofs and for precast elements. Prepared by ACI Tech. Comm. 523, also in all MCP formats (Vol. 6).

CEMENTITIOUS MATERIALS

See also FLY ASH, SLAG, POZZOLANS, and SILICA FUME

Guide to the Selection and Use of Hydraulic Cements – 225R-99, 1999 (Reapproved 2009), 30 pp.

Order Code: 22599.CAT
$37.50 (ACI members $25.00)

This guide summarizes information about the composition and availability of commercial hydraulic cements and factors affecting their performance in concrete. Prepared by ACI Tech. Comm. 225, also in all MCP formats (Vol. 1).

Supplementary Cementing Materials in Concrete – Publisher: CRC Press, 2013, 210 pp.

NEW!

Order Code: SCMC.CAT
$129.95 (no discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 91.

See page 34 for information on ACI Physical Testing of Cement Training Video.

CERTIFICATION

UPGRADE THE QUALITY OF CONCRETE CONSTRUCTION WITH ACI CERTIFICATION PROGRAMS

ACI certification programs are designed to provide the basis for training and certification of personnel employed within the concrete industry. Currently, ACI has programs for:

- **Adhesive Anchor Installer (Joint ACI/CRSI**
- **Aggregate Base Testing Technician**
- **Aggregate Testing Technician—Levels 1 and 2**
- **Concrete Construction Special Inspector and Associate Inspector**
- **Concrete Field Testing Technician—Grade I**
- **Concrete Flatwork Finisher/Technician**
- **Concrete Laboratory Testing Technician—Levels 1 and 2**
- **Concrete Strength Testing Technician**
- **Concrete Transportation Construction Inspector and Associate Inspector**
- **Shotcrete Nozzleman**
- **Specialty Commercial/Industrial Concrete Flatwork Finisher**
- **Tilt-Up Technician/Supervisor**

Certification examinations and optional training courses are conducted through a network of over 100 local sponsoring groups operating both domestically and internationally. Since 1983, ACI has administered over 370,000 exams with over 100,000 individuals currently certified by ACI.

The Certification Programs Committee oversees the various certification committees and task groups that develop and maintain these programs. If you are committed to upgrading the quality of concrete construction through personnel training and certification, then your participation on these committees is encouraged. For more detailed information on ACI certification, contact the ACI Certification Department at (248) 848-3790.

The following organizations participate (cooperate) with ACI in programs to improve the quality of concrete construction: American Concrete Pavement Association, American Shotcrete Association, American Subcontractors Association, American Society of Concrete Contractors, ASTM International, Cement and Concrete Reference Laboratory, Concrete Construction magazine, Laborers AGC Education and Training Fund, National Ready Mixed Concrete Association, Portland Cement Association, Precast/Prestressed Concrete Institute, Tilt-Up Concrete Association, the U.S. Army Corps of Engineers, and the U.S. Navy Seabees.

For more information on ACI certification programs, visit the Certification section of ACI's website at **www.ACICertification.org**.

Adhesive Anchor Installer

Adhesive anchor effectiveness is measured by the bond strength achieved between the adhesive and concrete and adhesive and anchor. Adhesive anchor manufacturers have developed installation procedures for their specific products that, when followed, are intended to provide the proper conditions for the anchor system to achieve the published bond strength. This program, developed jointly with the Concrete Reinforcing Steel Institute, is designed to ensure that installers understand how adhesive anchors work and what factors are critical in achieving proper anchor installation/bond strength and have demonstrated basic skill in common installation techniques. Certification as an ACI-CRSI Adhesive Anchor Installer is required by ACI 318-11 and the 2012 International Building Code for individuals installing adhesive anchors subject to sustained tension loads.

Adhesive Anchor Installer Workbook with Companion DVD

Order Code: EDCP80PACK.CAT
$85.00 (ACI members $50.00)

This workbook is intended to prepare Adhesive Anchor Installers to take the written examination and convey the requirements of the performance examination for certification as an ACI-CRSI Adhesive Anchor Installer. It is also a good resource for inspectors seeking basic knowledge about proper adhesive anchor installation. The ACI educational resource in this workbook covers how adhesive anchors are used in construction; how they work; why proper installation is important; what happens when they are not installed properly; what conditions are critical to proper installation; common installation equipment, materials, and techniques; and how to recognize when installation should not proceed or has not been achieved. Because product-specific Manufacturer Printed Installation Instructions (MPIIs) are supplied with each anchor kit delivered to projects, this workbook addresses the similarities between the various systems in general terms while stressing that MPIIs differ and that installers must read, clearly understand, and execute installation according to the product-specific MPIIs.

Aggregate Testing Technician Programs

Fine and coarse aggregate comprise 60 to 75% of a concrete mixture. Because the aggregates occupy such a large percentage of the volume of a concrete mixture and can dramatically influence the properties of the concrete in both a plastic and hardened state, it is important that the aggregate be sampled and tested properly to ensure it is appropriate for use in the designed mixture.

At the request of state departments of transportation, and with their assistance, ACI has launched a national certification program to address the need for personnel adept at conducting acceptance tests on aggregates and soils in both the field and the laboratory. All three ACI Aggregate Testing Technician programs have been formulated to cover both AASHTO and ASTM standards.

Technician Workbook for ACI Certification of Aggregate Base Testing Technician

Order Code: CP4314.CAT
$110.00 (ACI members $82.00)

This workbook contains information about the ACI Aggregate Base Testing Technician (ABTT) certification program, performance checklists, and reprints of all the resource materials referenced by the certification examinations. The ABTT program includes the following AASHTO and ASTM standards: T 2/D75, T 248/C702, T 87/D421, T 89/D4318, T 90/D4318, T 88/D422, T 265/D2216, T 180/D1557, and T 99/D698.

Technician Workbook for ACI Certification of Aggregate Testing Technician—Level 1

Order Code: CP4413.CAT
$96.00 (ACI members $61.00)

This workbook contains information about the ACI Aggregate Testing Technician—Level 1 (ATT1) certification program, performance checklists, and reprints of all the resource materials referenced by the certification examinations. The ATT1 program includes the following AASHTO and ASTM standards: T 2/D75, T 248/C702, T 11/C117, T 27/C136, T 85/C127, T 84/C128, T 255/C566, and T 21/C40.

Technician Workbook for ACI Certification of Aggregate Testing Technician—Level 2

Order Code: CP4514.CAT
$127.00 (ACI members $78.00)

This workbook contains information about the ACI Aggregate Testing Technician—Level 2 (ATT2) certification program, performance checklists, and reprints of all the resource materials referenced by the certification examinations. The ATT2 program includes the following AASHTO and ASTM standards: T 96/C131, C535, T 112/C142, D4791, T 19/C29, T 104/C88, T 113/C123, T 176/D2419, T 304/C1252, and D5821.

Concrete Construction Special Inspector

A Concrete Construction Special Inspector provides reasonable assurance, through inspection, that project plans and specifications are followed during construction. ACI's program is designed to certify inspectors who have demonstrated a basic knowledge of preplacement, placement, and post-placement procedures as well as a good understanding of concrete technology and a working knowledge of field testing of plastic concrete. Certification as an ACI Concrete Field Testing Technician is a prerequisite for certification as an ACI Concrete Construction Special Inspector. Successfully passing the written exam of the ACI Concrete Construction Special Inspector program is required for inspectors seeking qualification as a Level 3 Nuclear Inspector as described in the ASME Boiler and Pressure Vessel Code, Section III, Division 2.

Inspector Reference Package

Order Code: CP21PACK.CAT
$380.00 (ACI members $210.00)

A complete set of resources for program participants in a notebook format! Includes ACI's *Manual of Concrete Inspection* [SP-2(07)], CRSI's *Manual of Standard Practice*, and reprints of all other technical resource materials covered by the program. **These materials are valued at over $1100!**

Concrete Field Testing Technician—Grade I

Due to the potential for costly errors and delays, it is essential that field technicians have proven skills in performing the seven standard field tests on freshly mixed concrete. It is equally important that everyone involved with a concrete construction project has confidence in the technician's skills. Consequently, everyone benefits from the use of ACI Certified Field Testing Technicians.

Technician Workbook for ACI Certification of Concrete Field Testing Technician—Grade I

BEST SELLER!

Order Code: CP114.CAT
$97.00 (ACI members $59.00)

A study guide for the examinee, this workbook provides information and instructional material on the required ASTM testing procedures. ASTM standards included: C29, C31, C94, C138, C143, C172, C173, C231, and C1064. Also included are ACI's *Concrete Primer* (SP-1), study questions, sample checklists, and practice exams.

Spanish Version of CP-1(10)

Order Code: CP1S10.CAT
$216.00 (ACI members $127.00)

This workbook contains the Spanish-language ASTM standards and supporting study aids keyed to the current Spanish-language ACI Concrete Field Testing Technician—Grade I certification exams.

VIDEOS

ACI videos are used in conjunction with the ACI certification/training programs and are also useful for general education and review. For information on ordering videos, please see below.

Finishing Concrete Flatwork

ACI and PCA, 1984, 32 min., color
Order Code: CP884DVD1.CAT
$125.00

Basic procedures are demonstrated for finishing concrete flatwork and using proper tools and finishing techniques as recommended by ACI and expert finishers. The video also covers subgrade and formwork preparation; concrete placement; jointing; curing; and special finishes; emphasizing important dos and don'ts.

Fundamentals of Proportioning Concrete Mixtures

ACI and PCA, 1989, 35 min., VHS tape, color
Order Code: CP2689A.CAT
$145.00

This video demonstrates basic procedures for proportioning normalweight concrete mixtures according to the absolute volume methods found in ACI 211.1-91, "Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete."

CERTIFICATION VIDEO ORDERING INFORMATION

Shipping and delivery: Videos are shipped by United Parcel Service or other comparable delivery services. Shipping charges within the U.S. and Canada are included in the purchase price. Contact ACI Headquarters for a quote on shipping charges outside the U.S. and Canada. ACI is not responsible for paying any taxes or duties on videos shipped outside the U.S.

Standard and format: DVDs and VHS tapes in stock are NTSC.

Free replacement: ACI will replace any damaged certification tape or DVD at no charge as long as it appears in our current catalog.

Field Technician Study Package
Order Code: CP1PACK.CAT
$189.00 (ACI members $151.00)

This package contains all of the materials recommended by ACI to prepare the examinee for the training course and examinations. Included are the ACI Technician Workbook (CP-1) and PCA's *Design and Control of Concrete Mixtures*. It is designed for the technician who wants to know why these tests are conducted and how to conduct them.

See page 35 for information on an eLearning course for Field Testing Technician Training.

Concrete Flatwork Technician/Finisher

The strength and durability of a concrete structure, particularly concrete flatwork, are significantly influenced by the knowledge and skill of the craftsmen who construct the project. These certification programs will meet the need for standardizing and reinforcing the skills involved in this work and will provide a pool of well-qualified, highly skilled employees.

Craftsman Workbook for ACI Certification of Concrete Flatwork Technician/Finisher
Order Code: CP1010.CAT
$73.00 (ACI members $42.00)

This study guide orients the examinee to the certification program and contains directions on how to prepare for the written examination and performance evaluation. Also included are sample examination checklists, practice exams, study questions, and all technical resources, including ACI's *Slabs on Grade* (CCS-1).

Spanish Version of CP-10(10)
Order Code: CP10S10.CAT
$73.00 (ACI members $42.00)

This is the Spanish language version of CP-10(10).

Specialty Commercial/Industrial Concrete Flatwork Finisher

Building on the topics in the ACI Concrete Flatwork Technician/Finisher certification program, the Specialty Commercial/Industrial Concrete Flatwork Finisher (SCICFF) program covers more advanced topics in placing and finishing concrete, curing, flatness, levelness, and the use of admixtures. The SCICFF program is designed to address the need for skilled craftsmen to place high-tolerance concrete flatwork for commercial/industrial applications.

Craftsman Workbook for ACI Certification of Specialty Commercial/Industrial Concrete Flatwork Finisher
Order Code: CP1108.CAT
$73.00 (ACI members $42.00)

This study guide contains instructions and study material to prepare for the written examination and performance evaluation for ACI Specialty Commercial/Industrial Concrete Flatwork Finisher certification. Included are sample examination checklists; practice exams; study questions; and all technical resources, including ACI 302.1R, "Guide for Concrete Floor and Slab Construction," and SFA's *Silica Fume User's Manual.*

Concrete Laboratory Testing Technician—Levels 1 and 2

The Concrete Laboratory Testing Technician serves as an important link in the chain of quality concrete construction. Increased concern over the availability of skilled laboratory technicians has led ACI to initiate national certification programs directed toward this specialty. These ACI programs provide a way to establish the credentials of technicians who are qualified to conduct the standard ASTM tests and ACI practices on aggregate and concrete in a laboratory environment.

To gain certification as a Concrete Laboratory Testing Technician—Level 1, one must complete the ACI certification requirements for both Concrete Strength Testing Technician and Aggregate Testing Technician—Level 1. Certification as a Concrete Laboratory Testing Technician—Level 1 will then be automatically granted upon the completion of the two aforementioned programs.

Certification as a Concrete Laboratory Testing Technician—Level 2 requires current Level 1 certification, a passing score on the Level 2 written and performance examinations, and 2000 hours of approved work experience.

Technician Workbook for ACI Certification of Concrete Laboratory Testing Technician—Level 2
Order Code: CP1814.CAT
$111.00 (ACI members $68.00)

This workbook provides information to prepare ACI Laboratory Level 1 technicians for the Level 2 certification process and provides all of the documents referenced by the written and performance examinations. Also included are study questions, sample checklists, and a practice exam. Level 2 certification covers ACI 214R and 211.1 and the following ASTM standards: C42, C157, C192, C470, and C496.

Laboratory Technician Study Package
Order Code: CP18PACK.CAT
$205.00 (ACI members $160.00)

This package consists of the CP-18 Workbook and PCA's *Design and Control of Concrete Mixtures*. It is designed for the technician who wants a ready reference for basic concrete technology or for the instructor who is assembling a complete study course as suggested by ACI.

Concrete Strength Testing Technician

Many concrete technicians are responsible only for preparing and testing concrete compressive and flexural strength specimens. The ACI Concrete Strength Testing Technician certification program is designed to address the need to verify the skills of these individuals independent of the aggregate testing and mixture proportion aspects of the Laboratory Testing Technician programs.

Technician Workbook for ACI Certification of Concrete Strength Testing Technician
Order Code: CP1914.CAT
$77.00 (ACI members $48.00)

This workbook contains information about the ACI Concrete Strength Testing Technician certification program, study questions, sample checklists, and a practice exam, as well as reprints of all of the resource materials referenced by the certification examinations. The CSTT program covers the following ASTM standards: C39, C78, C617, and C1231.

See page 35 for information on an eLearning course for Strength Testing Technician Training.

Shotcrete Nozzleman

Innovations in the shotcreting process continue to enhance the utility, flexibility, and effectiveness of the process as a method of placing concrete. As with all concrete construction, shotcrete equipment and materials are responsible for only a portion of the final product's quality; the shotcrete nozzleman brings these elements together with his knowledge and ability to properly apply the material in an effective, efficient, and safe manner. ACI, in cooperation with the American Shotcrete Association, developed this program to set national proficiency requirements for shotcrete nozzlemen and address the need for these craftsmen to receive formal credentials.

Craftsman Workbook for ACI Certification of Shotcrete Nozzlemen
Order Code: CP6009.CAT
$74.00 (ACI members $45.00)

This workbook contains information about the ACI Shotcrete Nozzleman certification program as well as the resources referenced by the certification examination. This program covers basic concrete technology, including a full reprint of ACI CCS-4, "Shotcrete for the Craftsman."

Spanish Version of CP-60(09)
Order Code: CP60S09.CAT
$74.00 (ACI members $45.00)

This is the Spanish language version of CP-60(09).

Tilt-Up Technician/Supervisor

The tilt-up concrete construction industry has enjoyed unprecedented growth in recent years. What was once a specialty form of construction used primarily for one-story plain facilities is now used in a wider variety of applications and locations. Effective and efficient tilt-up construction relies heavily on planning, scheduling, and the orchestrated movement of many types of equipment, tools, and personnel. ACI, with the expertise and assistance of the Tilt-Up Concrete Association, has developed a national program to certify individuals who are proficient at coordinating the elements of tilt-up construction projects.

Workbook for ACI Certification of Tilt-Up Technicians/Supervisors
Order Code: CP5007.CAT
$136.00 (ACI members $95.00)

This workbook contains information about the ACI Tilt-Up Technician and Supervisor certification program as well as the resources referenced by the certification examination. This program covers tilt-up reference materials from the Tilt-Up Concrete Association, basic concrete technology information excerpted from ACI CCS-1, and a full reprint of ACI 551.1R, "Tilt-Up Concrete Construction Guide."

Spanish Version of CP-50(07)
Order Code: CP50S07.CAT
$136.00 (ACI members $95.00)

This is the Spanish language version of CP-50(07).

Concrete Transportation Construction Inspector and Associate Inspector

A Concrete Transportation Construction Inspector performs preplacement, placement, and inspection duties similar to those of the Construction Inspector, but possesses knowledge specific to the inspection of transportation-related construction projects. The program covers the resource documents included in the Transportation Inspector Reference Package (CP-31).

Transportation Inspector Reference Package

Order Code: CP31PACK.CAT
$465.00 (ACI members $285.00)

This package contains all of the resource materials needed to properly prepare for certification as an ACI Concrete Transportation Construction Inspector. The ring binder contains the following materials: certification program information; reprints of ACI documents, including ACI's *Manual of Concrete Inspection* (SP-2); PCA'S *Soil-Cement Construction Handbook* and *Soil-Cement Inspector's Manual*; and CRSI's *Manual of Standard Practice*.
These materials are valued at over $1200!

Associate Transportation Inspector Reference Package

Order Code: CP33PACK.CAT
$290.00 (ACI members $194.00)

This package contains all of the resources referenced by the ACI Associate Concrete Transportation Construction Inspector certification program. The binder contains the following materials: certification program information, reprints of ACI documents, ACI's Manual of Concrete Inspection (SP-2); and CRSI's Manual of Standard Practice.

CHIMNEYS

See also SILOS

Code Requirements for Reinforced Concrete Chimneys (ACI 307-08) and Commentary – 2008, 30 pp.

Order Code: 30708.CAT
$60.50 (ACI members $37.00)

This code gives material, construction, and design requirements for cast-in-place and precast reinforced concrete chimneys. It sets forth minimum loadings for design and contains methods for determining the concrete and reinforcement required as a result of these loadings. The method of analysis applies primarily to circular chimney shells; however, a general procedure for analysis of noncircular shapes is included.

Equations are provided for determining the temperature gradient through the concrete resulting from the difference in temperature of the gases inside the chimney and the surrounding atmosphere. Methods for combining the effects of dead and wind (or earthquake) loads with temperature, both vertically and circumferentially, are included in this code. These methods permit the licensed design professional to establish minimum concrete and reinforcement requirements. Prepared by ACI Tech. Comm. 307, also in all MCP formats (Vol. 2).

COATINGS

Guide to Selecting Protective Treatments for Concrete – 515.2R-13, 2013, 25 pp.

NEW!
Order Code: 515213.CAT
$67.50 (ACI members $41.00)

This guide addresses the effects of various substances on untreated concrete and provides recommendations for protective treatments. More exotic treatments, such as lead sheet, glass, or metalizing are included, but not usually called for except in extreme or unusual circumstances. Because various treatments provide different degrees of protection, product producers should be consulted for each application. Prepared by ACI Tech. Comm. 515, also in all MCP formats (Vol. 6).

CODES

Building Code Requirements for Structural Concrete (ACI 318-11) and Commentary – 2011, 503 pp.

Order Code: 31811.CAT
$196.50 (ACI members $118.00)

For details, see page 30.

Formats	Order Code	Price
U.S. inch-pound (book)	31811.CAT	$196.50 (ACI members $118.00)
U.S. inch-pound (CD)	31811CD.CAT	
Metric (book)	318M11.CAT	
Metric (CD)	318M11CD.CAT	
Spanish (metric) (CD)	318S11CD.CAT	
Spanish (inch-pound) (CD)	318SUS11CD.CAT	

Residential Code Requirements for Structural Concrete (ACI 332-10) and Commentary – 2010, 30 pp.

Order Code: 33210.CAT
$62.50 (ACI members $38.00)

For details, see page 75.

Metric Version of ACI 332-10

Order Code: 332M10.CAT
$62.50 (ACI members $38.00)

For details, see page 75.

Code Requirements for Nuclear Safety-Related Concrete Structures (ACI 349-06) and Commentary – 2007, 153 pp.

Order Code: 34906.CAT
$111.50 (ACI members $68.00)

For details, see page 60.

Metric Version of ACI 349-06

Order Code: 349M06.CAT
$111.50 (ACI members $68.00)

For details, see page 60.

Code Requirements for Environmental Engineering Concrete Structures (ACI 350-06) and Commentary – 2006, 488 pp.

BEST SELLER!

Order Code: 35006.CAT
$181.50 (ACI members $107.00)

For details, see page 37.

Metric Version of ACI 350-06

Order Code: 350M06.CAT
$181.50 (ACI members $107.00)

For details, see page 37.

Building Code Requirements for Masonry Structures (ACI 530-13/ASCE 5-13/TMS 402-11) and Specification for MasonryStructures (ACI 530.1-13/ ASCE 6-11/TMS 602-11) and Related Commentaries – 2011, 319 pp.

Order Code: 53013.CAT
$124.00 (ACI members $94.00)

For details, see page 56.

Code Requirements for Evaluation, Repair, and Rehabilitation of Concrete Buildings (ACI 562-13) and Commentary – 2013, 59 pp.

BEST SELLER!

Order Code 56213.CAT
$130.50 (ACI members $78.00)

For details, see page 72.

Metric Version of ACI 562M-13

Order Code: 562M13.CAT
$130.50 (ACI members $78.00)

For details, see page 72.

2013 ASME, BPVC, Section III, Division 2, Code for Concrete Containments—Rules for Construction of Nuclear Facility Components (ACI Standard 359-13) – 2013, 220 pp.

This publication constitutes the requirements for the design, construction, and use of concrete reactor vessels and concrete containment structures for nuclear power plants.

Available from: American Society of Mechanical Engineers, P.O. Box 2300, Fairfield, NJ 07004; telephone: (800) 843-2763; **www.asme.org**. Prepared by Joint ACI-ASME Comm. 359.

Educational Resources on various topics are available through ACI. For details, go to pages 34-37, call (248) 848-3754, or visit our website: www.concreteeducation.org.

COLD WEATHER

Guide to Cold Weather Concreting – 306R-10, 2010, 26 pp.

Order Code: 30610.CAT
$61.50 (ACI members $38.00)

This guide discusses concrete temperature during mixing and placing, temperature loss during delivery, preparation for cold weather concreting, protection requirements for concrete that does not require construction supports, estimating strength development, methods of protection, curing requirements, and admixtures for accelerating setting and strength gain, including antifreeze admixtures. Prepared by ACI Tech. Comm. 306, also in all MCP formats (Vol. 2).

Standard Specification for Cold Weather Concreting – 306.1-90, 1990 (Reapproved 2002), 5 pp.

Order Code: 306190.CAT
$26.50 (ACI members $16.00)

This specification is designed to be used in its entirety by reference in project specifications and will assist the engineer/architect in properly choosing and specifying the necessary, mandatory, and optional requirements for the project specification. The specification covers preparations prior to the placement of concrete and the protection of concrete after placing. Prepared by ACI Tech. Comm. 306, also in all MCP formats (Vol. 2).

CONCRETE TECHNOLOGY

Structural Health Monitoring Technologies – ACI Symposium Publication 292, 2012, CD

NEW!

Order Code: SP292CD.CAT
$74.50 (ACI members $45.00)

Structural health monitoring (SHM) is a process aimed at providing accurate and timely information concerning structural health condition and performance. The information obtained from monitoring is generally used to plan and design maintenance activities, increase safety, verify hypotheses, reduce uncertainty, and widen the knowledge concerning the structure being monitored. The technologies used to perform SHM are continuously developing, and researchers and practitioners are not always aware of their market maturity, performances, and applicability. The papers included in this CD, 1) Identify state-of-the-art SHM technologies, including their performances, applications, and market maturity; 2) Generalize the use of SHM technologies for various classes of problems and structures; 3) Examine how SHM technologies can be used in evaluation of the current conditions and performances of concrete structures; and 4) Analyze the benefits of SHM technologies regarding the preservation and safety of concrete structures and long-term management activities in general.

Twelfth ACI International Conference on Advances in Concrete Technology and Sustainability Issues – ACI Symposium Publication 289, 2012, CD

Order Code: SP289CD.CAT
$97.50 (ACI members $57.00)

This CD contains the proceedings from the Twelfth International Conference on Recent Advances in Concrete Technology and Sustainability Issues held in Prague, Czech Republic, in October 2012. The 34 papers include Advances in Geological CO_2 Sequestration and Co-Sequestration with O_2 ; Self-Compacting High-Performance Concretes; Dynamic Performance of Eco-Friendly Prestressed Concrete Sleeper; Parameters Influencing the Performance of Shrinkage-Compensating Concrete and much more.

Tenth ACI International Conference on Recent Advances in Concrete Technology and Sustainability Issues – ACI Symposium Publication 261, 2009, 310 pp.

Order Code: SP261.CAT
$114.50 (ACI members $69.00)

This publication contains the proceedings from the Tenth ACI International Conference on Recent Advances in Concrete Technology, held in Seville, Spain, in October 2009. The 21 papers include Durability of Ultra-High-Performance Concrete, Shrinkage-Reducing Effect of a Combination of Internal Curing and Shrinkage-Compensating Agents on High-Performance Concrete, and Geopolymer Concrete—Sustainable Cementless Concrete.

Design and Control of Concrete Mixtures – Publisher: Portland Cement Association, fifteenth edition, 2011

Order Code: DCCM.CAT
$90.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 88.

CONSOLIDATION

Self-Consolidating Concrete – 237R-07, 2007, 30 pp.

Order Code: 23707.CAT
$60.50 (ACI members $36.00)

Digital Format Only

Self-consolidating concrete (SCC) has been successfully used in many projects around the world and has made a major impact on concrete placement and construction economics. This report contains the current state of knowledge with respect to SCC. The information in this document is expected to inform concrete producers, users, and specifiers of SCC of known practices and processes. Because SCC is a viable solution to various concrete placement problems, ASTM has established Subcommittee C09.47, Self-Consolidating Concrete, to develop standard test methods for SCC. Prepared by ACI Tech. Comm. 237, also in all MCP formats (Vol. 2).

Guide for Consolidation of Concrete – 309R-05, 2005, 36 pp.

Order Code: 30905.CAT
$66.50 (ACI members $39.00)

Consolidation is the process of removing entrapped air from freshly placed concrete. Several methods and techniques are available, the choice depending on the workability of the mixture, placing conditions, and degree of air removal desired. Some form of vibration is usually employed.

This guide includes information on the mechanism of consolidation and gives recommendations on equipment, characteristics, and procedures for various classes of construction. Prepared by ACI Tech. Comm. 309, also in all MCP formats (Vol. 2).

Report on Behavior of Fresh Concrete during Vibration – 309.1R-08, 2008, 18 pp.

Order Code: 309108.CAT
$49.50 (ACI members $30.00)

This report covers the rheological and mechanical processes that take place during consolidation of fresh concrete. The first chapter presents the historical developments relative to consolidating concrete. The second chapter provides notation and definitions. The third chapter deals with the rheological behavior of concrete during consolidation and the associated mechanisms of dynamic compaction. The fourth chapter presents the principles of vibratory motion occurring during vibration, vibratory methods, and experimental test results. Continuing research in the field of concrete vibration, as evidenced by the extensive literature devoted to the subject, is addressed. Prepared by ACI Tech. Comm. 309, also in all MCP formats (Vol. 2).

ACI CERTIFICATION PROGRAMS

Concrete Flatwork Finisher/Technician
Tilt-Up Supervisor
Shotcrete Nozzleman

ACI administers certification programs for craftsmen and their supervisors. See pages 15-20 for general program descriptions and training materials. For local program availability and detailed information, visit the Certification Section of ACI's website—**www.ACICertification.org**.

Identification and Control of Visible Effects of Consolidation on Formed Concrete Surfaces – 309.2R-98, 1998 (Reapproved 2005), 11 pp.

Order Code: 309298.CAT
$26.50 (ACI members $16.00)

This publication provides guidelines for identifying and controlling visible effects of consolidation on precast or cast-in-place formed concrete surfaces. It includes a summary of direct and indirect causes of bugholes, sand streaking, form offsets, layer lines, and other effects. Prepared by ACI Tech. Comm. 309, also in all MCP formats (Vol. 2).

Compaction of Roller-Compacted Concrete – 309.5R-00, 2000 (Reapproved 2006), 15 pp.

Order Code: 309500.CAT
$34.50 (ACI members $20.00)

Achieving adequate compaction of roller-compacted concrete (RCC) is essential in the development of the desired properties in the hardened material. This guide discusses many variables affecting compaction, including the materials used, mixture proportions, mixing and transporting methods, discharge and spreading practices, compaction equipment and procedures, and lift thickness. Learn how to prevent segregation; improve bond at construction joints; and compact RCC at, or close to, maximum density. Prepared by ACI Tech. Comm. 309, also in all MCP formats (Vol. 2).

Self-Consolidating Concrete: Applying What We Know – Publisher: CRC Press, 2012, 292 pp.

NEW!

Order Code: SCCA.CAT (no discounts on industry publications)
$90.00

For a description, see INDUSTRY PUBLICATIONS on page 90.

See page 35 for information on an eLearning course on Testing of Self-Consolidating Concrete.

CONSTRUCTION PRACTICES

See also CURING, CONSOLIDATION, PLACING, FORMWORK, HOT WEATHER, COLD WEATHER, and INSPECTION

Legal Issues in Concrete Construction – by Jeffrey W. Coleman, 2004, 147 pp.

Order Code: LICC.CAT
$113.50 (ACI members $69.00)

This collection of 50 case studies deals with a variety of legal issues specific to concrete construction. Synopses of the court cases—including interpretations—highlight the importance of a contract, bidding, responsibility, concrete performance, defective concrete, inspection, observation, supervision, insurance issues, dispute resolution, personal injury, and additional legal pitfalls—all as related to concrete.

The Contractor's Guide to Quality Concrete Construction — third edition, 2005, 147 pp.

BEST SELLER!

Order Code: ASCC105.CAT
$68.50 (ACI members $41.00)

Written by and for contractors, this publication provides insight into proven construction practices that will produce quality concrete construction. Contents include organizing for quality, concrete mixture designs, specifications, foundations, formwork, reinforcement and embedments in structures, joints and reinforcement for slabs-on-ground, preparing for concreting, concrete placing and finishing, common field problems, and safety.

The guide can be used as a training manual or as a basic reference for the field and office. It is also a required or suggested document for contractor licensing programs in several states. Published jointly by ACI and ASCC.

The Contractor's Guide is also available as a CD or MP3 audiobook version

The CD and MP3 audio formats are accompanied by a printed supplement containing the figures, tables, and checklists from the document. The audio version allows contractors and engineers to educate themselves or their employees on quality concrete construction practices while waiting in a vehicle, traveling to and from work, or running between projects.

Formats	Order Code	Price
CD and Supplement Booklet	ASCC105 CDPACK.CAT	$68.50 (ACI members $41.00)
MP3 Audio and Supplement Booklet	ASCC105MP3 PACK.CAT	
Hard Copy, CD, and Supplement Booklet	ASCC105CD20 PACK.CAT	$109.60 (ACI members $65.60) Save 20%
Hard Copy, MP3, and Supplement Booklet	ASCC105 MP320PACK.CAT	

Spanish Version of The Contractor's Guide to Quality Concrete Construction — third edition, 166 pp.

Order Code: ASCC105S.CAT
$68.50 (ACI members $41.00)

This is the Spanish version of The Contractor's Guide to Quality Concrete Construction. Units of measure are in both inch-pound and SI units. The contents are otherwise unchanged.

Slabs-on-Ground, third edition — Concrete Craftsman Series 1, 2010, 68 pp.

Order Code: CCS110.CAT
$37.00 (ACI members $22.00)

For details, see page 80.

Shotcrete for the Craftsman — Concrete Craftsman Series 4, 2008, 85 pp.

Order Code: CCS408.CAT
$30.00 (ACI members $18.00)

For details, see page 79.

Spanish Version of CCS4-08

Order Code: CCS4S.CAT
$30.00 (ACI members $18.00)

This is the Spanish language version of CCS4-08. For details, see page 79.

Manual of Standard Practice, twenty-eighth edition — Publisher: Concrete Reinforcing Steel Institute, 2009, 144 pp.

Order Code: MSP.CAT
$59.95 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 89.

Concrete Systems for Homes and Low-Rise Construction — Publisher: McGraw Hill, 2006, 425 pp.

Order Code: CSHLC.CAT
$102.95 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 87.

CONTROLLED LOW-STRENGTH MATERIALS

See also CELLULAR CONCRETE

Report on Controlled Low-Strength Materials – 229R-13, 2013, 22 pp.

NEW!

Order Code: 22913.CAT
$62.50 (ACI members $38.00)

Controlled low-strength materials (CLSMs) are self-consolidated, cementitious materials used primarily as backfill alternatives to compacted fill. This report contains information on applications, materials, properties, proportioning, mixing, transporting and placing, quality control, and low-density CLSM using preformed foam procedures. Prepared by ACI Tech. Comm. 229, also in all MCP formats (Vol. 2).

See page 35 for information on an eLearning course on Controlled Low-Strength Materials

CORROSION

See also DURABILITY

Protection of Metals in Concrete Against Corrosion – 222R-01, 2001 (Reapproved 2010), 41 pp.

Order Code: 22201.CAT
$56.50 (ACI members $33.00)

This report reflects the state of the art of corrosion of metals, especially steel, in concrete. Separate chapters are devoted to the mechanisms of the corrosion of metals in concrete, protective measures for new concrete construction, procedures for identifying corrosive environments and active corrosion in concrete, and remedial measures. Prepared by ACI Tech. Comm. 222, also in all MCP formats (Vol. 1).

Corrosion of Prestressing Steels – 222.2R-01, 2001 (Reapproved 2010), 43 pp.

Order Code: 222201.CAT
$50.50 (ACI members $33.00)

This report covers current practices and research relating to corrosion in prestressed systems. Some topics covered are:

- Factors that govern the corrosion of steel in concrete;
- Measures for protecting embedded metals in new construction;
- Techniques for detecting corrosion in structures in service; and
- Remedial procedures.

It includes a chapter that covers the various types of prestressing steel, with some discussion of metallurgical differences. ACI 222.2R-01 also provides techniques, current and proposed, for evaluating prestressed structures with respect to corrosion of strands and tendons. Prepared by ACI Tech. Comm. 222, also in all MCP formats (Vol. 1).

Guide to Design and Construction Practices to Mitigate Corrosion of Reinforcement in Concrete Structures – 222.3R-11, 2011, 28 pp.

Order Code: 222311.CAT
$67.50 (ACI members $41.00)

The corrosion of metals in concrete is a significant problem throughout the world. In many instances, corrosion can be avoided if proper attention is given to detailing, concrete materials and mixture proportions, and construction practices. This guide contains information on aspects of each of these. In addition, the guide contains recommendations for protecting in-service structures exposed to corrosive conditions. The guide is intended for designers, materials suppliers, contractors, and all others engaged in concrete construction. Prepared by ACI Tech. Comm. 222, also in all MCP formats (Vol. 1).

Corrosion of Reinforcing Steel in Concrete—Future Direction: Proceedings of the Hope & Schupack Corrosion Symposium — SP-291, 2013, CD

NEW!

Order Code: SP291CD.CAT
$74.50 (ACI members $44.00)

This CD contains 10 papers presented at the ACI Spring Convention, Dallas, TX, March 2013, and sponsored by ACI Committee 222, Corrosion of Metals in Concrete. The papers cover a variety of subject areas, including mechanism of corrosion of reinforcing steel in concrete; identifying, investigating, and quantifying corrosion; corrosion control measures for new and existing structures; and innovative materials and testing techniques. Engineers, scientists, researchers, inspectors, technicians, academics, materials manufacturers, and suppliers will all benefit from this SP.

CRACKING

See also REPAIR

Control of Cracking in Concrete Structures – 224R-01, 2001 (Reapproved 2008), 45 pp.

Order Code: 22401.CAT
$74.50 (ACI members $45.00)

Cracks detract from the appearance of concrete structures and may indicate major structural problems. ACI 224R-01 covers the principal causes of cracking and also recommends crack-control procedures. The document also discusses the long-term effects of cracking. ACI 224R-01 is a revision of 224R-90. Updates include:

- Discussion of fracture mechanics;
- Additional information on controlling cracking caused by drying shrinkage;
- Revised information on crack-width predictive equations, cracking in partially prestressed members, anchorage-zone cracking, and flexural cracking in deep beams;
- Crack control for concrete overlays, including fiber reinforcement and polymer-modified concrete; and
- More extensive information on the structural consequences of cracking in mass concrete.

Prepared by ACI Tech. Comm. 224, also in all MCP formats (Vol. 1).

Causes, Evaluation, and Repair of Cracks in Concrete Structures – 224.1R-07, 2007, 22 pp.

Order Code: 224107.CAT
$52.50 (ACI members $31.00)

This publication summarizes the causes of cracks in concrete structures and presents procedures used to evaluate cracking in concrete and the principal techniques for the repair of cracks. Key methods of crack repair are discussed and guidance is provided for their proper application. Prepared by ACI Tech. Comm. 224, also in all MCP formats (Vol. 1).

Cracking of Concrete Members in Direct Tension – 224.2R-92, 1992 (Reapproved 2004), 11 pp.

Order Code: 224292.CAT
$25.50 (ACI members $16.00)

Digital Format Only

Causes of direct tension cracking are reviewed, and equations for predicting crack spacing and crack width are presented. Methods for estimating post-cracking axial stiffness are also discussed. The report concludes with a review of methods for controlling cracking caused by direct tension. Prepared by ACI Tech. Comm. 224, also in all MCP formats (Vol. 1).

Report on Early-Age Cracking: Causes, Measurement, and Mitigation – 231R-10, 2010, 46 pp.

Order Code: 23110.CAT
$76.50 (ACI members $46.00)

The document provides detailed reviews on the causes of deformation and cracking, test methods for assessing shrinkage and thermal deformation properties, and mitigation strategies for reducing early-age cracking. Prepared by ACI Tech. Comm. 231, also in all MCP formats (Vol. 2).

CREEP AND SHRINKAGE

See also DEFLECTIONS

Prediction of Creep, Shrinkage, and Temperature Effects in Concrete Structures – 209R-92, 1992 (Reapproved 2008), 47 pp.

Order Code: 20992.CAT
$68.50 (ACI members $39.00)

Digital Format Only

This report presents the designer with a unified and direct approach to the problem of volume changes in concrete. It includes simplified methods for predicting the material response to volume changes and analyzes the structural response under service conditions. Prepared by ACI Tech. Comm. 209, also in all MCP formats (Vol. 1).

Report on Factors Affecting Shrinkage and Creep of Hardened Concrete – 209.1R-05, 2005, 12 pp.

Order Code: 209105.CAT
$35.50 (ACI members $21.00)

This guide describes the effects of numerous variables on shrinkage and creep of hardened concrete, including mixture proportions, environment, design, and construction. This document is aimed at designers who wish to gain further information about factors changing shrinkage and creep but does not include information on the prediction of shrinkage and creep or structural design issues associated with shrinkage and creep. Prepared by ACI Tech. Comm. 209, also in all MCP formats (Vol. 1).

Guide for Modeling and Calculating Shrinkage and Creep in Hardened Concrete – 209.2R-08, 2008, 45 pp.

Order Code: 209208.CAT
$73.50 (ACI members $45.00)

This guide is intended for the prediction of shrinkage and creep in compression in hardened concrete. It may be assumed that predictions apply to concrete under tension and shear. It outlines the problems and limitations in developing prediction equations for shrinkage and compressive creep of hardened concrete. It also presents and compares the prediction capabilities of four different numerical methods. The models presented are valid for hardened concrete moist-cured for at least 1 day and loaded after curing or later. The models are intended for concretes with mean compressive cylindrical strengths at 28 days within a range of at least 20 to 70 MPa (3000 to 10,000 psi). This document is addressed to designers who wish to predict shrinkage and creep in concrete without testing. For structures that are sensitive to shrinkage and creep, the accuracy of an individual model's predictions can be improved and its applicable range expanded if the model is calibrated with test data of the actual concrete to be used in the project. Prepared by ACI Tech. Comm. 209, also in all MCP formats (Vol. 1).

CURING

Guide to Curing Concrete – 308R-01, 2001 (Reapproved 2008), 30 pp.

Order Code: 30801.CAT
$55.50 (ACI members $32.00)

ACI 308R-01 describes commonly accepted procedures and materials for curing concrete. The guide covers initial curing by fogging or liquid-applied evaporation retarders and final curing with water or moisture retention methods. Other topics include cold- and hot-weather curing, accelerated curing techniques, and curing methods for different types of construction including pavements and other slabs-on-ground, buildings and bridges, mass concrete, and colored concrete floors and slabs. Prepared by ACI Tech. Comm. 308, also in all MCP formats (Vol. 2).

Specification for Curing Concrete – 308.1-11, 2011, 7 pp.

Order Code: 308111.CAT
$40.50 (ACI members $25.00)

This document provides requirements for alternative methods for curing concrete. It covers requirements for curing cast-in-place concrete elements described in Contract Documents. This specification includes requirements for initiating curing, protection from mechanical injury, curing for unformed and formed surfaces, and curing time. Prepared by ACI Tech. Comm. 308, also in all MCP formats (Vol. 2).

Metric Version of 308.1-11

Order Code: 3081M11.CAT
$40.50 (ACI members $25.00)

Report on Internally Cured Concrete Using Prewetted Absorptive Lightweight Aggregate – (308-213)R-13, 2013, 12 pp.

NEW!

Order Code: 30821313.CAT
$51.50 (ACI members $31.00)

This report introduces the concepts of and describes the process benefit and applications for using prewetted lightweight aggregate to increase cement hydration in internally cured concrete. It also describes mixture proportioning and absorptive material selection and discusses the benefits relating to sustainability. The materials, processes, quality control measures, and inspections described should be tested, monitored, or performed as applicable only by individuals holding the appropriate ACI certifications or equivalent. Prepared by ACI Tech. Comm. 308 & 213, also in all MCP formats (Vol. 2).

The Economics, Performance, and Sustainability of Internally Cured Concrete – ACI Symposium Publication 290, 2012, CD

Order Code: SP290CD.CAT
$86.50 (ACI members $52.00)

This CD consists of 14 papers presented at the ACI Fall Convention, Toronto, Canada, October 2012, and sponsored by ACI Committees 130, Sustainability of Concrete; 213, Lightweight Aggregate and Concrete; and 231; Concrete Properties at Early Ages. These papers cover the following general topics: impact on sustainability, mixture proportioning, internal curing methods and their implementation, hydration impacts, volume change effects, mechanical properties, cracking tendency, durability aspects, life-cycle cost analysis, and case studies that document the use of internal curing in full-scale production applications.

Concrete Curing – Publisher: CRC Press, 2013, 215 pp.

NEW!

Order Code: CC.CAT

$130.00 (No discount on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 88.

DECORATIVE CONCRETE

Guide to Decorative Concrete – 310R-13, 2013, 45 pp.

NEW!

Order Code: 31013.CAT

$98.50 (ACI Members $59.00)

This guide describes techniques for imparting aesthetic finishes to concrete flatwork, of which many can be combined for unique effects. The designer/engineer will acquire detailed, practical guidance for achieving aesthetic effects using proven techniques. Recommendations are made for the production of cast-in-place decorative concrete flatwork, decorative stains, and overlays. In addition to attention to the specified materials, mixture designs, concrete placement, curing, protection, sealing, and other treatments, this guide also considers the effects of these treatments on the overall aesthetics of the facility. Prepared by ACI Tech. Comm. 310.

Finishing Concrete with Color and Texture – Publisher: ConcreteNetwork.com, 2004, 72 pp.

Order Code: FCCT.CAT

$35.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 88.

DEFLECTIONS

See also CREEP and SHRINKAGE

Control of Deflection in Concrete Structures – 435R-95, 1995 (Reapproved 2000), 89 pp.

Order Code: 43595.CAT

$109.50 (ACI members $64.00)

This report presents a consolidated treatment of initial and time-dependent deflection of reinforced and prestressed concrete elements, such as simple and continuous beams and one- and two-way slab systems. In addition, detailed computations for evaluating the deflection of beams and two-way action slabs and plates are given. These computations are in accordance with the current ACI/PCI-accepted methods of design for deflection. Appendix B presents a general method for calculating the strain distribution at a section considering the effects of a normal force and a moment caused by applied loads, prestressing forces, creep and shrinkage of concrete, and relaxation of prestressing steel. Prepared by ACI Tech. Comm. 435, also in all MCP formats (Vol. 5).

Observed Deflections of Reinforced Concrete Slab Systems and Causes of Large Deflections – 435.8R-85, 1985 (Reproved 1997), 47 pp.

Order Code: 435885.CAT

$60.50 (ACI members $37.00)

Part I of this report is a summary of published studies on slab deflections, and Part II summarizes several construction problems and materials deficiencies that can contribute to large, long-term deflections. Prepared by ACI Tech. Comm. 435, also in all MCP formats (Vol. 5).

Andy Scanlon Symposium on Serviceability and Safety of Concrete Structures: From Research to Practice – ACI Symposium Publication 284, 2012, CD

Order Code: SP284CD.CAT

$87.50 (ACI members $53.00)

This CD contains 21 papers that were presented at sessions sponsored jointly by ACI Committees 435 and 348 at the ACI Fall 2011 Convention in Cincinnati, OH. The papers encompass a broad overview of the important issues related to serviceability and safety of structures from both a theoretical and design perspective. There are 15 papers on serviceability related to deflection and cracking, an additional five papers on topics related to various aspects of safety, and one paper on sustainability issues.

DESIGN

Building Code Requirements for Structural Concrete (ACI 318-11) and Commentary – 2011, 503 pp.

BEST SELLER!

Order Code: 31811.CAT
$196.50 (ACI members $118.00)

ACI 318 is a must-have standard for all professionals engaged in concrete design, construction, and inspection, containing the latest code requirements for structural concrete. The companion commentary, in a side-by-side column format to match the corresponding code requirements, provides background information for code provisions.

The ACI 318-11 edition features some key changes, including design requirements for adhesive anchors, reinforcement detailing requirements for seismic application, and much more.

Among the subjects covered are: contract documents; inspection; materials; durability requirements; concrete quality, mixing, and placing; formwork; embedded pipes; construction joints; reinforcement details; analysis and design; strength and serviceability; flexural and axial loads; shear and torsion; development and splices of reinforcement; slab systems; walls; footings; precast concrete; composite flexural members; prestressed concrete; shells and folded plate members; strength evaluation of existing structures; provisions for seismic design; structural plain concrete; strut-and-tie modeling in Appendix A; alternative design provisions in Appendix B; alternative load and strength reduction factors in Appendix C; and anchoring to concrete in Appendix D.

Over 20 countries worldwide have adopted ACI 318 for use in their national codes. Prepared by ACI Tech. Comm. 318, also in all MCP formats (Vol. 3).

Formats	Order Code	Price
U.S. inch-pound (book)	31811.CAT	$196.50 (ACI members $118.00)
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Previous versions of the ACI 318 Building Code are available. Visit **www.concrete.org** and click on ACI Store.

Coming December 2014: Building Code Requirements for Structural Concrete (ACI 318-14) and Commentary

ACI 318-11 Student Special

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ACI 318-11 for students is also available in other formats. Please visit* www.concrete.org *for more details.

ACI Building Code Requirements of the 20th Century – 2004, CD

Order Code: 318CENCD.CAT
$167.50 (ACI members $100.00)

This compilation CD contains every ACI 318 Building Code requirement, commentary, and supplement published between 1908 and the end of the 20th century. Serving as a resource to engineers, architects, legal professionals, and others involved with the Building Code, this reference tool will assist in tracing the development of Code provisions. Fully searchable.

Guide to Simplified Design for Reinforced Concrete Buildings – 314R-11, 2011, 132 pp.

Order Code: 31411.CAT
$120.50 (ACI members $73.00)

This guide presents simplified methods and design techniques that facilitate and speed the engineering of low-rise buildings within certain limitations. Material is presented in an order that follows a typical design process with procedures introduced as the designer will need them in the course of a building design. Prepared by ACI Tech. Comm. 314, also in all MCP formats (Vol. 2).

Design Guide for the Use of ASTM A1035/A1035M Grade 100 (690) Steel Bars for Structural Concrete – ITG-6R-10, 2010, 90 pp.

Order Code: ITG610.CAT
$98.50 (ACI members $59.00)

Digital Format Only

This guide provides design provisions for the use of ASTM A1035/A1035M Grade 100 (690) deformed steel bars for reinforced concrete structural members. This guide addresses only those requirements in ACI 318-08 that limit the more efficient use of such steel bars and should not affect the application of other code requirements. Design examples are included to illustrate design procedures and proper application of the design criteria. Prepared by ACI Innovation Task Group 6, also in all MCP formats (Vol. 7).

The Reinforced Concrete Design Manual

BEST SELLER!

This manual is published in two volumes and provides design and analysis in accordance with ACI 318-11. Information is presented in three sections:

- Explanatory Material,
- Design Examples, and
- Design Aids.

The Introduction of each chapter includes explanatory material that provides the engineer with concise background information on the subject. The Design Examples illustrate the use of the Design Aids, which are tables and graphs intended to eliminate routine and repetitious calculations.

SP-17 (2011) V. 1, 2012, 338 pp.

Volume 1 includes:

- Columns,
- Flexure,
- Footings,
- Seismic,
- Shear,
- Deflection, and
- Strut-and-Tie

SP-17 (2011) V. 2, 2012, 201 pp.

Volume 2 includes:

- Anchorage to Concrete

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ASTM Standards in ACI 318 – ACI Special Publication 71, 2008, 350 pp.

Order Code: SP7108.CAT
$297.50 (ACI members $178.00)
No discounts.

This publication contains the ASTM standards that are cited and referenced in "Building Code Requirements for Structural Concrete (ACI 318-08) and Commentary." There are 58 ASTM standards included in this publication. The cost of purchasing these standards individually from ASTM is over $2200—purchase SP-71 from ACI and save thousands; plus, enjoy the convenience of having all ASTM standards in one easy-to-use publication.

Further Examples for the Design of Structural Concrete with Strut-and-Tie Models – ACI Symposium Publication 273, 2010, 288 pp.
Order Code: SP273.CAT
$97.50 (ACI members $58.00)

This Symposium Publication contains 15 papers that were presented at technical sessions sponsored by Joint ACI-ASCE Committee 445, Shear and Torsion, at the ACI Spring 2010 Convention in Chicago, IL. Topics covered in the papers include an introduction to the method, design examples, common problems experienced in real design applications, additional guidance for use of the strut-and-tie model (STM), and an assessment of existing requirements.

Post-Tensioning Manual, sixth edition – Publisher: Post-Tensioning Institute, 2006, 254 pp.
Order Code: PTM.CAT
$115.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 90.

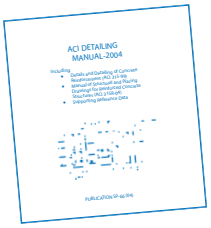
Simplified Design of Reinforced Concrete Buildings – Publisher: Portland Cement Association, 2011, 330 pp.
Order Code: SD.CAT
$100.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 91.

Structural Concrete: Theory and Design – Publisher: Wiley, fifth edition, 2012, 1032 pp.
Order Code: SCTD.CAT
$165.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 91.

DETAILING



ACI Detailing Manual – Special Publication 66, 2004, 219 pp., wire bound

BEST SELLER!

Order Code: SP6604.CAT
$164.50 (ACI members $98.00)

The 2004 edition of this must-have resource provides answers to many detailing questions asked by design engineers, architects, contractors, detailers, and engineering students. It is divided into three sections including Details and Detailing of Concrete Reinforcement (ACI 315-99), Manual of Engineering and Placing Drawings for Reinforced Concrete Structures (ACI 315R-04), and supporting reference data. Section 1 defines responsibilities for architects, engineers, and detailers and establishes standards of practice for both structural and placing drawings. Section 2 illustrates methods for presenting necessary design information through 50 oversized, fold-out drawings of highway and nonhighway structures. Structural drawings conform to "Building Code Requirements for Structural Concrete (ACI 318-02)" and all drawings were prepared with the assistance of the Federal Highway Administration, California Department of Transportation, and the Concrete Reinforcing Steel Institute. Supporting reference data in Section 3 include specific chapters on reinforcing bars, wires, bar supports, spirals, mathematical formulas and tables, and common symbols and abbreviations.

DURABILITY

See also ALKALI-AGGREGATE REACTION and CORROSION

Guide for Conducting a Visual Inspection of Concrete in Service – 201.1R-08, 2008, 16 pp.

Order Code: 201108.CAT
$59.50 (ACI members $35.00)

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. Prepared by ACI Tech. Comm. 201, also in all MCP formats (Vol. 1).

Guide to Durable Concrete – 201.2R-08, 2008, 49 pp.

Order Code: 201208.CAT
$75.50 (ACI members $46.00)

This guide describes specific types of concrete deterioration. Each chapter contains a discussion of the mechanisms involved and the recommended requirements for individual components of concrete; quality considerations for concrete mixtures; construction procedures; and influences of the exposure environment, which are all important considerations to ensure concrete durability. Prepared by ACI Tech. Comm. 201, also in all MCP formats (Vol. 1).

Service-Life Prediction – 365.1R-00, 2000, 43 pp.

Order Code: 365100.CAT
$44.50 (ACI members $27.00)

This report presents information on the service-life prediction of concrete structures and is important to both the owner and design professional. Important service-life factors for concrete and methodologies for evaluating the condition of the structure, including definitions of key physical properties, are also presented. Techniques for predicting the service life of concrete and the relationship between economics and service life are discussed. The examples provided discuss which service-life techniques are applied to concrete structures or concrete components and necessary developments are identified. Prepared by ACI Tech. Comm. 365, also in all MCP formats (Vol. 5).

NEW! ACI PHYSICAL TESTING OF CEMENT TRAINING VIDEO (EDPTCT13)

To supplement on-the-job training, ACI has developed the **ACI Physical Testing of Cement Training Video** as a resource for new testers and a refresher for experienced testers. The following tests are included:

- ASTM C109 – Compressive Strength
- ASTM C151 – Autoclave Expansion
- ASTM C185 – Air Content
- ASTM C187 – Normal Consistency
- ASTM C191 – Vicat Time of Setting
- ASTM C204 – Blaine Fineness
- ASTM C266 – Gillmore Time of Setting
- ASTM C1437 – Flow of Mortar

Additionally, the video includes a review of safety, equipment, and the laboratory environment. Each chapter reviews the equipment specific to the ASTM test, the test procedure to follow, and the calculation of the result. Helpful tips are provided throughout to improve the technician's knowledge and technique.

Check out a preview clip on YouTube; search for "ACI testing cement training preview."

Details can be found at www.concrete.org; search the store for "EDPTCT13."

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Web Sessions

ACI Web Sessions are recorded presentations from ACI Conventions and other concrete industry events, made available for viewing online on the ACI website. New presentations are added weekly. Use the search function to find past Web Sessions on topics that interest you. Best of all, these presentations can be viewed FREE of charge!

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- Repair application procedures (including epoxy injection, gravity feed, low-pressure spraying, form-and-pump techniques, and hydrodemolition; plus nine additional topics—five available in Spanish).

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ENVIRONMENTAL

See also TANKS

Code Requirements for Environmental Engineering Concrete Structures (ACI 350-06) and Commentary – 2006, 488 pp.

BEST SELLER!

Order Code: 35006.CAT
$181.50 (ACI members $107.00)

The code portion of this document covers the structural design, materials selection, and construction of environmental engineering concrete structures. Such structures are used for conveying, storing, or treating liquid or other materials such as solid waste. They include ancillary structures for dams, spillways, and channels. They are subject to unique loadings, severe exposure conditions, and restrictive serviceability requirements. Loadings include normal dead and live loads and vibrating equipment or hydrodynamic forces. Exposures include concentrated chemicals, alternate wetting and drying, and freezing and thawing of saturated concrete. Serviceability requirements include liquid-tightness or gas-tightness. Prepared by ACI Tech. Comm. 350, also in all MCP formats (Vol. 4).

Metric Version of ACI 350-06

Order Code: 350M06.CAT
$181.50 (ACI members $107.00)

Specification for Tightness Testing of Environmental Engineering Concrete Containment Structures (ACI 350.1-10) and Commentary – 2010, 15 pp.

Order Code: 350110.CAT
$51.50 (ACI members $31.00)

This specification covers tightness testing of liquid and gaseous environmental containment structures designed to resist liquid or gaseous loads. These test methods give procedures and criteria for tightness testing of environmental engineering concrete structures. They are applicable to liquid and gas containment structures constructed with concrete or a combination of concrete and other materials. This document includes hydrostatic, surcharged hydrostatic, and pneumatic tests.Prepared by ACI Tech. Comm. 350, also in all MCP formats (Vol. 4).

Metric Version of ACI 350.1-10

Order Code: 3501M10.CAT
$51.50 (ACI members $31.00)

Digital Format Only

Concrete Structures for Containment of Hazardous Materials – 350.2R-04, 2004, 17 pp.

Order Code: 350204.CAT
$36.50 (ACI members $21.00)

This report presents recommendations for structural design, materials, and construction of structures commonly used for hazardous materials containment, including reinforced concrete tanks, sumps, and other structures that require dense, impermeable concrete with high resistance to chemical attack. The report discusses and describes design and spacing of joint proportioning of concrete, placement, curing, and protection against chemicals. Information on liners, secondary containment systems, and leak-detection systems is also included. Prepared by ACI Tech. Comm. 350, also in all MCP formats (Vol. 4).

Seismic Design of Liquid-Containing Concrete Structures (ACI 350.3-06) and Commentary – 2006, 61 pp.

Order Code: 350306.CAT
$78.50 (ACI members $47.00)

This standard prescribes procedures for the seismic analysis and design of liquid-containing concrete structures. These procedures address the loading side of seismic design and are intended to complement ACI 350-06, Section 1.1.8 and Chapter 21. Prepared by ACI Tech. Comm. 350, also in all MCP formats (Vol. 4).

Design Considerations for Environmental Engineering Concrete Structures – 350.4R-04, 2004, 16 pp.

Order Code: 350404.CAT
$38.50 (ACI members $23.00)

This publication outlines design considerations that are unique to environmental engineering concrete structures and associated buildings. Specific considerations covered include loads, stability, joint details, and special design conditions that are unique to structures that provide conveyance, storage, and treatment of water, wastewater, and other materials. Prepared by ACI Committee 350, also in all MCP formats (Vol. 4).

Specifications for Environmental Concrete Structures – 350.5-12: 2013, 55 pp.

NEW!

Order Code: 350512.CAT
$89.50 (ACI members $54.00)

This document covers materials and proportioning of concrete; reinforcement and prestressing reinforcement; production, placing, finishing, and curing of concrete; formwork design and construction; and shotcrete. Methods of treatment of joints and embedded items, repair of surface defects, and finishing of formed and unformed surfaces are specified. Separate sections are devoted to architectural concrete, mass concrete, and internal and external post-tensioned prestressed concrete. Provisions governing testing, evaluation, and acceptance of concrete as well as acceptance of the structure are included. Prepared by ACI Tech. Comm. 350, also in all MCP formats (Vol. 4).

Metric Version of 350.5-12

NEW!

Order Code: 3505M12.CAT
$89.50 (ACI members $54.00)

EVALUATION

See also TESTING
and NONDESTRUCTIVE EVALUATION

Load Tests of Concrete Structures: Methods, Magnitude, Protocols, and Acceptance Criteria – 437.1R-07, 2007, 38 pp.

Order Code 437107.CAT
$64.50 (ACI members $39.00)

This report provides recommendations regarding selection of test load magnitudes, protocol, and acceptance criteria to be used when performing load testing as a means of evaluating safety and serviceability of concrete structural members and systems. The history of load factors and acceptance criteria, as found in the ACI 318 Building Code, is provided, along with a review of other load test practices. Recommended revisions to load factors to be used at this time, additions to load testing protocol, and revisions to acceptance criteria used to evaluate the findings of load testing are provided. Prepared by ACI Tech. Comm. 437, also in all MCP formats (Vol. 5).

Concrete Construction and Structural Evaluation: A Symposium Honoring Dov Kaminetzky – ACI Symposium Publication 285, 2012, CD

Order Code: SP285CD. CAT
$75.50 (ACI members $45.00)

This CD contains 14 papers sponsored by ACI Committees 347, 350, 364, and 437. The papers represent a broad range of topics including; concrete mix design, design and construction, construction failures, formwork in concrete design, and more.

FERROCEMENT

Report on Ferrocement – 549R-97, 1997 (Reapproved 2009), 26 pp.

Order Code: 54997.CAT
$38.50 (ACI members $24.00)

This report and ACI publication SP-61, *Ferrocement Materials and Application*, provide technical information on the mechanical properties, performance, and applications of ferrocement. The intent of this report is to promote the more effective use of ferrocement as a construction material for terrestrial structures in contrast to marine structures, where it has been most widely used. Prepared by ACI Tech. Comm. 549, also in all MCP formats (Vol. 7).

Guide for the Design, Construction, and Repair of Ferrocement – 549.1R-93, 1993 (Reapproved 2009), 27 pp.

Order Code: 549193.CAT
$49.50 (ACI members $30.00)

This guide provides technical information on materials and material selection, design criteria and approaches, construction methods, maintenance and repair procedures, and testing. The objectives are to promote more effective use of ferrocement in terrestrial structures, provide architects and engineers with the necessary tools to specify and use ferrocement, and provide owners or their representatives with a reference document to check the acceptability of a ferrocement alternative in a given application. Prepared by ACI Tech. Comm. 549, also in all MCP formats (Vol. 7).

Report on Thin Reinforced Cementitious Products – 549.2R-04, 2004 (Reapproved 2013), 28 pp.

Order Code: 549204.CAT
$72.50 (ACI members $42.00)

This report summarizes information on reinforcement, manufacturing methods, engineering properties, and applications of thin reinforced cementitious products. Special emphasis is placed on durability and fire resistance of thin reinforced cementitious products, in addition to other properties such as strength, moisture resistance, dimensional stability, aesthetics, and ease of handling and installation. Prepared by ACI Tech. Comm. 549, also in all MCP formats (Vol. 7).

Report on Glass Fiber-Reinforced Concrete Premix – 549.3R-09, 2009, 24 pp.

Order Code: 549309.CAT
$58.50 (ACI members $35.00)

This report summarizes the current knowledge of materials, manufacturing methods, engineering properties, and applications of GFRC premix. Prepared by ACI Tech. Comm. 549, also in all MCP formats (Vol. 7).

Guide to Design and Construction of Externally Bonded FRCM Systems for Repair and Strengthening Concrete and Masonry Structures – 549.4R-13, 2013, 69 pp.

NEW!

Order Code: 549413.CAT
$96.50 (ACI members $58.00)

Fabric-reinforced cementitious matrix (FRCM) systems for repairing and strengthening concrete and masonry structures are an alternative to traditional techniques such as fiber-reinforced polymers (FRPs), steel plate bonding, section enlargement, and external post-tensioning. An FRCM is a composite material consisting of one or more layers of cement-based matrix reinforced with dry fibers in the form of open mesh or fabric. The cement-based matrixes are typically made of combinations of portland cement, silica fume, and fly ash as the binder. When adhered to concrete or masonry structural members, they form an FRCM system that acts as supplemental, externally bonded reinforcement. This guide addresses the history and use of FRCM system repair and strengthening; their unique material properties; and recommendations on their design, construction, and inspection. Guidelines are based on experimental research, analytical work, and field applications. Prepared by ACI Tech. Comm. 549.

Fabrication Technologies for Thin Cementitious Products – ACI Symposium Publication 260, 2009, CD

Order Code: SP260CD.CAT
$63.50 ($38.00)

This CD consists of papers that were presented at a session sponsored by ACI Committee 549 at the ACI Fall 2007 Convention in Fajardo, Puerto Rico. The objective of the symposium was to have a state-of-the-art review on the development of fabrication methods for cementitious products and explore their potential market opportunity in residential and industrial building applications.

FIBER-REINFORCED CONCRETE

Report on Fiber-Reinforced Concrete – 544.1R-96, 1996 (Reapproved 2009), 66 pp.

Order Code: 544196.CAT
$74.50 ($45.00)

This report offers an overview of the properties and applications for each general category of fiber: steel, glass, synthetic, and natural fibers. Prepared by ACI Tech. Comm. 544, also in all MCP formats (Vol. 7).

Measurement of Properties of Fiber Reinforced Concrete – 544.2R-89, 1989 (Reapproved 2009), 11 pp.

Order Code: 544289.CAT
$26.50 ($16.00)

Laboratory and field experiments in the testing of fiber-reinforced concrete have indicated the need to review existing test methods and develop new methods. This report outlines the suggested procedures for specimen preparation in general and discusses, in detail, testing for modulus of rupture. Prepared by ACI Tech. Comm. 544, also in all MCP formats (Vol. 7).

Guide for Specifying, Proportioning, and Production of Fiber-Reinforced Concrete – 544.3R-08, 2008, 12 pp.

Order Code: 544308.CAT
$45.50 ($28.00)

This guide covers specifying, proportioning, mixing, placing, and finishing of fiber-reinforced concrete (FRC). Much of the current conventional concrete practice applies to FRC. The emphasis in the guide is to describe the differences between conventional concrete and FRC and how to deal with them. Sample mixture proportions are tabulated. Guidance is provided in the mixing techniques to achieve uniform mixtures, placement techniques to ensure adequate consolidation, and finishing techniques to ensure satisfactory surface textures. A list of references is provided covering proportioning, properties, applications, shotcrete technology, and general information on FRC. Prepared by ACI Tech. Comm 544, also in all MCP formats (Vol. 7).

Design Considerations for Steel Fiber Reinforced Concrete – 544.4R-88, 1988 (Reapproved 2009), 18 pp.

Order Code: 544488.CAT
$35.50 ($20.00)

The development of design practice for fiber-reinforced concrete and mortar using steel fibers is reviewed. Mechanical properties are discussed, design methods are presented, and typical applications are listed. Prepared by ACI Tech. Comm. 544, also in all MCP formats (Vol. 7).

Report on the Physical Properties and Durability of Fiber-Reinforced Concrete – 544.5R-10, 2010, 31 pp.

Order Code: 544510.CAT
$63.50 ($39.00)

This document addresses the physical properties and durability of fiber-reinforced concrete (FRC). The various properties addressed and the wide selection available in formulating matrix systems allow performance-based specification of concrete materials using fibers to become a viable reality. The objective of this report is to provide a historical basis about current knowledge for concrete professionals to use in tailoring new, sustainable, and durable concrete mixtures. Prepared by ACI Tech. Comm. 544, also in all MCP formats (Vol. 7).

Advances in FRC Durability and Field Applications – ACI Symposium Publication 280, 2011, CD

Order Code: SP280CD.CAT
$68.50 (ACI members $41.00)

This CD contains 10 papers that were presented at sessions sponsored by ACI Committee 544 at the ACI Spring 2011 Convention in Tampa, FL. The topics of the papers cover durability aspects of fiber-reinforced concrete, ranging from permeability, shrinkage cracking, long-term behavior in chloride environment and resistance to chloride penetration, and applications of fiber-reinforced concrete for coupling beams for high-rise core-wall structures, beams for bridges, panels, and suspended foundation slabs.

Fiber-Reinforced Self-Consolidating Concrete: Research and Applications — ACI Symposium Publication 274, 2010, CD

Order Code: SP274CD.CAT
$67.50 (ACI members $41.00)

This symposium CD contains eight papers that were presented at technical sessions sponsored by ACI Committees 544 and 237 at the 2009 ACI Fall Convention in New Orleans, LA. The paper topics include mixture composition and influence of fibers on fresh state performance, the effects of fiber dispersion and orientation on mechanical properties, and full-scale testing and development of prototype applications.

Antoine E. Naaman Symposium—Four Decades of Progress in Prestressed Concrete, Fiber Reinforced Concrete, and Thin Laminate Composites – ACI Symposium Publication 272, 2010

Order Code: SP272.CAT
$86.50 (ACI members $55.00)

This symposium publication contains 14 papers that were presented at technical sessions sponsored by ACI Committees 544 and 549 and Joint ACI-ASCE Committee 423 at the ACI Spring 2008 Convention in Los Angeles, CA. Topics covered in these papers include development, mechanical behavior, modeling, and structural applications of fiber-reinforced concrete and thin laminate composites; repair and rehabilitation of reinforced and prestressed concrete members; and new developments in prestressed concrete bridges.

Fiber-Reinforced Concrete in Practice – ACI Symposium Publication 268, 2009, CD

Order Code: SP268CD.CAT
$93.50 (ACI members $56.00)

This CD consists of 14 papers that were presented by ACI Committees 544 and 549 at ACI conventions in Charlotte, NC, and Denver, CO, in 2006. Selected examples of FRC applications highlighted in this special publication include slabs-on–ground, jointless slabs, thin section composites, prefabricated modular housing elements, concrete buried structures, concrete infrastructure repair, fire-resistant concrete, decorative concrete, and shotcrete.

See page 35 for information on eLearning course on Fiber-Reinforced Concrete.

FIBER-REINFORCED POLYMERS (FRPs)

See also REPAIR

Report on Fiber-Reinforced Polymer (FRP) Reinforcement for Concrete Structures – 440R-07, 2007, 100 pp.

Order Code: 44007.CAT
$94.50 (ACI members $56.00)

Applications of fiber-reinforced polymer (FRP) composites as reinforcement for concrete structures have been rapidly growing in recent years. In addition to the material properties of the constituent materials (that is, resins and fibers) and products, current knowledge of FRP applications—such as internal reinforcement including prestressing, external strengthening of concrete and masonry structures, and structural systems—is discussed in detail. The document also addresses durability issues and the effects of extreme events such as fire and blast. Prepared by ACI Tech. Comm. 440, also in all MCP formats (Vol. 5).

Guide for the Design and Construction of Concrete Reinforced with FRP Bars – 440.1R-06, 2006, 44 pp.

Order Code: 440106.CAT
$72.50 (ACI members $44.00)

This guide offers general information on the history and use of FRP reinforcement, a description of the unique material properties of FRP, and guidelines for the construction and design of structural concrete members reinforced with FRP bars. This guide is based on the knowledge gained from worldwide experimental research, analytical work, and field applications of FRP reinforcement. Prepared by ACI Tech. Comm. 440, also in all MCP formats (Vol. 5).

Guide for the Design and Construction of Externally Bonded FRP Systems for Strengthening Concrete Structures – 440.2R-08, 2008, 76 pp.

Order Code: 440208.CAT
$89.50 (ACI members $54.00)

This document offers general information on the history and use of FRP strengthening systems; a description of the unique material properties of FRP; and committee recommendations on the engineering, construction, and inspection of FRP systems used to strengthen concrete structures. The proposed guidelines are based on the knowledge gained from experimental research, analytical work, and field applications of FRP systems used to strengthen concrete structures. Prepared by ACI Tech. Comm 440, also in all MCP formats (Vol. 6).

Guide Test Methods for Fiber-Reinforced Polymer (FRP) Composites for Reinforcing or Strengthening Concrete and Masonry Structures – 440.3R-12, 2012, 23 pp.

Order Code: 440312.CAT
$65.50 (ACI members $40.00)

Due to differences in the physical and mechanical behavior of fiber-reinforced polymer (FRP) materials compared to steel, unique test methods for FRP bars and laminates are required. This guide provides model test methods for the short- and long-term mechanical, thermo-mechanical, and durability testing of FRP bars and laminates. It is anticipated that these model test methods may be considered, modified, and adopted, either in whole or in part, by a U.S. national standards-writing agency. Prepared by ACI Tech. Comm. 440, also in all MCP formats (Vol. 6).

Prestressing Concrete Structures with FRP Tendons – 440.4R-04, 2004 (Reapproved 2011), 35 pp.

Order Code: 440404.CAT
$63.50 (ACI members $38.00)

This document offers general information on the history and use of FRP for prestressing applications and a description of the material properties of FRP. The document focuses on the current state of design, development, and research needed to characterize and ensure the performance of FRP as prestressing reinforcement in concrete structures. The proposed guidelines are based on the knowledge gained from worldwide experimental research, analytical work, and field applications of FRPs used as prestressed reinforcement. The current development includes a basic understanding of flexure and axial prestressed members, FRP shear reinforcement, bond of FRP tendons, and unbonded or external FRP tendons for prestressing applications. The document concludes with a description of research needs. Prepared by ACI Tech. Comm. 440, also in all MCP formats (Vol. 6).

Specification for Construction with Fiber-Reinforced Polymer Reinforcing Bars – 440.5-08, 2008, 5 pp.

Order Code: 440508.CAT
$29.50 (ACI members $19.00)

This Reference Specification covers construction using fiber-reinforced polymer reinforcing bars that the Architect/Engineer can make applicable to any construction project by citing it in the Project Specifications. The Architect/Engineer supplements the provisions of this Reference Specification as needed by designating or specifying individual project requirements. Prepared by ACI Tech. Comm. 440, also in all MCP formats (Vol. 6).

Metric Version of ACI 440.5-08

Order Code: 4405M08.CAT
$29.50 (ACI members $19.00)

Specification for Carbon and Glass Fiber-Reinforced Polymer Bar Materials for Concrete Reinforcement – 440.6-08, 2008, 6 pp.

Order Code: 440608.CAT
$32.50 (ACI members $20.00)

This Material Specification covers provisions governing the testing, evaluation, and acceptance of carbon and glass fiber-reinforced polymer (FRP) bars used as reinforcement for concrete. Prepared by ACI Tech. Comm. 440, also in all MCP formats (Vol. 6).

Metric Version of ACI 440.6-08

Order Code: 4406M08.CAT
$32.50 (ACI members $20.00)

Guide for Design and Construction of Externally Bonded FRP Systems for Strengthening Unreinforced Masonry – 440.7R-10, 2010, 46 pp.

Order Code: 440710.CAT
$74.50 (ACI members $45.00)

This guide provides information on the selection and design of fiber-reinforced polymer (FRP) systems limited to externally bonded FRP laminates and near-surface-mounted FRP bars/strips for increasing the in-plane and out-of-plane strength of existing ungrouted, grouted, or partially grouted unreinforced masonry (URM) walls; infill walls are not included in this guide. The guide is applicable to URM structures made of clay bricks, concrete masonry units, and natural stones using conventional types of mortar. Prepared by ACI Tech. Comm. 440, also in all MCP formats (Vol. 6).

A Fracture Approach for FRP–Concrete Structures – ACI Symposium Publication 286, 2012, CD

Order Code: SP286CD. CAT
$73.50 (ACI members $45.00)

This CD contains 10 papers sponsored by ACI Committees 440 and 446. The papers provide information on recent developments on the use of the framework of fracture mechanics to evaluate the performance of reinforced concrete (RC) structures strengthened with FRP composites. The information provided is useful to researchers and practicing engineers because it presens experimental and analytical tools based on a fracture approach that can assess the shear and flexural capacity of strengthened RC members.

Fiber-Reinforced Polymer (FRP) Reinforcement for Concrete Structures 10th International Symposium – ACI Symposium Publication 275, 2011, CD

Order Code: SP275CD.CAT
$121.50 (ACI members $74.00)

This CD contains 72 papers from the 10th International Symposium held in Tampa, FL. The papers address internally reinforced members, strengthening of columns, material characterization, bond, emerging fiber-reinforced polymer (FRP) systems, shear strengthening, fatigue and anchorage systems, masonry, extreme events, applications, durability, and strengthening. They emphasize the experimental, analytical, and numerical validations of using FRP composites and are aimed at providing insights needed for improving existing guidelines. The increasing maturity and acceptance of FRP is reflected by several papers that provide background information on the recent design codes and guidelines relating to blast and seismic repair. New frontiers of FRP research are explored, addressing emerging materials and systems and applications for extreme events, such as fires and earthquakes, which will further consolidate FRP's preeminent position.

Serviceability of Concrete Members Reinforced with Internal/External FRP Reinforcement – ACI Symposium Publication 264, 2009, CD

Order Code: SP264CD.CAT
$70.50 (ACI members $42.00)

This CD consists of 11 papers that were presented at a session sponsored by ACI Committees 224, 435, and 440 at the ACI Spring 2009 Convention in San Antonio, TX, in March 2009. The papers focus on experimental evaluation and analytical predictions related to deflection and cracking, with the majority related to deflection of concrete flexural members reinforced with internal or external FRP. A few papers focus on cracking, and one paper looks at the long-term behavior of columns under sustained loading.

FINITE ELEMENT ANALYSIS

Finite Element Analysis of Fracture in Concrete Structures – 446.3R-97, 1997, 33 pp.

Order Code: 446397.CAT
$77.50 (ACI members $46.00)

Fracture is an important mode of deformation and damage in both plain and reinforced concrete structures. To accurately predict fracture behavior, it is often necessary to use finite element analysis. This report describes the finite element analysis of fracture in concrete. Prepared by ACI Tech. Comm. 446, also in all MCP formats (Vol. 6).

FIRE RESISTANCE

Code Requirements for Determining Fire Resistance of Concrete and Masonry Construction Assemblies – 216.1-07, 2007, 28 pp.

Order Code: 216107.CAT
$56.50 (ACI members $33.00)

Digital Format Only

Fire resistance of building elements is an important consideration in building design. While structural design considerations for concrete and masonry at ambient temperature conditions are addressed by ACI 318 and ACI 530/ASCE 5/TMS 402, respectively, these codes do not consider the impact of fire on concrete and masonry construction. This standard contains design and analytical procedures for determining the fire resistance of concrete and masonry members and building assemblies. Where differences occur in specific design requirements between this standard and the aforementioned codes, as in the case of cover protection of steel reinforcement, the more stringent of the requirements shall apply. This document is adopted by the International Code Council in the International Building Code. Prepared by Joint ACI-TMS Comm. 216, also in all MCP formats (Vol. 1).

Metric Version of ACI 216.1-07

Order Code: 2161M07. CAT
$56.50 (ACI members $33.00)

Digital Format Only

Innovations in Fire Design of Concrete Structures – ACI Symposium Publication 279, 2011, CD

Order Code: SP279CD.CAT
$84.50 (ACI members $50.00)

This CD contains 10 papers that were presented at sessions sponsored by Joint ACI-TMS Committee 216 at the ACI Fall 2008 Convention held in St. Louis, MO, and the ACI Spring 2010 Convention in Chicago, IL. The papers present some of the latest research findings on the fire performance of concrete. They provide research results from both experimental and numerical studies on various aspects, ranging from high temperature material properties to advanced computer models for tracing the fire response of reinforced concrete structural members.

FLY ASH

See also POZZOLANS

Use of Fly Ash in Concrete – 232.2R-03, 2003, 41 pp.

Order Code: 232203.CAT
$60.50 (ACI members $35.00)

This report gives an overview of the origin and properties of fly ash, its effect on the properties of portland-cement concrete, and the proper selection and use of fly ash in the production of portland-cement concrete and concrete products. The report contains information and recommendations concerning the selection and use of Class C and Class F fly ashes generally conforming to the requirements of ASTM C618. Topics covered include a detailed description of the composition of fly ash, the physical and chemical effects of fly ash on properties of concrete, guidance on the handling and use of fly ash in concrete construction, use of fly ash in the production of concrete products and specialty concretes, and recommended procedures for quality assurance. Referenced documents give more information on each topic. Prepared by ACI Tech. Comm. 232, also in all MCP formats (Vol. 2).

High-Performance, High-Volume Fly Ash Concrete for Building Sustainable and Durable Structures, third edition – Publisher: Supplementary Cementing Materials for Sustainable Development, 2008, 142 pp.

Order Code: HPHVF.CAT
$60.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 88.

FORMWORK

Guide to Formwork for Concrete – 347-04, 2004, 32 pp.

BEST SELLER!

Order Code: 34704.CAT
$63.50 (ACI members $37.00)

Objectives of safety, quality, and economy are given priority in these guidelines for formwork. A section on contract documents explains the kind and amount of specification guidance the engineer/architect should provide for the contractor. The remainder of the report advises the formwork engineer/contractor on the best ways to meet the specification requirements safely and economically. Separate chapters deal with design, construction, and materials for formwork. Considerations peculiar to architectural concrete are also outlined in a separate chapter. Other sections are devoted to formwork for bridges, shells, mass concrete, and underground work. The concluding chapter on formwork for special methods of construction includes slipforming, preplaced aggregate concrete, tremie concrete, precast concrete, and prestressed concrete. Prepared by ACI Tech. Comm. 347, also in all MCP formats (Vol. 3).

Guide for Shoring/Reshoring of Concrete Multistory Buildings – 347.2R-05, 2005, 18 pp.

Order Code: 347205.CAT
$36.50 (ACI members $23.00)

Digital Format Only

This guide presents information and design criteria for shoring/reshoring operations during the construction of reinforced and post-tensioned multistory buildings. It provides methods for developing safe construction schedules and provides design examples. It is written for the use of formwork engineer/contractors and engineer/architects. Prepared by ACI Tech. Comm. 347, also in all MCP formats (Vol. 3).

Formwork for Concrete – Special Publication 4, seventh edition, 2005, 500 pp.

BEST SELLER!

Order Code: SP47TH.CAT
$198.50 (ACI members $117.00)

This book serves a broad range of information needs with the objective of improving quality, safety, and economy in all types of formwork. For the experienced designer or builder of formwork, it is a ready reference on material properties, design data, and construction suggestions. For the architect or engineer, it adds guidance relating to structural design details and the problems and possibilities of executing them in formwork. For the novice, the book explains basic design principles and provides an introduction to many common formwork practices.

This edition includes new material on single-sided wall forms, insulating concrete forms, pressure formulas with coefficients for differing weights and mixture chemistries, inflated forming methods, and expanded text on multistory shoring systems.

Coming Fall 2014
Formwork for Concrete

Student Special SP-4

Order Code: SP47STU.CAT
$70.00

This is a special student discount for *Formwork for Concrete* (SP-4), seventh edition. Students may purchase this publication directly from ACI by class order. A minimum order of 10 copies is required and must be ordered through a professor (please include professor's name). If 25 or more copies are purchased, a free desk copy is supplied per order, by request.

Educational Resources on various topics are available through ACI. For details, go to pages 34-37, call (248) 848-3754, or visit our website: www.concreteeducation.org.

FOUNDATIONS

Specification for the Construction of Drilled Piers – 336.1-01, 2001, 22 pp.

Order Code: 336101.CAT
$29.50 (ACI members $17.00)

ACI 336.1-01 is a reference specification for drilled pier construction and includes requirements for delivery, handling, and storage of the casing, drilling excavation, soil testing, placing of concrete and reinforcing steel, and inspection. Prepared by ACI Tech. Comm. 336, also in all MCP formats (Vol. 3).

Suggested Analysis and Design Procedures for Combined Footings and Mats – 336.2R-88, 1988 (Reapproved 2002), 20 pp.

Order Code: 336288.CAT
$37.50 (ACI members $23.00)

This report deals with the design of foundations that support more than a single column (combined footings and mats). The report does not include slabs-on-ground. Prepared by ACI Tech. Comm. 336, also in all MCP formats (Vol. 3).

Design and Construction of Drilled Piers – 336.3R-93, 1993 (Reapproved 2006), 28 pp.

Order Code: 336393.CAT
$57.50 (ACI members $33.00)

This report covers the design and construction of foundation piers 30 in. (760 mm) in diameter or larger and made by drilling or digging a hole in the earth and filling it with concrete. Prepared by ACI Tech. Comm. 336, also in all MCP formats (Vol. 3).

Report on Foundations for Static Equipment – 351.2R-10, 2010, 26 pp.

Order Code: 351210.CAT
$60.50 (ACI members $37.00)

This document addresses static equipment foundation engineering and construction. It presents various design criteria, methods and procedures of analysis, design, and construction applied to static equipment foundations by industry practitioners. Prepared by ACI Tech. Comm. 351, also in all MCP formats (Vol. 4).

Foundations for Dynamic Equipment – 351.3R-04, 2004 (Reapproved 2011), 63 pp.

Order Code: 351304.CAT
$95.50 (ACI members $57.00)

This report presents general guidance for the various design criteria, methods, and procedures of analysis, design, and construction applied to dynamic equipment foundations. As an engineering aid to those persons engaged in the design of foundations for machinery, this document presents many current practices in the engineering, construction, repair, and upgrade of dynamic equipment foundations. Prepared by ACI Tech. Comm. 351, also in all MCP formats (Vol. 4).

Guide to Design, Manufacture, and Installation of Concrete Piles – 543R-12, 2012, 64 pp.

Order Code: 54312.CAT
$92.50 (ACI members $55.00)

This report presents recommendations to assist the design architect/engineer, manufacturer, construction engineer, and contractor in the design, manufacture, and installation of most types of concrete piles. Prepared by ACI Tech. Comm. 543, also in all MCP formats (Vol. 7).

FRACTURE MECHANICS

Fracture Mechanics of Concrete: Concepts, Models and Determination of Material Properties – 446.1R-91, 1991 (Reapproved 1999), 146 pp.

Order Code: 446191.CAT
$182.50 (ACI members $106.00)

This report describes the basic concept of fracture mechanics of concrete, the existing theoretical models, and the methods for determining the material fracture parameters. Prepared by ACI Tech. Comm. 446 also in all MCP formats (Vol. 6).

Report on Dynamic Fracture of Concrete – 446.4R-04, 2004, 29 pp.

Order Code: 446404.CAT
$77.50 (ACI members $44.00)

This report summarizes information regarding the analysis of concrete systems subjected to rapid loading. An overview with recommended approaches for analysis and selection of material properties is included, as well as information from leading research authorities who are applying these concepts in practice. This report also describes the strength of concrete under tension and compression, prepeak crack growth, and ductile behavior. Prepared by ACI Tech. Comm. 446, also in all MCP formats (Vol. 6).

GROUTING

Report on Grouting between Foundations and Bases for Support of Equipment and Machinery — 351.1R-12, 2012, 21 pp.

Order Code: 351112.CAT
$60.50 (ACI members $37.00)

This report provides an overview of current practices of grouting for support of equipment and machinery. Materials and installation methods are described for epoxy and cementitious-based grouts used as the load-transfer material between equipment bases and their foundations. Characteristics of placed material, test methods for forecasting long-term performance, qualification of grout materials, foundation design and detailing considerations, and installation procedures are described. Prepared by ACI Tech. Comm. 351, also in all MCP formats (Vol. 4).

HIGH-PERFORMANCE CONCRETE

Report on High-Strength Concrete — 363R-10, 2010, 65 pp.

Order Code: 36310.CAT
$85.50 (ACI members $52.00)

This report summarizes currently available information about high-strength concrete (HSC). Topics discussed include selection of materials, concrete mixture proportions, ordering, batching, mixing, transporting, placing, quality control, concrete properties, structural design, economic considerations, and applications. Prepared by ACI Tech. Comm. 363, also in all MCP formats (Vol. 5).

Guide to Quality Control and Assurance of High-Strength Concrete — 363.2R-11, 2011, 19 pp.

Order Code: 363211.CAT
$58.50 (ACI members $35.00)

High-strength concrete (HSC) has emerged as a viable material to use as an alternative to conventional normal-strength concrete in infrastructure systems to reduce member cross section, extend member span length, reduce the number of system members, or enhance system sustainability.

This guide offers general information on the quality control and testing of HSC. Recommendations are based on the current state of knowledge gained from worldwide experimental research, analytical work, and field applications of HSC systems used in concrete structures. Prepared by ACI Tech. Comm. 363, also in all MCP formats (Vol. 5).

High-Strength Concrete Columns — 441R-96, 1996, 13 pp.

Order Code: 44196.CAT
$48.50 (ACI members $28.00)

This report reviews the behavior of high-strength concrete (HSC) columns. HSC is defined as concrete with compressive strength exceeding 70 MPa (10,000 psi). The behavior of HSC columns subjected to combined axial load and bending moments is discussed. In addition to a discussion of flexural and axial capacity, the report also focuses on seismic performance of HSC columns. Prepared by ACI Tech. Comm. 441, also in all MCP formats (Vol. 6).

Reinforced Concrete Columns with High Strength Concrete and Steel Reinforcement — ACI Symposium Publication 293, 2013, CD

NEW!

Order Code: SP293CD.CAT
$72.50 (ACI members $44.00)

Practicing engineers increasingly favor the use of high-strength concrete and reinforcement in their design. The papers included in this CD present results from recent research studies and examples of practical applications and use of high-strength concrete and steel reinforcement in recent projects.

HISTORY

A Better Way to Build: A History of the Pankow Companies — published by Purdue University Press, 2013, 480 pp.

NEW!

Order Code: BWBHPC.CAT
$45.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 87.

Some Writers on Concrete: The Literature of Reinforced Concrete, 1897-1935 — published by Whittles Publishing, 2013, 320 pp.

NEW!

Order Code: SWC.CAT
$79.95 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 92.

HOT WEATHER

Guide to Hot Weather Concreting – 305R-10, 2010, 23 pp.

Order Code: 30510.CAT
$59.50 (ACI members $36.00)

This guide defines hot weather, discusses potential problems, and presents practices intended to minimize them. These practices include selecting materials and proportions, precooling ingredients, and batching. Other topics discussed include length of haul, consideration of concrete temperature as placed, facilities for handling concrete at the site, and—during the early curing period—placing and curing techniques and appropriate testing and inspection procedures in hot weather conditions. Prepared by ACI Tech. Comm. 305, also in all MCP formats (Vol. 2).

Specification for Hot Weather Concreting – 305.1-06, 2006, 8 pp.

Order Code: 305106.CAT
$36.50 (ACI members $21.00)

This specification provides requirements for hot weather concreting that the architect/engineer can make applicable to any construction project by citing it in project specifications. It is intended that the architect/engineer use the checklists included in this specification to customize the project specification. The document includes hot weather requirements for production preparations, delivery, placement, finishing, bleed-water evaporation, curing, and protection of concrete. Provisions governing a preplacement conference, concrete mixture proportions, maximum allowable concrete temperature, measurement of the rate of surface evaporation, evaporation control measures, and acceptance of a concrete mixture from past field experience or preconstruction testing are included. Prepared by ACI Tech. Comm. 305, also in all MCP formats (Vol. 2).

HYDRAULIC STRUCTURES

See also MASS CONCRETE

Erosion of Concrete in Hydraulic Structures – 210R-93, 1993 (Reapproved 2008), 24 pp.

Order Code: 21093.CAT
$47.50 (ACI members $28.00)

Attention is given to the physical erosion of concrete in hydraulic structures resulting from particles carried by flowing water and from pitting due to cavities forming and collapsing in water flowing at high velocities. Disintegration of concrete by chemical attack is also discussed. Materials, mixture proportions, and construction procedures that will make concrete more resistant to erosion are presented. Prepared by ACI Tech. Comm. 210, also in all MCP formats (Vol. 1).

INSPECTION

Guide for Concrete Inspection – 311.4R-05, 2005, 13 pp.

Order Code: 311405.CAT
$47.50 (ACI members $27.00)

This guide discusses the need for inspection of concrete construction and other related activities, the types of inspection activities involved, and the responsibilities of various individuals and organizations involved in these activities. Field and laboratory testing activities are also considered part of inspection. This guide presents recommendations for inspection plan content and a detailed checklist of inspection attributes that can be adopted for use depending on the scope and needs of individual projects. Prepared by ACI Tech. Comm. 311, also in all MCP formats (Vol. 2).

Guide for Concrete Plant Inspection and Testing of Ready Mixed Concrete – 311.5-04, 2004, 6 pp.

Order Code: 311504.CAT
$34.50 (ACI members $21.00)

This guide recommends minimum requirements for inspection at the concrete plant when such inspections are required by specifications or the owner. It also recommends minimum requirements for field and laboratory testing of concrete. It is intended for use by specifiers, architects, engineers, owners, contractors, or other groups needing to monitor the ready mixed concrete producers' activities at the concrete plant, and concreting activities at the project site through the use of an independent inspection agency or in-house inspection organization. Prepared by ACI Tech. Comm. 311, also in all MCP formats (Vol. 2).

Specification for Ready Mixed Concrete Testing Services – 311.6-09, 2009, 5 pp.

Order Code: 311609.CAT
$32.50 (ACI members $20.00)

This Reference Specification covers testing agency requirements for field and laboratory testing of ready mixed concrete delivered to the project. It is intended for use by specifiers, architects, engineers, owners, contractors, and other groups interested in monitoring the quality of concrete used in project construction. This Reference Specification can be made applicable to any construction project by citing it in a contract. The specifier supplements the provisions of this Reference Specification, as needed, by specifying individual project requirements in the contract. Prepared by ACI Tech. Comm. 311, also in all MCP formats (Vol. 2).

Metric Version of ACI 311.6-09

Order Code: 3116M09.CAT
$32.50 (ACI members $20.00)

ACI Manual of Concrete Inspection – Special Publication 2, tenth edition, 2007, 196 pp.

BEST SELLER!

Order Code: SP22007.CAT
$135.50 (ACI members $82.00)

This manual is intended to guide, assist, and instruct concrete inspectors and others engaged in concrete construction and testing, including field engineers, construction superintendents, supervisors, laboratory and field technicians, and workers. Designers may also find the manual to be a valuable reference by using the information to better adapt their designs to the realities of field construction.

This tenth edition incorporates new material to address these advances in technology. A list of only a few of the recent developments in materials, equipment, and processes includes: shrinkage-compensating cement; increased use of supplementary cementitious materials (SCMs); polymer-modified mixtures; self-consolidating concretes; new and refined admixtures; fiber-reinforced concrete; epoxy resins; high-capacity and automated concrete production equipment; high-performance and high-strength concrete; and epoxy-coated and stainless steel-clad reinforcement.

The main emphasis of the manual is on the technical aspects of inspection and construction. For further information about construction practices, readers are encouraged to refer to the *ACI Manual of Concrete Practice*. Prepared by ACI Tech. Comm. 311.

Concrete Inspection Handbook – Publisher: Portland Cement Assocation, 2004, 120 pp.

Order Code: CIH.CAT
$45.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 87.

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JOINTS–MOVEMENT

Joints in Concrete Construction – 224.3R-95, 1995 (Reapproved 2013), 41 pp.

Order Code: 224395.CAT
$96.50 (ACI members $54.00)

Digital Format Only

This report reviews the design, construction, and maintenance of joints in concrete structures subjected to a wide variety of uses and environmental conditions, including joint sealants. Prepared by ACI Tech. Comm. 224, also in all MCP formats (Vol. 1).

JOINTS–STRUCTURAL

See also PRECAST CONCRETE

Recommendations for Design of Beam-Column Connections in Monolithic Reinforced Concrete Structures – 352R-02, 2002 (Reapproved 2010), 38 pp.

Order Code: 35202.CAT
$103.50 (ACI members $57.00)

Recommendations are given for member proportions, confinement of the column core in the joint region, control of joint shear stress, ratio of column-to-beam flexural strength at the connection, development of reinforcing bars, and details of columns and beams framing into the joint. Recommendations are in normal typeface, and a commentary in italics amplifies the recommendations and identifies available reference material.

The recommendations are based on laboratory testing and field studies and provide a state-of-the-art summary of current information. Areas needing research are identified. Design examples are represented to illustrate the use of the design recommendations. Prepared by Joint ACI-ASCE Comm. 352, also in all MCP formats (Vol. 4).

Spanish Version of ACI 352R-02

Order Code: 352RS02.CAT
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*229R-13 Report on Controlled Low-Strength Materials

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302.2R-06 Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials

305R-10 Guide to Hot Weather Concreting

305.1-06 Specification for Hot Weather Concreting

306R-10 Guide to Cold Weather Concreting

306.1-90 (Reapproved 2002) Standard Specification for Cold Weather Concreting

*(308-213)R-13 Report on Internally Cured Concrete Using Prewetted Absorptive Lightweight Aggregate

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*445.1R-12 Report on Torsion in Structural Concrete

506R-05 Guide to Shotcrete

*515.2R-13 Guide to Selecting Protective Treatments for Concrete

*522.1-13 Specification for Pervious Concrete Pavement

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*550.2R-13 Design Guide for Connections in Precast Jointed Systems

551.2R-10 Design Guide for Tilt-Up Concrete Panels

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Guide for Design of Slab-Column Connections in Monolithic Concrete Structures – 352.1R-11, 2011, 28 pp.

Order Code: 352111.CAT
$66.50 (ACI members $41.00)

This guide provides recommendations for determining proportions and details of monolithic reinforced and post-tensioned concrete slab-column connections. Included are recommendations regarding appropriate uses of slab-column connections in structures resisting gravity and lateral forces, procedures for determination of connection load carrying capacity, and reinforcement details to achieve adequate strength, ductility, and structural integrity. The recommendations are based on a review of the literature for ultimate and serviceability limit states. A commentary is provided to clarify the recommendations and identify reference material. Prepared by Joint ACI-ASCE Comm. 352 also in all MCP formats (Vol. 4).

LIGHTWEIGHT CONCRETE

See also AGGREGATES and CELLULAR CONCRETE

Guide for Structural Lightweight-Aggregate Concrete – 213R-03, 2003, 38 pp.

Order Code: 21303.CAT
$58.50 (ACI members $35.00)

This guide summarizes the present state of technology. It presents and interprets the data on lightweight-aggregate concrete from many laboratory studies, accumulated experience resulting from successful use, and the performance of structural lightweight-aggregate concrete in service. This guide includes a definition of lightweight-aggregate concrete for structural purposes and briefly describes the production methods for, and inherent properties of, structural lightweight aggregates. Other chapters include current practices for proportioning, mixing, transporting, and placing; properties of hardened concrete; and the design of structural concrete with reference to ACI 318-02. Prepared by ACI Tech. Comm. 213, also in all MCP formats (Vol. 1).

MARINE CONCRETE

See also HIGH-PERFORMANCE CONCRETE

Guide for the Design and Construction of Fixed Offshore Concrete Structures – 357R-84, 1984 (Reapproved 1997), 23 pp.

Order Code: 35784.CAT
$49.50 (ACI members $30.00)

Digital Format Only

This report covers the design and construction of fixed reinforced and/or prestressed concrete structures for service in a marine environment. Only fixed structures that are founded on the seabed and obtain their stability from gravity are covered. Prepared by ACI Tech. Comm. 357, also in all MCP formats (Vol. 5).

Report on Floating and Float-In Concrete Structures – 357.2R-10, 2010, 41 pp.

Order Code: 357210.CAT
$71.50 (ACI members $43.00)

This report addresses the practical experience and engineering considerations for the design and construction of floating concrete structures. Recommendations for design loads and design criteria are presented. Design procedures and methods of analysis are discussed to better understand design considerations unique to floating marine structures. Construction execution, materials selection and inspection, maintenance, and repair techniques are discussed. Prepared by ACI Tech. Comm. 357, also in all MCP formats (Vol. 5).

Recent Advances in the Design of Prestressed Concrete Piles in Marine Structures in Seismic Regions – ACI Symposium Publication 295, 2013, CD

NEW!

Order Code: SP295CD.CAT
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This CD consists of eight papers that were presented at a technical session sponsored by ACI Committees 357, 423, and 543 at the ACI Convention in Minneapolis, MN, in April 2013. The papers cover key aspects relevant to seismic analysis, design, detailing and experimental testing of precast prestressed concrete piles as substructure elements of marine structures.

MASONRY

See also PLASTERING

Building Code Requirements and Specification for Masonry Structures and Companion Commentaries – 530-13/530.1-13, 2013, 380 pp.

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Building Code Requirements and Specification for Masonry Structures contains two standards and their commentaries: Building Code Requirements for Masonry Structures (ACI 530-13) and Specification for Masonry Structures (ACI 530.1-13). These standards are produced through the joint efforts of The Masonry Society, ACI, and the Structural Engineering Institute of the American Society of Civil Engineers through the Masonry Standards Joint Committee.

The 2013 edition represents an update from the former edition both in technical requirements and in layout. The Code and Specification are written as legal documents so that they may be adopted as reference in general building codes. The Code covers the design and construction of masonry structures, with subjects covered ranging from quality assurance to the details and development of reinforcement. Compliance with the Specification is required by the Code to control materials, labor, and construction. The commentaries present background details, committee considerations, and research data used to develop the Code and Specification. The Commentaries are not mandatory and are for information only.

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Special student discount for ACI 530-13, "Building Code Requirements and Specifications for Masonry Structures and Related Commentaries." Professors may purchase this publication for their students directly from ACI by class order and receive a special discount. A minimum order of 10 copies is required and must be ordered through a professor (please include professor's name). If 25 or more copies are purchased, a free desk copy is supplied per order, by request.

Masonry Designers' Guide, seventh edition – published by The Masonry Society, 2013, 479 pp.

NEW!

Order Code: MDG7.CAT
$120.00 (ACI members $95.00)

For a description, see INDUSTRY PUBLICATIONS on page 89.

MASS CONCRETE

See also HYDRAULIC STRUCTURES

Guide to Mass Concrete – 207.1R-05, 2005 (Reapproved 2012), 30 pp.

Order Code: 207105.CAT
$61.50 (ACI members $36.00)

This document contains a history of the development of mass concrete practice and discussion of materials and concrete mixture proportioning, properties, construction methods, and equipment. It covers traditionally placed and consolidated mass concrete. Prepared by ACI Tech. Comm. 207, also in all MCP formats (Vol. 1).

Report on Thermal and Volume Change Effects on Cracking of Mass Concrete – 207.2R-07, 2007, 28 pp.

Order Code: 207207.CAT
$56.50 (ACI members $33.00)

Digital Format Only

This report presents a discussion of the effects of heat generation and volume change on the design and behavior of mass concrete elements and structures. Emphasis is placed on the effects of restraint on cracking and the effects of controlled placing temperatures, concrete strength requirements, and material properties on volume change. Prepared by ACI Tech. Comm. 207, also in all MCP formats (Vol. 1).

Practices for Evaluation of Concrete in Existing Massive Structures for Service Conditions – 207.3R-94, 1994 (Reapproved 2008), 16 pp.

Order Code: 207394.CAT
$55.50 (ACI members $32.00)

Digital Format Only

Methods available for evaluating physical properties of concrete in existing structures to determine the capability of performing satisfactorily under service conditions are identified and discussed in this publication. The report recommends review of project design, operation and maintenance records, and in-service inspections data. Methods for making condition surveys and nondestructive tests are reviewed, and methods for the evaluation of test and survey data are presented. Prepared by ACI Tech. Comm. 207, also in all MCP formats (Vol. 1).

Cooling and Insulating Systems for Mass Concrete – 207.4R-05, 2005 (Reapproved 2012), 15 pp.

Order Code: 207405.CAT
$47.50 (ACI members $28.00)

Digital Format Only

The need to control volume change induced primarily by temperature change in mass concrete often requires cooling and insulating systems. This report reviews precooling, postcooling, and insulating systems.
A simplified method for computing the temperature of freshly mixed concrete cooled by various systems is also presented. Prepared by ACI Tech. Comm. 207, also in all MCP formats (Vol. 1).

Report on Roller-Compacted Mass Concrete – 207.5R-11, 2011, 71 pp.

Order Code: 207511.CAT
$96.50 (ACI members $58.00)

Digital Format Only

Roller-compacted concrete (RCC) is a concrete of no-slump consistency in its unhardened state that is typically transported, placed, and compacted using earth and rockfill construction equipment. This report includes the use of RCC in structures, where measures should be taken to cope with the generation of heat from hydration of the cementitious materials and the attendant volume change to minimize cracking. Material mixture proportioning, properties, design considerations, construction, and quality control are covered. Prepared by ACI Tech. Comm. 207, also in all MCP formats (Vol. 1).

MATERIALS

See also AGGREGATES, CEMENTITIOUS MATERIALS, and ADMIXTURES

Report on Measurements of Workability and Rheology of Fresh Concrete – 238.1R-08, 2008, 70 pp.

Order Code: 238108.CAT
$84.50 (ACI members $51.00)

Digital Format Only

This report provides a comprehensive view of workability of fresh concrete and a critical review of the tests available to measure workability and rheological performance of fresh concrete. The report discusses the factors affecting the performance of fresh concrete and provides a better understanding of the issues related to the design of workable concrete, from no flow (zero-slump) to flow like a liquid (self-consolidating concrete). Prepared by ACI Tech. Comm. 238, also in all MCP formats (Vol. 2).

Advances in the Material Science of Concrete – ACI Symposium Publication 270, 2010, CD

Order Code: SP270CD.CAT
$83.50 (ACI members $50.00)

This CD consists of 10 papers that were presented by ACI Committee 236 at the ACI Spring Convention in Chicago, IL, in 2010. Papers include Characterization of the Nanostructure and Micro-structure of Concrete, Cracking Reduction, Incorporating Nanofibers into Concrete Mixtures, and Material Behavior Reinforced with Examinations at the Microstructural Level.

Nanotechnology of Concrete: The Next Big Thing is Small – ACI Symposium Publication 267, 2009, CD

Order Code: SP267CD.CAT
$65.50 (ACI members $40.00)

This CD consists of nine papers sponsored by ACI Committee 236. The papers cover a broad range of subjects related to the nanotechnology and material science of concrete. They focus on nanostructure characterization; synthesis; design; and modeling of cement-based materials, as well as the application of nano-materials in concrete technology.

Modeling As a Solution to Concrete Problems – ACI Symposium Publication 266, 2009, CD

Order Code: SP266CD.CAT
$62.50 (ACI members $38.00)

This CD consists of 10 papers that were presented at technical sessions sponsored by ACI Committees 118 and 236 at the ACI Fall Convention in New Orleans, LA, in November 2009. The papers cover durability models, early-age models, virtual testing, and mechanical behavior models.

Concrete Primer – ACI Special Publication 1, by Bryant Mather and Celik Ozyildirim, fifth edition, 2002, 84 pp.

Order Code: SP0102.CAT
$60.50 (ACI members $35.00)

ACI's fifth edition of the *Concrete Primer* (SP-1) will help readers to better understand concrete technology. The *Concrete Primer* is in a question-and-answer format with 216 questions and answers relating to general concrete information; concrete properties; structural design issues; ingredients in concrete; issues before, during, and after construction (including evaluation, maintenance, and repair); and testing.

To direct readers to further in-depth information on many of these topics, references to specific items in the *ACI Manual of Concrete Practice* and ASTM standards are noted throughout the answers. SP-1 is an invaluable publication for technicians, inspectors, students, and anyone new to the industry.

MIXTURE PROPORTIONING

See also MATERIALS and MASS CONCRETE

Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete – 211.1-91, 1991 (Reapproved 2009), 38 pp.

Order Code: 211191.CAT
$74.50 (ACI members $43.00)

This publication describes methods for selecting and adjusting proportions for normalweight concrete. The procedures take into consideration the requirements for placeability, consistency, strength, and durability. Example calculations are shown, including adjustments based on the characteristics of the first trial batch. The proportioning of heavyweight concrete for such purposes as radiation shielding and bridge counterweight structures is described. Prepared by ACI Tech. Comm. 211, also in all MCP formats (Vol. 1).

Standard Practice for Selecting Proportions for Structural Lightweight Concrete – 211.2-98, 1998 (Reapproved 2004), 20 pp.

Order Code: 211298.CAT
$31.50 (ACI members $16.00)

This publication describes, with examples, two methods for proportioning and adjusting proportions of structural grade concrete containing lightweight aggregates. Examples are given for systematic calculation of batch weights, effective displaced volumes, and adjustments to compensate for changes in aggregate moisture content, aggregate proportions, cement content, slump and/or air content. Includes U.S. and SI units. Prepared by ACI Tech. Comm. 211, also in all MCP formats (Vol. 1).

Guide for Selecting Proportions for No-Slump Concrete – 211.3R-02, 2002 (Reapproved 2009), 26 pp.

Order Code: 211302.CAT
$58.50 (ACI members $34.00)

This supplement to ACI 211.1-91 describes a procedure for proportioning concretes made with aggregates up to 3 in. in a maximum size and having slumps from 0 to 1 in. The document also covers proportioning for concretes so stiff that slump is meaningless and the equipment used to measure the consistency of these concretes. Prepared by ACI Tech. Comm. 211, also in all MCP formats (Vol. 1).

Guide for Selecting Proportions for High-Strength Concrete Using Portland Cement and Other Cementitious Materials – 211.4R-08, 2008, 25 pp.

Order Code: 211408.CAT
$55.50 (ACI members $34.00)

This guide presents general methods for selecting mixture proportions for high-strength concrete and optimizing these mixture proportions on the basis of trial batches. The methods are limited to high-strength concrete containing portland cement and fly ash, silica fume, or slag cement (formerly referenced as ground-granulated blast-furnace slag) and produced using conventional materials and production techniques.

Recommendations and tables are based on current practice and information provided by contractors, concrete suppliers, and engineers who have been involved in projects dealing with high-strength concrete. Prepared by ACI Tech. Comm. 211, also in all MCP formats (Vol. 1).

Guide for Submittal of Concrete Proportions – 211.5R-01, 2001 (Reapproved 2009), 6 pp.

Order Code: 211501.CAT
$26.50 (ACI members $16.00)

Project specifications and other contract documents contain the requirements for concrete materials, proportions, and properties. Submittals must be prepared and reviewed to show that these requirements have been satisfied, and ACI 211.5R-01, "Guide for Submittal of Concrete Proportions," leads users through this process. The guide is an essential tool for concrete producers who determine the concrete mixture proportions and prepare supporting documentation, concrete contractors who submit the reports, and for the architect and engineer who review them. Chapter topics include materials and production, concrete mixture proportions, documentation of compressive strength, and sample forms and suggested documentation. Prepared by ACI Tech. Comm. 211, also in all MCP formats (Vol. 1).

Guide for Use of Volumetric-Measuring and Continuous-Mixing Concrete Equipment – 304.6R-09, 2009, 18 pp.

Order Code: 304609.CAT
$49.50 (ACI members $30.00)

This guide includes a short history of and information on the basic design and operation of equipment, frequently called mobile mixers, used to produce concrete by volumetric measurement and continuous mixing (VMCM). Definitions, applications, and quality assurance testing are discussed. The use of this equipment is compared with weigh-batch-mixing equipment to highlight some of the limited differences. Prepared by ACI Tech. Comm. 304, also in all MCP formats (Vol. 2).

Design and Control of Concrete Mixtures – Publisher: Portland Cement Association, fifteenth edition, 2011, 444 pp.

Order Code: DCCM.CAT
$90.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 88.

NONDESTRUCTIVE EVALUATION

See also TESTING and EVALUATION

In-Place Methods to Estimate Concrete Strength – 228.1R-03, 2003, 44 pp.

Order Code: 228103.CAT
$65.50 (ACI members $39.00)

Digital Format Only

Guidance is provided on the use of methods to estimate the in-place strength of concrete in new and existing construction. The methods include rebound number, penetration resistance, pullout, break-off, ultrasonic pulse velocity, maturity, and cast-in-place cylinders. The principle, inherent limitations, and repeatability of each method are reviewed. Procedures are presented for developing the relationship needed to estimate compressive strength from in-place results. Factors to consider in planning in-place tests are discussed and statistical techniques to interpret test results are presented. The use of in-place tests for acceptance of concrete is introduced. The appendix provides information on the number of strength levels that should be used to develop the strength relationship and explains a regression analysis procedure that accounts for error in both dependent and independent variables. Prepared by ACI Tech. Comm. 228, also in all MCP formats (Vol. 1).

Report on Nondestructive Test Methods for Evaluation of Concrete in Structures – 228.2R-13, 2013, 82 pp.

NEW!

Order Code: 228213.CAT
$105.50 (ACI members $64.00)

A review is presented of nondestructive test (NDT) methods for evaluating the condition of concrete and steel reinforcement in structures. Methods discussed include visual inspection, stress wave, nuclear, measurement of fluid transport properties, magnetic and electrical, infrared thermography, and ground-penetrating radar. The principle of each method is discussed and the typical instrumentation is described. Testing procedures are summarized and the data analysis methods are explained. The advantages and limitations of the methods are highlighted. This report concludes with a discussion of planning an NDT program. General information is provided for those faced with the task of evaluating the condition of a concrete structure and who are considering the applicability of NDT methods to aid in that evaluation. Prepared by ACI Tech. Comm. 228, also in all MCP formats (Vol. 2).

NUCLEAR

See also DESIGN

Code Requirements for Nuclear Safety-Related Concrete Structures and Commentary – 349-06, 2007, 153 pp.

Order Code 34906.CAT
$111.50 (ACI members $68.00)

Digital Format Only

This standard covers the proper design and construction of concrete structures that form part of a nuclear power plant and have nuclear safety-related functions. The structures covered by the code include concrete structures inside and outside the containment system, but the code does not cover concrete reactor vessels and concrete containment structures (as defined by Joint ACI-ASME Committee 359). This code may be referenced and applied subject to agreement between the owner and the regulatory authority. The format of this code is based on the "Building Code Requirements for Structural Concrete (ACI 318-05)" and incorporates recent revisions of that standard. Prepared by ACI Tech. Comm. 349, also in all MCP formats (Vol. 4).

Metric Version of ACI 349-06

Order Code: 349M06.CAT
$111.50 (ACI members $68.00)

Digital Format Only

Reinforced Concrete Design for Thermal Effects on Nuclear Power Plant Structures – 349.1R-07, 2007, 36 pp.

Order Code: 349107.CAT
$63.50 (ACI members $38.00)

This report presents a design-oriented approach for considering thermal effect on reinforced concrete structures. Although the approach is intended to conform to the general provisions of Appendix E of ACI 349, it is not restricted to nuclear power plant structures. The general behavior of structures under thermal effects is discussed together with the significant issues to consider in reinforcement design. Two types of structures—frames and axisymmetric shells—are addressed. Prepared by ACI Tech. Comm. 349, also in all MCP formats (Vol. 4).

Guide to the Concrete Capacity Design (CCD) Method—Embedment Design Examples – 349.2R-07, 2007 (Reapproved 2010), 91 pp.

Order Code: 349207.CAT
$94.50 (ACI members $56.00)

This report includes a series of design examples starting with simple cases and progressing to more complex cases for ductile embedments. The examples are based on the ACI 349-06, Appendix D, and illustrate how the CCD method is applied. References to the applicable code provisions are provided for each step of the design examples. Prepared by ACI Tech. Comm. 349, also in all MCP formats (Vol. 4).

Evaluation of Existing Nuclear Safety-Related Concrete Structures – 349.3R-02, 2002 (Reapproved 2010), 20 pp.

Order Code: 349302.CAT
$41.50 (ACI members $25.00)

This report gives guidelines for evaluating existing nuclear safety-related concrete structures. The report provides plant owners and engineering staff with an appropriate procedure and background for examining the performance of facility structures and taking appropriate actions based on observed conditions. Methods of examination, including visual inspection and testing techniques, and their recommended applications are cited. Guidance related to acceptance criteria for various forms of degradation is provided. Prepared by ACI Tech. Comm. 349, also in all MCP formats (Vol. 4).

2013 ASME, BPVC, Section III, Division 2, Code for Concrete Containments—Rules for Construction of Nuclear Facility Components (ACI Standard 359-10), 2013

This publication constitutes the requirements for the design, construction, and use of concrete reactor vessels and concrete containment structures for nuclear power plants.

Available from: American Society of Mechanical Engineers, P.O. Box 2300, Fairfield, NJ 07004, telephone: (800) 843-2763. **www.asme.org**. Prepared by Joint ACI-ASME Comm. 359.

PARKING LOTS

See also SLABS and PAVEMENTS

Guide for the Design and Construction of Concrete Parking Lots – 330R-08, 2008, 36 pp.

Order Code: 33008.CAT
$66.50 (ACI members $41.00)

This guide includes information on site investigation, thickness determination, design of joints and other details, durability considerations, paving operations, and quality-assurance procedures during construction. Maintenance and repair are also discussed. Prepared by ACI Tech. Comm. 330, also in all MCP formats (Vol. 3).

Specification for Unreinforced Concrete Parking Lots – 330.1-03, 2003, 6 pp.

Order Code: 330103.CAT
$50.50 (ACI members $30.00)

This specification covers minimum requirements for the construction of unreinforced concrete parking lots on grade, including attached and integral curbs. Included are requirements for materials, placing, texturing, curing, jointing, and opening to traffic. Prepared by ACI Tech. Comm. 330, also in all MCP formats (Vol. 3).

PARKING STRUCTURES

See also DURABILITY

Guide for the Design and Construction of Durable Concrete Parking Structures – 362.1R-12, 2012, 24 pp.

Order Code: 362112.CAT
$65.50 (ACI members $40.00)

This guide presents design and construction criteria used to improve the durability of concrete parking structures. Emphasis is placed on key design criteria unique to parking structures including structural systems, materials, structural design, durability, and construction. Also covered are cast-in-place nonprestressed concrete, cast-in-place post-tensioned concrete, and precast/prestressed concrete structural systems for use in parking structures. Prepared by ACI Tech. Comm. 362, also in all MCP formats (Vol. 5).

Guide for Structural Maintenance of Parking Structures – 362.2R-00, 2000 (Reapproved 2013), 15 pp.

Order Code: 362200.CAT
$32.50 (ACI members $18.00)

This guide assists parking structure owners, operators, and consultants in developing preventive maintenance programs for parking structures. It presents typical maintenance concerns and suggests ways of addressing them. Prepared by ACI Tech. Comm. 362, also in all MCP formats (Vol. 5).

PAVEMENTS

See also SLABS and PERVIOUS CONCRETE

Report on Roller-Compacted Concrete Pavements – 325.10R-95, 1995 (Reapproved 2001), 32 pp.

Order Code: 3251095.CAT
$62.50 (ACI members $36.00)

This report contains information on applications, material properties, mixture proportioning, design, construction, and quality control procedures for roller-compacted concrete pavements. Prepared by ACI Tech. Comm. 325, also in all MCP formats (Vol. 3).

Accelerated Techniques for Concrete Paving – 325.11R-01, 2001, 18 pp.

Order Code: 3251101.CAT
$36.50 (ACI members $20.00)

This report describes the needed changes as well as applications for roadways, airfields, and other pavements. You'll get recommendations for planning, concrete materials and properties, jointing and joint sealing, curing and temperature control, concrete strength testing, and opening the pavement to traffic. An appendix gives flexural strength requirements for opening to traffic. These requirements vary with pavement class (municipal or highway), foundation support value, and expected loading, expressed as equivalent single-axle loads. Prepared by ACI Tech. Comm. 325, also in all MCP formats (Vol. 3).

Guide for Design of Jointed Concrete Pavements for Streets and Local Roads – 325.12R-02, 2002 (Reapproved 2013), 31 pp.

Order Code: 3251202.CAT
$53.50 (ACI members $32.00)

This guide provides a perspective on a balanced combination of pavement thickness, drainage, and subbase or subgrade materials to achieve an acceptable pavement system for streets and local roads. Such concrete pavements designed for low volumes of traffic (typically less than 100 trucks per day, one way) have historically provided satisfactory performance when proper support and drainage conditions exist. Recommendations are presented for designing a concrete pavement system for a low volume of traffic and associated joint pattern based on limiting the stresses in the concrete or, in the case of reinforced slabs, maintaining the cracks in a tightly closed condition. Details for designing the distributed reinforcing steel and the load-transfer devices are given, if required. Prepared by ACI Tech. Comm. 325, also in all MCP formats (Vol. 3).

Concrete Overlays for Pavement Rehabilitation – 325.13R-06, 2006, 39 pp.

Order Code: 3251306.CAT
$67.50 (ACI members $41.00)

This report provides information on the use of concrete overlays for rehabilitation of both concrete and asphalt pavements. Selection, design, and construction of both bonded and unbonded overlays are discussed. The overlay categories reviewed include bonded concrete overlays, unbonded concrete overlays, whitetopping overlays, and concrete overlays bonded to asphalt (ultra-thin and thin whitetopping). Information is also provided on selecting overlay alternatives. Significant portions of this document are based on a synthesis report prepared for the Federal Highway Administration by Applied Pavement Technology, Inc. Prepared by ACI Tech. Comm. 325, also in all MCP formats (Vol. 3).

Specification for Pervious Concrete Pavement – 522.1-13, 2013, 7 pp.

Order Code: 522113.CAT
$42.50 (ACI members $26.00)

For details, see page 64.

Metric Version of ACI 522.1-13

NEW!

Order Code: 5221M13.CAT
$41.50 (ACI members $26.00)

For details, see page 64.

Pervious Concrete Pavements – Publisher: PCA and NRMCA, 2005, 36 pp.

Order Code: PCP.CAT
$40.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 89.

PERIODICALS

Concrete International

Monthly periodical ISSN 0162-4075
Order Code: CI.CAT
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General news is also highlighted involving ACI activities and members, industry news, and announcements of ACI policy changes. The thrust of the magazine is practical in content and current in theme.

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ACI Materials Journal

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Order Code: MJ.CAT

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Bimonthly periodical ISSN 0889-3241
Order Code: SJ.CAT

A 1-year subscription to either the *ACI Structural Journal* or the *ACI Materials Journal* is $164.00; outside the U.S.: $173.00. Single copy price (prepaid) U.S. and International: $31.00 (ACI members $16.00)

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PERVIOUS CONCRETE

Report on Pervious Concrete – 522R-10, 2010 (Reapproved 2011), 40 pp.

Order Code: 52210.CAT
$68.50 (ACI members $42.00)

This report provides technical information on pervious concrete's application, design methods, materials, properties, mixture proportioning, construction methods, testing, and inspection. Prepared by ACI Tech. Comm. 351, also in all MCP formats (Vol. 6).

Specification for Pervious Concrete Pavement – 522.1-13, 2013, 7 pp.

NEW!

Order Code: 522113.CAT
$42.50 (ACI members $26.00)

This specification provides requirements for the construction of pervious concrete pavement. This specification covers materials, preparation, forming, placing, finishing, jointing, curing, and quality control of pervious concrete pavement. Provisions governing testing, evaluation, and acceptance of pervious concrete pavement are included. This reference specification can be made applicable by citing it in the project specifications. The Architect/Engineer can supplement this reference specification, as needed, by specifying individual project requirements. Prepared by ACI Tech. Comm. 522, also in all MCP formats (Vol. 6).

Metric Version of ACI 522.1-13

NEW!

Order Code: 5221M13.CAT
$41.50 (ACI members $26.00)

Pervious Concrete Pavements – Publisher: PCA and NRMCA, 2005, 36 pp.

Order Code: PCP.CAT
$40.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 89.

PIPES

Specification for Cast-in-Place Concrete Pipe – 346-09, 2009, 6 pp.

Order Code: 34609.CAT
$34.50 (ACI members $21.00)

This specification covers construction of earth-supported cast-in-place concrete pipe (CIPCP) and covers construction of CIPCP with a diameter up to 120 in. The architect/engineer can make this specification applicable to any project by citing it in the project specification. Supplements can be made by designating or specifying individual project requirements as needed. This document must be used in conjunction with ACI 301. Inclusion of this document in a project specification with mandatory checklist items will provide necessary default values for mandatory checklist items in ACI 301. Prepared by ACI Tech. Comm. 346, also in all MCP formats (Vol. 3).

Metric Version of ACI 346-09

Order Code: 346M09.CAT
$34.50 (ACI members $21.00)

PLACING

See also CONSOLIDATION and CURING

Guide for Measuring, Mixing, Transporting, and Placing Concrete – 304R-00, 2000, 41 pp.

Order Code: 30400.CAT
$99.50 (ACI members $57.00)

This guide presents information on handling, measuring, and batching of all materials used in making normal-weight, lightweight, and heavyweight concrete. It covers both weight and volumetric measuring; central mixture plants and truck mixers; and concrete placement using buckets, buggies, pumps, and conveyors. Also covered are underwater placement and preplaced aggregate concretes. Achieving quality control in completed structures is also addressed. Prepared by ACI Tech. Comm. 304, also in all MCP formats (Vol. 2).

Placing Concrete by Pumping Methods – 304.2R-96, 1996 (Reapproved 2008), 25 pp.

Order Code: 304296.CAT
$35.50 (ACI members $20.00)

This report describes pumps for transporting and placing structural concrete. Rigid and flexible pipelines are discussed, as well as couplings and other accessories. This report does not cover shotcreting or pumping of nonstructural insulating or cellular types of concrete. Prepared by ACI Tech. Comm. 304, also in all MCP formats (Vol. 2).

Heavyweight Concrete: Measuring, Mixing, Transporting, and Placing – 304.3R-96, 1996 (Reapproved 2004), 8 pp.

Order Code: 304396.CAT
$26.50 (ACI members $16.00)

This report presents recommended methods and procedures for measuring, mixing, transporting, and placing heavyweight concretes that are used principally for radiation shielding in nuclear construction. Material properties and mixture proportioning are also discussed. Prepared by ACI Tech. Comm. 304, also in all MCP formats (Vol. 2).

Placing Concrete with Belt Conveyors – 304.4R-95, 1995 (Reapproved 2008), 15 pp.

Order Code: 304495.CAT
$33.50 (ACI members $19.00)

This report includes a short history on the development of conveyor belts for transporting and placing concrete. The design of conveyor systems is discussed in relation to the properties of the plastic concrete, the delivery rate, and the job specifications. Belt widths, speeds, and angles of inclination are considered. Prepared by ACI Tech. Comm. 304, also in all MCP formats (Vol. 2).

PLASTERING

See also MASONRY

Guide to Portland Cement-Based Plaster – 524R-08, 2008, 40 pp.

Order Code: 52408.CAT
$65.50 (ACI members $40.00)

This guide provides information on the plastering process. The facets of plastering covered are the prequalification of materials, plaster tool and equipment requirements, plaster mixture proportions, plaster application procedures, types of finishes, and troubleshooting and repair. Portland cement-based plastering differs in many ways from that of the concrete trade. Differences in terminology are of key importance; therefore, a familiarization with plastering terminology is needed. Definitions of plastering terms are provided for this reason. This guide is intended for use by architects, engineers, designers, specification writers, contractors, plasterers, laboratory personnel, and public authorities for familiarization with the plastering processes and as an aid in specification writing. Prepared by ACI Tech. Comm. 524, also in all MCP formats (Vol. 6).

POLYMER CONCRETE

Three Epoxy Specifications – (503.2-92, 503.3-10, & 503.4-92)

Order Code: 503SPECS.CAT
$40.50 (ACI members $25.00)

This publication includes the following documents: "Standard Specification for Bonding Plastic Concrete to Hardened Concrete with a Multi-Component Epoxy Adhesive (503.2-92 [Reapproved 2003])"; "Specification for Producing a Skid-Resistant Surface on Concrete by the Use of Epoxy and Aggregate (503.3-10)"; and "Standard Specification for Repairing Concrete with Epoxy Mortars (503.4-92 [Reapproved 2003])." Prepared by ACI Tech. Comm. 503, also in all MCP formats (Vol. 6).

Specification for Producing a Skid-Resistant Surface on Concrete by the Use of Epoxy and Aggregate – 503.3-10, 2010, 5 pp.

Order Code: 503310.CAT
$34.50 (ACI members $21.00)

This specification describes the work of producing a skid-resistant surface on hardened concrete by the application of a multi-component epoxy resin. It includes controls for resin labeling, storage, handling, mixing, and application; surface evaluation and preparation; and inspection and quality. In addition, it describes an aggregate to be used with the coating. Prepared by ACI Tech. Comm. 503, also in all MCP formats (Vol. 6).

Metric Version of ACI 503.3-10

Order Code: 5033M10.CAT
$34.50 (ACI members $21.00)

Guide for the Selection of Polymer Adhesives with Concrete – 503.5R-92, 1992 (Reapproved 2003), 16 pp.

Order Code: 503592.CAT
$32.50 (ACI members $18.00)

This guide provides the engineer, contractor, and architect with a description of the various types of polymer adhesives most frequently used for adhesive bonding of fresh concrete to cured concrete, repair of cracks in concrete, bonding concrete to other materials, and adhesive grouting of bolts and other inserts into concrete. Prepared by ACI Tech. Comm. 503, also in all MCP formats (Vol. 6).

Specification for Crack Repair by Epoxy Injection – 503.7-07, 2007, 7 pp.

Order Code: 503707.CAT
$33.50 (ACI members $20.00)

This specification gives requirements for repairing cracks in concrete by injection of two-component epoxy-resin adhesive. Prepared by ACI Tech. Comm. 503, also in all MCP formats (Vol. 6).

Guide for the Use of Polymers in Concrete – 548.1R-09, 2009, 30 pp.

Order Code: 548109.CAT
$60.50 (ACI members $37.00)

This guide presents information on how to use polymers in concrete to improve some characteristics of hardened concrete. Recommendations are included for polymer-impregnated concrete, polymer concrete, polymer-cement concrete, and safety considerations for the use of polymers in concrete. Information is provided on types of materials and their storage, handling, and use, as well as concrete formulations, equipment to be used, construction procedures, and applications. Glossaries of terms and abbreviations are also included. Prepared by ACI Tech. Comm. 548, also in all MCP formats (Vol. 7).

Report on Polymer-Modified Concrete – 548.3R-09, 2009, 39 pp.

Order Code: 548309.CAT
$65.50 (ACI members $40.00)

This report addresses concrete made with organic polymers combined with hydraulic cement and discusses the polymer systems used to produce polymer-modified concrete, including their composition and physical properties. It explains the principle of polymer modification and reviews the factors involved in selecting appropriate polymer systems. The report also discusses mixture proportioning and construction techniques for different polymer systems and summarizes the properties of fresh and hardened polymer-modified concrete and common applications. Prepared by ACI Tech. Comm. 548, also in all MCP formats (Vol. 7).

Specification for Latex-Modified Concrete (LMC) Overlays – 548.4-11, 2011, 8 pp.

Order Code: 548411.CAT
$42.50 (ACI members $26.00)

This reference specification covers styrene-butadiene latex-modified concrete (LMC) as an overlay on concrete bridge decks and other structures. It applies to both new construction and rehabilitation of existing structures. It includes certification requirements of the latex products, storage, handling, surface preparation, mixing, application, and limitations. Prepared by ACI Tech. Comm. 548, also in all MCP formats (Vol. 7).

Metric Version of ACI 548.4-11

Order Code: 5484M11.CAT
$42.50 (ACI members $26.00)

Guide for Polymer Concrete Overlays – 548.5R-94, 1994 (Reapproved 1998), 26 pp.

Order Code: 548594.CAT
$56.50 (ACI members $33.00)

This guide provides an overview of thin (less than 1 in. thick) polymer concrete overlays for concrete and steel substrates. Emphasis is placed on their use in the transportation sector, specifically for bridge decks and parking garages. Surface preparation, application, evaluation, maintenance, and safety aspects are included. Prepared by ACI Tech. Comm. 548, also in all MCP formats (Vol. 7).

Specification for Type EM (Epoxy Multi-Layer) Polymer Overlay for Bridge and Parking Garage Decks – 548.8-07, 2007, 5 pp.

Order Code: 548807.CAT
$31.50 (ACI members $19.00)

This specification covers epoxy multi-layer (EM) polymer overlay for bridge and parking garage decks. Type EM polymer overlay incorporates a low-modulus epoxy binder and selected aggregate to produce a flexible, skid-resistant, and waterproof overlay. The overlay may be used for both new construction and rehabilitation. The overlay is placed by applying the neat epoxy binder to the surface and broadcasting aggregate. This specification includes requirements for chemical components, aggregates, storage and handling, surface preparation, surface profile, mixing, placement, and finishing. Prepared by ACI Tech. Comm. 548, also in all MCP formats (Vol. 7).

Metric Version of ACI 548.8-07

Order Code: 5488M07.CAT
$31.50 (ACI members $19.00)

Specification for Type ES (Epoxy Slurry) Polymer Overlay for Bridge and Parking Garage Decks – 548.9-08, 2008, 5 pp.

Order Code: 548908.CAT
$29.50 (ACI members $19.00)

This specification covers epoxy slurry (ES) overlay for bridge and parking garage decks. Type ES polymer overlay incorporates low-modulus epoxy-based slurry and selected aggregate to produce a flexible, skid-resistant, and water-resistant overlay. The overlay may be used for both new construction and rehabilitation. The overlay is placed by applying the polymer slurry to the surface and broadcasting aggregate. This specification includes requirements for chemical components, aggregates, storage and handling, surface preparation, surface profile, mixing, placement, finishing, and quality control. Prepared by ACI Tech. Comm. 548, also in all MCP formats (Vol. 7).

Metric Version of ACI 548.9-08

Order Code: 5489M08.CAT
$29.50 (ACI members $19.00)

Specification for Type MMS (Methyl Methacrylate Slurry) Polymer Overlays for Bridge and Parking Garage Decks – 548.10-10, 2010, 6 pp.

Digital Format Only

Order Code: 5481010.CAT
$36.50 (ACI members $22.00)

This specification covers materials and procedures for polymer overlays for new construction and for repair and rehabilitation of bridge and parking garage decks. Methyl methacrylate slurry (MMS) polymer overlay incorporates a methyl methacrylate-based primer, binder, and top coat with selected filler and aggregate to produce a flexible, skid-resistant, and water-resistant overlay. This specification includes requirements for chemical components, aggregates, storage and handling, surface preparation, surface profile, mixing, placement, finishing, quality control, and quality assurance. Prepared by ACI Tech. Comm. 548, also in all MCP formats (Vol. 7).

Metric Version of ACI 548.10-10

Digital Format Only

Order Code: 54810M10.CAT
$36.50 (ACI members $22.00)

Guide for the Application of Epoxy and Latex Adhesives for Bonding Freshly Mixed and Hardened Concrete – 548.11R-12, 2012, 8 pp.

Digital Format Only

Order Code: 5481112.CAT
$34.50 (ACI members $21.00)

This guide provides information, requirements, and procedures, for bonding freshly mixed and hardened concretes by using epoxy or latex adhesives. This guide covers evaluations of hardened concrete, the selection of suitable epoxy or latex adhesive, and application methods. Prepared by ACI Tech. Comm. 548, also in all MCP formats (Vol. 7).

Specification for Bonding Hardened Concrete and Steel to Hardened Concrete with an Epoxy Adhesive – 548.12-12, 2013, 5 pp.

NEW!

Order Code: 5481212.CAT
$37.50 (ACI members $23.00)

This specification addresses bonding hardened concrete and steel to hardened concrete with an epoxy adhesive. Included are controls for adhesive labeling, storage, handling, mixing and application, surface evaluation and preparation, as well as inspection and quality control. Prepared by ACI Tech. Comm. 548, also in all MCP formats (vol. 7).

Frontiers in the Use of Polymers in Concrete – ACI Symposium Publication 278, 2011, CD

Order Code: SP278CD.CAT
$67.50 (ACI members $41.00)

This CD contains nine papers sponsored by ACI Committee 548. The extended use of polymers in concrete has grown significantly in the last two decades. This is demonstrated from the common use of epoxy to repair cracks to the use of polymer concrete overlays to protect bridge decks. The papers provide insight into the current state of research and development for the use of polymers in concrete and new trends that will shape the frontiers of the polymer concrete industry in the near future.

POZZOLANS

See also FLY ASH, SLAG, SILICA FUME, CEMENTITIOUS MATERIALS, and ADMIXTURES

Report on the Use of Raw or Processed Natural Pozzolans in Concrete – 232.1R-12, 2012, 29 pp.

Order Code: 232112.CAT
$69.50 (ACI members $43.00)

This report reviews the use of raw or processed natural pozzolans in concrete and provides an overview of the properties of natural pozzolans and their use in the production of hydraulic-cement concrete. Long before the invention of portland cement, natural pozzolans mixed with lime were used to strengthen concrete and mortar. Today, they can be used to enhance the properties of fresh and hardened concrete and may provide economic value in some cases. Prepared by ACI Tech. Comm. 232, also in all MCP formats (Vol. 2).

PRECAST CONCRETE

See also PARKING STRUCTURES, BRIDGES, and GUIDEWAYS

Guide for Precast Concrete Wall Panels – 533R-11, 2011, 48 pp.

Order Code: 53311.CAT
$82.50 (ACI members $50.00)

This guide presents recommendations for precast concrete wall panels. It should be used with ACI 318, "Building Code Requirements for Structural Concrete," which is legally binding when adopted by the local authority. This guide discusses the basic principles of design, tolerances, and materials, as well as fabrication, installation, quality requirements, and testing. Prepared by ACI Tech. Comm. 533 also in all MCP formats (Vol. 6).

Guide to Emulating Cast-in-Place Detailing for Seismic Design of Precast Concrete Structures – 550.1R-09, 2009, 17 pp.

Order Code: 550109.CAT
$48.50 (ACI members $29.00)

This guide provides information for detailing precast concrete structures that should meet building code requirements for all seismic design categories by emulating cast-in-place reinforced concrete design. This guide also explains how emulative precast concrete structures can address the provisions of ACI 318-08, including those of Chapter 21, if special attention is directed to detailing the joints and splices between precast components. Prepared by ACI Tech. Comm. 550, also in all MCP formats (Vol. 7).

Design Guide for Connections in Precast Jointed Systems – 550.2R-13, 2013, 16 pp.

NEW!

Order Code: 550213.CAT
$56.50 (ACI members $34.00)

This guide provides information on the characteristics and design of connections between precast concrete components and between precast components and cast-inplace construction. The proper detailing and design of precast concrete connections are essential to the performance of a precast concrete structure. This guide describes typical precast jointed systems and their connection types, performance, and characteristics, and provides recommendations for design and construction. Three classes of connections are identified and their characteristic and key design considerations given. Also included are guidelines for designing connections and their anchorage, a description of precast systems, typical lateral-load-resisting systems, key design considerations, and erection requirements, including special welding considerations. Prepared by ACI Tech. Comm. 550, also in all MCP formats (Vol. 7).

Design Specification for Unbonded Post-Tensioned Precast Concrete Special Moment Frames Satisfying ACI 374.1 (ACI-ASCE 550.3) and Commentary – 550.3-13. 2013, 28 pp.

NEW!

Order Code: 550313.CAT
$68.50 (ACI members $41.00)

This Standard defines requirements that may be used to design special hybrid moment frames composed of discretely jointed precast concrete beams post-tensioned to concrete columns. After a major earthquake, these hybrid moment frames should exhibit minimal damage in beam-column regions and negligible permanent displacements. Hybrid moment frames do not satisfy the prescriptive requirements of Chapter 21 of ACI 318-11 for frames of monolithic construction. According to 21.1.1.8 of ACI 318-11, their acceptance requires demonstration by experimental evidence and analysis that the frames have strength and toughness equal to or exceeding those provided by comparable monolithic reinforced concrete frames that satisfy the prescriptive requirements of Chapter 21. This Standard describes the requirements that the licensed design professional may use to demonstrate, through analysis, that such frames have strength and toughness at least equal to those of comparable monolithic frames. Prepared by ACI Tech. Comm. 550.

Metric Version of 550.3-13

Order Code: 5503M13.CAT
$68.50 (ACI members $41.00)

Specification for Tolerances for Precast Concrete – ITG-7-09, 2009, 37 pp.

Order Code: ITG709.CAT
$67.50 (ACI members $41.00)

This Reference Specification provides standard tolerances for precast concrete construction. It covers dimensional tolerances for structural precast concrete members used in building construction and erection tolerances for these members. This document is intended to be adopted by reference in contract documents. The specifier supplements the provisions of this Reference Specification as needed by specifying project-specific requirements in contract documents. Prepared by ACI Innovation Task Group 7, also in all MCP formats (Vol. 7).

Metric Version of ITG-7-09

Order Code: ITG7M09.CAT
$67.50 (ACI members $41.00)

PRESTRESSED CONCRETE

See also BRIDGES, GUIDEWAYS, PARKING STRUCTURES, and SLABS

Recommendations for Concrete Members Prestressed with Unbonded Tendons – 423.3R-05, 2005, 21 pp.

Order Code: 423305.CAT
$60.50 (ACI members $35.00)

This guide provides recommendations for the design of flexural concrete members in buildings post-tensioned with unbonded tendons. Suggestions for revisions and additions to ACI 318 regarding this subject are presented. Consideration is given to determination of fire endurance, design for seismic forces, and design for catastrophic loadings, in addition to design for gravity and lateral loads. Recommendations concerning details and properties of tendons, protection against corrosion, and construction procedures are presented. Prepared by Joint ACI-ASCE Comm. 423, also in all MCP formats (Vol. 5).

Corrosion and Repair of Unbonded Single Strand Tendons – 423.4R-98, 1998, 19 pp.

Order Code: 423498.CAT
$26.50 (ACI members $16.00)

This report provides general information regarding the evaluation of corrosion damage in structures reinforced with unbonded single-strand post-tensioning tendons. The historical development of these parts of the Building Code dealing with durability and corrosion protection is explained. Evolution of the types and components of unbonded tendons is also described, as well as specific aspects of corrosion in unbonded single-strand tendons and common problems in structures reinforced with these tendons. Methods are also presented for repairing, replacing, and supplementing tendons. Prepared by Joint ACI-ASCE Comm. 423, also in all MCP formats (Vol. 5).

Specification for Unbonded Single-Strand Tendon Materials (ACI 423.7-07) and Commentary – 2008, 21 pp.

Order Code: 423707.CAT
$52.50 (ACI members $32.00)

This specification provides materials criteria and fabrication requirements for unbonded single-strand tendons used in nonaggressive and aggressive environments.

This specification is not intended to apply to nonstructural elements and applications, which might include topping slabs, waterproofing slabs-on-fill, and post-tensioning used only for control of cracking or deflection. For nonflexural or membrane-type structures primarily under tensile forces, the provisions apply where appropriate. Prepared by Joint ACI-ASCE Comm. 423, also in all MCP formats (Vol. 5).

Report on Corrosion and Repair of Grouted Multistrand and Bar Tendon Systems – 423.8R-10, 2010, 10 pp.

Order Code: 423810.CAT
$43.50 (ACI members $26.00)

This report gives general information regarding the evaluation of corrosion damage in structures reinforced with grouted multistrand and bar tendons. A review of current practice is included along with the historical background. Specific potential problem areas for grouted tendons are discussed for each critical part of the tendon. Current methods for evaluating corrosion damage and typical repair schemes are included. Prepared by Joint ACI-ASCE Tech. Comm. 423, also in all MCP formats (Vol. 5).

Metric Test Method for Bleed Stability of Cementitious Post-Tensioning Tendon Grout – 423.9M-10, 2010, 3 pp.

Order Code: 4239M10.CAT
$26.50 (ACI members $17.00)

Cement grouts for post-tensioning tendons ensure durability of the system. Voids formed from bleeding of grout may result in loss of a protective environment that may lead to corrosion of prestressing steel. This test method is a tool to evaluate the bleed stability of a grout under static pressure and can be used to prequalify grout materials or for quality control. Prepared by Joint ACI-ASCE Tech. Comm. 423, also in all MCP formats (Vol. 5).

Prestressing Concrete Structures with FRP Tendons – 440.4R-04, 2004 (Reapproved 2011), 35 pp.

Order Code: 440404.CAT
$63.50 (ACI members $38.00)

For a description, see FIBER-REINFORCED POLYMERS on page 42.

Post-Tensioning Manual, sixth edition – Publisher: Post-Tensioning Institute, 2006, 254 pp.

Order Code: PTM.CAT
$115.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 90.

QUALITY ASSURANCE

See also INSPECTION

Guide for Concrete Construction Quality Systems in Conformance with ISO 9001 – 121R-08, 2008, 35 pp.

Order Code: 12108.CAT
$62.50 (ACI members $38.00)

This manual provides ISO 9001:2000-based quality management system requirements and guidance to the concrete construction industry. Discussion is offered for each clause of the ISO 9001:2000, providing advice and construction-specific information that can be used as a reference to either produce a new quality management system compliant with ISO 9001:2000 or to upgrade an ISO 9001:94 or other quality management system to meet the ISO 9001:2000 requirements.

Appendix A, "Model Quality Management System Manual for Designers, Construction Managers, and Constructors," is based on the "NYC MTA Bridges and Tunnels, Engineering and Construction Department," and is recommended for use as a template for any company beginning to write a quality manual. Prepared by ACI Tech. Comm. 121, also in all MCP formats (Vol. 1).

RECYCLING

Removal and Reuse of Hardened Concrete – 555R-01, 2001, 26 pp.

Order Code: 55501.CAT
$49.50 (ACI members $28.00)

This report provides guidance for assessing concrete structures for complete or partial demolition. The document also provides information on the applicability, advantages, limitations, and safety considerations of various types of concrete removal methods ranging from hand-operated power tools to hydrodemolition. It also presents considerations for evaluating and processing waste concrete for production of aggregates suitable for reuse in concrete construction. Prepared by ACI Tech. Comm. 555, also in all MCP formats (Vol. 7).

REINFORCEMENT

See also DETAILING, BOND, and FIBER-REINFORCED POLYMERS (FRPs)

Types of Mechanical Splices for Reinforcing Bars – 439.3R-07, 2007, 20 pp.

Order Code: 439307.CAT
$51.50 (ACI members $31.00)

This report provides engineers and contractors with updated information about bar-to-bar mechanical splices and the types of proprietary mechanical splices currently available. Reasons for using mechanical splices are discussed, as well as various engineering considerations that should be made when specifying mechanical splices. Mechanical splices are described in terms of seismic type, configuration, installation procedure, clearance requirements, and other characteristics. Illustrations of the various mechanical splices are included. Prepared by ACI Tech. Comm. 439, also in all MCP formats (Vol. 5).

Report on Steel Reinforcement–Material Properties and U.S. Availability – 439.4R-09, 2009, 19 pp.

Order Code: 439409.CAT
$53.50 (ACI members $32.00)

The material properties of the various types of steel reinforcement produced for use in the U.S. are described. Types of steel reinforcement defined in this report include deformed reinforcing bars, plain and deformed wire, welded wire reinforcement, bar mats, and prestressing reinforcement. The requirements, restrictions, and testing information of the pertinent ASTM specifications are reviewed. The availability of the various types and sizes of reinforcement in the U.S. is discussed. Prepared by ACI Tech. Comm. 439, also in all MCP formats (Vol. 5).

Placing Reinforcing Bars – ninth edition, Publisher: Concrete Reinforcing Steel Institute, 2011, 288 pp.

NEW!

Order Code: PRB.CAT
$50.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 90.

REPAIR

See also CRACKING, and FIBER-REINFORCED POLYMERS (FRPs)

Guide for Evaluation of Concrete Structures before Rehabilitation – 364.1R-07, 2007, 18 pp.

Order Code: 364107.CAT
$49.50 (ACI members $30.00)

This guide presents general procedures for evaluating concrete structures before rehabilitation. Among the subjects covered are preliminary investigation, detailed investigation, documentation, field observation and condition survey, sampling and material testing, evaluation, and final report. Evaluation to identify seismic deficiencies is beyond the scope of this report. Prepared by ACI Tech. Comm. 364, also in all MCP formats (Vol. 5).

Guide for Cementitious Repair Material Data Sheet – 364.3R-09, 2009, 12 pp.

Order Code: 364309.CAT
$42.50 (ACI members $26.00)

The purpose of this document is to provide a guide to the protocol for testing and reporting of data for cementitious repair materials. It does not address all of the issues associated with material selection. It is the responsibility of the user of this document to determine the suitability of the repair material before use. Prepared by ACI Tech. Comm. 364, also in all MCP formats (Vol. 5).

Concrete Repair Guide – 546R-04, 2004, 53 pp.

Order Code: 54604.CAT
$67.50 (ACI members $41.00)

This document provides guidance on the selection and application of materials and methods for the repair, protection, and strengthening of concrete structures. An overview of materials and methods is presented as a guide for making a selection for a particular application. References are provided for obtaining in-depth information on the selected materials or methods. Prepared by ACI Tech. Comm. 546, also in all MCP formats (Vol. 7).

Guide to Underwater Repair of Concrete – 546.2R-10, 2010, 32 pp.

Order Code: 546210.CAT
$64.50 (ACI members $40.00)

This guide covers the repair of concrete structures in the splash zone and underwater portions of structures located in lakes, rivers, oceans, and groundwater. Concrete deterioration, investigation and testing procedures, preparation, materials and methodology, and inspection procedures are described. Design considerations and references for underwater repair of concrete bridges, wharves, pipelines, piers, outfalls, bulkheads, and offshore structures are identified. Prepared by ACI Tech. Comm. 546, also in all MCP formats (Vol. 7).

Guide for the Selection of Materials for the Repair of Concrete – 546.3R-06, 2006, 34 pp.

Order Code: 546306.CAT
$62.50 (ACI members $37.00)

This document provides guidance on the selection of materials for the repair of concrete. An overview of the important properties of repair materials is presented as a guide for making an informed selection of repair materials that are appropriate for specific applications and service conditions. Prepared by ACI Tech. Comm. 546, also in all MCP formats (Vol. 7).

Code Requirements for Evaluation, Repair, and Rehabilitation of Concrete Buildings (ACI 562-13) and Commentary – 562-13, 2013, 59 pp.

BEST SELLER!

Order Code: 56213.CAT
$130.50 (ACI members $78.00)

The new ACI 562 code provides standard requirements for evaluating existing concrete buildings and then the subsequent structural repair, rehabilitation, and strengthening of those buildings. This code provides rules for a preliminary evaluation that determines the "design basis code"—that is, if the building can be repaired based on the ACI 318 version used in the original design, or if the repair needs to comply with the current ACI 318. The code provides rules for determining strength of in-place material, performing structural analysis, designing repairs for strength and durability, requirements for stability and shoring of construction, and inspection and testing of repairs. Commentary provides application guidance as well as references for additional information. Prepared by ACI Tech. Comm. 562, also in all MCP formats (Vol. 7).

Metric Version of ACI 562-13

NEW!

Order Code: 562M13.CAT
$130.50 (ACI members $78.00)

Concrete Repair Manual – fourth edition, 2013, 2363 pp.

BEST SELLER!

Order Code: RPMN13PACK.CAT
$259.00 (ACI members $159.00)

This fourth edition, a two-volume set, is a comprehensive collection of concrete repair information. The manual is divided into seven principal areas: general topics (including concrete repair terminology), condition evaluation, concrete restoration, contractual, strengthening, protection, and special cases. Sources of the documents were provided from the American Concrete Institute, American Society of Civil Engineers, Building Research Establishment, Construction Research Communications, Concrete Society, International Concrete Repair Institute, Nace International, the Post-Tensioning Institute, The Society for Protective Coatings, and the United States Army Corps of Engineers. The Concrete Repair Manual is a must-have for those involved in the repair of concrete.

Formats	Order Code	Price
CD	RPMN13CD.CAT	$249.00 (ACI members $149.00)
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These programs are administered by Marsh Affinity Group Services, West Des Moines, IA 50398.

Increasing Shear Capacity within Existing Reinforced Concrete Structures – 364.2T-08, 2008, 4 pp.

Order Code: 3642T08.CAT
$26.00 (ACI members $21.00; free if you use one of your download credits)

What options are available to increase the shear capacity of members within existing reinforced concrete structures? This TechNote provides an overview of the variety of materials and methods available to increase shear capacity, including the use of external steel reinforcement, section enlargement, internal steel or fiber-reinforced polymer (FRP) reinforcement, supplemental members, FRP plates and strips, both steel and FRP near-surface-mounted reinforcement, and external prestressing. Prepared by ACI Tech. Comm. 364, also in all MCP formats (Vol. X).

Treatment of Exposed Epoxy-Coated Reinforcement in Repair – 364.3T-10, 2010, 6 pp.

Order Code: 3643T10.CAT
$26.00 (ACI members $21.00; free if you use one of your download credits)

This TechNote provides the answer to the question, "When epoxy-coated steel reinforcement is exposed in a repair area, how should the reinforcement be treated to avoid creating a corrosion cell?" Prepared by ACI Tech. Comm. 364, also in all MCP formats (Vol. X).

Determining the Load Capacity of a Structure When As-Built Drawings Are Unavailable – 364.4T-10, 2010, 8 pp.

Order Code: 3644T10.CAT
$26.00 (ACI members $21.00; free if you use one of your download credits)

This TechNote provides an answer to the question, "How can the load capacity of a structure be determined when as-built structural drawings are not available?" Prepared by ACI Tech. Comm. 364, also in all MCP formats (Vol. X).

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Importance of Modulus of Elasticity in Surface Repair Materials – 364.5T-10, 2010, 3 pp.

Order Code: 3645T10.CAT
$26.00 (ACI members $21.00; free if you use one of your download credits)

This TechNote provides an answer to the question, "How important is the modulus of elasticity as a property of surface repair materials?" Prepared by ACI Tech. Comm. 364, also in all MCP formats (Vol. X).

Concrete Removal in Repairs Involving Corroded Reinforcing Steel – 364.6T-02, 2002, (Reapproved 2011), 3 pp.

Order Code: 3646T02.CAT
$26.00 (ACI members $21.00; free if you use one of your download credits)

This TechNote provides an answer to the question, "When corroded reinforcing steel is encountered in a repair, should the bar be undercut? How far should the bar be exposed along its length?" Prepared by ACI Tech. Comm. 364, also in all MCP formats (Vol. X).

Evaluation and Minimization of Bruising (Microcracking) in Concrete Repair – 364.7T-02, 2002, (Reapproved 2011), 3 pp.

Order Code: 3647T02.CAT
$26.00 (ACI members $21.00; free if you use one of your download credits)

This TechNote provides an answer to the question, "What is 'bruising,' how is it evaluated, and how can it be minimized?" Prepared by ACI Tech. Comm. 364, also in all MCP formats (Vol. X).

Use of Hydrodemolition for Concrete Removal in Unbonded Post-Tensioned Systems – 364.8T-02, 2002, (Reapproved 2011), 2 pp.

Order Code: 3648T02.CAT
$26.00 (ACI members $21.00; free if you use one of your download credits)

This TechNote provides an answer to the question, "Should hydrodemolition be used to remove concrete when unbonded post-tensioned systems are exposed in the removal process?" Prepared by ACI Tech. Comm. 364, also in all MCP formats (Vol. X).

Cracks in a Repair – 364.9T-03, 2003, (Reapproved 2011), 2 pp.

Order Code: 3649T03.CAT
$26.00 (ACI members $21.00; free if you use one of your download credits)

This TechNote provides an answer to the question, "Should cracks in a repair be of concern?" Prepared by ACI Tech. Comm. 364, also in all MCP formats (Vol. X).

RESIDENTIAL

See also SLABS

Residential Code Requirements for Structural Concrete (ACI 332-10) and Commentary – 2010, 30 pp.

Order Code: 33210.CAT
$62.50 (ACI members $38.00)

This report covers the design and construction of cast-in-place concrete for one- and two-family dwellings and multiple single-family dwellings (townhouses), and their accessory structures. Among the subjects covered are the design and construction requirements for plain and reinforced concrete footings, foundation walls, and slabs-on-ground, and requirements for concrete, reinforcement, forms, and other related materials. The quality and testing of materials discussed in this document are covered by reference to the appropriate ASTM standards. This document is adopted by the International Code Council in the International Residential Code. Prepared by ACI Tech. Comm. 332, also in all MCP formats (Vol. 3).

Metric Version of ACI 332-10

Order Code: 332M10.CAT
$62.50 (ACI members $38.00)

Guide to Residential Concrete Construction – 332.1R-06, 2006, 48 pp.

Order Code: 332106.CAT
$71.50 (ACI members $43.00)

This guide provides practical information about the construction of quality residential concrete. It covers concrete work for one- and two-family dwellings with a maximum height of two stories above grade and a basement that is either cast-in-place or placed as precast elements. Information on materials, proportions, production, delivery, and testing is provided. Separate chapters on footings, walls, and slabs provide information on subgrade, forms, reinforcement, placement, consolidation, finishing, and curing. Special considerations regarding insulation and hot and cold weather are included. Common problems and their repair are also addressed. Applicable codes and construction documents take precedence over the information contained in this document. Prepared by ACI Tech. Comm. 332, also in all MCP formats (Vol. 3).

SEISMIC AND LATERAL FORCES

See also BRIDGES and REPAIR

Guide for Seismic Rehabilitation of Existing Concrete Frame Buildings and Commentary – 369R-11, 2011, 35 pp.

Order Code: 36911.CAT
$70.50 (ACI members $43.00)

This guide provides recommendations for modeling parameters and acceptance criteria for linear and nonlinear analysis of beams, columns, joints, and slab-column connections of concrete buildings and the procedures for obtaining material properties necessary for seismic rehabilitation design. Prepared by ACI Tech. Comm. 369, also in all MCP formats (Vol. 5).

Acceptance Criteria for Moment Frames Based on Structural Testing (ACI 374.1-05) and Commentary – 2005, 9 pp.

Order Code: 374105.CAT
$32.50 (ACI members $17.00)

This document defines the minimum experimental evidence that can be deemed adequate to attempt to validate the use, in regions of high seismic risk or in structures assigned to satisfy high seismic performance or design categories, of weak beam/strong column moment frames not fully satisfying the prescriptive requirements of Chapter 21 of ACI 318-99. This document consists of both a standard and a commentary that is not part of the standard. This document has been written in such a way that its various parts can be adopted directly into Sections 21.0, 21.1, and 21.2.1 of ACI 318-99 and the corresponding sections of ACI 318R-99. Among the subjects covered are requirements for procedures that shall be used to design test modules, configurations for those modules, test methods, test reports, and determination of satisfactory performance. Prepared by ACI Tech. Comm. 374, also in all MCP formats (Vol. 5).

Guide for Testing Reinforced Concrete Structural Elements under Slowly Applied Simulated Seismic Loads – 374.2R-13, 2013, 18 pp.

NEW!

Order Code: 374213.CAT
$59.50 (ACI members $36.00)

This guide provides a testing protocol for structural testing of reinforced concrete elements and assemblies under slowly applied simulated seismic loading. These guidelines are primarily intended for new tests, but they may also be used for interpreting existing test data. The tests are intended for assessing strength, stiffness, and deformability of elements under earthquake effects. Integrated are guidelines on primary stages of structural testing, including design and preparation of test specimens, materials testing, instrumentation, test procedure and loading regime, test observations and data collection, and reporting of test observations and test data. Prepared by ACI Tech. Comm. 374, also in all MCP formats (Vol. 5).

Specification for High-Strength Concrete in Moderate to High Seismic Applications – ITG-4.1-07, 2007, 10 pp.

Order Code: ITG4107.CAT
$42.50 (ACI members $24.00)

This specification covers cast-in-place, normalweight, high-strength concrete in structures that must be designed for moderate to high seismic applications. Irrespective of seismic hazard, seismic performance, or design category, these requirements shall apply to normalweight high-strength concrete in intermediate or special moment frames and intermediate or special structural walls. Prepared by ACI Innovation Task Group 4, also in all MCP formats (Vol. 7).

Materials and Quality Considerations for High-Strength Concrete in Moderate to High Seismic Applications – ITG-4.2R-06, 2006, 26 pp.

Order Code: ITG4206.CAT
$57.50 (ACI members $34.00)

This document addresses materials and quality considerations when using cast-in-place, normalweight, high-strength concrete in structures that must be designed for moderate to high seismic applications. Prepared by ACI Innovation Task Group 4, also in all MCP formats (Vol. 7).

Report on Structural Design and Detailing for High-Strength Concrete in Moderate to High Seismic Applications – ITG-4.3R-07, 2007, 62 pp.

Order Code: ITG4307.CAT
$76.50 (ACI members $46.00)

This report presents a literature review on seismic design using high-strength concrete. The document is organized in chapters addressing the structural design of columns, beams, beam-column joints, and structural walls made with high-strength concrete, and focuses on aspects most relevant for seismic design. Each chapter concludes with a series of recommended modifications to ACI 318-05 based on the findings of the literature review. Prepared by ACI Innovation Task Group 4, also in all MCP formats (Vol. 7).

Requirements for Design of a Special Unbonded Post-Tensioned Precast Shear Wall Satisfying ACI ITG-5.1 (ACI ITG-5.2-09) and Commentary – 2009, 21 pp.

Order Code: ITG5209.CAT
$55.50 (ACI members $34.00)

This standard defines procedures that may be used to design special precast concrete shear walls, coupled or uncoupled, composed of discretely jointed precast panels that are vertically post-tensioned to the foundation with unbonded tendons. Such walls are suitable for use in regions of high seismicity and for structures assigned to high seismic design categories. This standard describes the procedures that the designer may use to demonstrate, through analysis, that one type of unbonded post-tensioned precast wall has strength and toughness at least equal to that of comparable special reinforced concrete monolithic walls. The standard consists of design requirements and a commentary. Prepared by ACI Innovation Task Group 5, also in all MCP formats (Vol. 7).

Seismic Detailing of Concrete Buildings – Publisher: Portland Cement Association, 2007, 76 pp.

Order Code: SDCB.CAT
$55.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 90.

SHEAR

See also SLABS

Guide to Shear Reinforcement for Slabs – 421.1R-08, 2008, 15 pp.

Order Codes: 421108.CAT
$57.50 (ACI members $34.00)

Tests have established that punching shear in slabs can be effectively resisted by reinforcement consisting of vertical rods mechanically anchored at the top and bottom of slabs. ACI 318 sets out the principles of design for slab shear reinforcement and makes specific reference to stirrups, headed studs, and shearheads. This guide reviews other available types and makes recommendations for their design. The application of these recommendations is illustrated through numerical examples. Prepared by Joint ACI-ASCE Comm. 421, also in all MCP formats (Vol. 5).

Guide to Seismic Design of Punching Shear Reinforcement in Flat Plates – 421.2R-10, 2010, 30 pp.

Order Code: 421210.CAT
$62.50 (ACI members $38.00)

This guide provides recommendations for designing flat plate-column connections with sufficient ductility to withstand lateral drift without punching shear failure or loss of moment transfer capacity. This guide treats reinforced concrete flat plates with or without post-tensioning. Prepared by Joint ACI-ASCE Tech. Comm. 421, also in all MCP formats (Vol. 5).

Recent Approaches to Shear Design of Structural Concrete – 445R-99, 1999 (Reapproved 2009), 55 pp.

Order Code: 44599.CAT
$66.50 (ACI members $38.00)

Truss model approaches and related theories for design of reinforced concrete members to resist shear are presented in this document. Realistic models for the design of deep beams, corbels, and other nonstandard structural members are illustrated; and background theories and the complementary nature of a number of different approaches for the shear design of structural concrete are discussed. These relatively new procedures provide a unified, intelligible, and safe design framework for proportioning structural concrete for combined load effects. Prepared by Joint ACI-ASCE Tech. Comm. 445, also in all MCP formats (Vol. 6).

Recent Development in Reinforced Concrete Slab Analysis, Design, and Serviceability – ACI Symposium Publication 287, 2012, CD

Order Code: SP287CD. CAT
$68.50 (ACI members $42.00)

This CD contains eight papers that were presented at sessions sponsored by Joint ACI-ASCE Committee 421 at the ACI Fall 2011 Convention in Cincinnati, OH. The papers present the recent research, developments, practical analysis and design issues, and serviceability issues encountered in studies performed on reinforced concrete slabs and in practice.

Thomas T.C. Hsu Symposium on Shear and Torsion in Concrete Structures – ACI Symposium Publication 265, 2009, CD

Order Code: SP265CD.CAT
$92.50 (ACI members $55.00)

This CD consists of 29 papers that were presented at technical sessions sponsored by ACI Committees 343, 445, and 447 at the ACI Fall Convention in New Orleans, LA, in November 2009. The papers represent state-of-the-art advances in shear and torsion.

SHELLS

Concrete Shell Structures—Practice and Commentary – 334.1R-92, 1992 (Reapproved 2002), 9 pp.

Order Code: 334192.CAT
$26.50 (ACI members $16.00)

This report highlights the practical aspects of shell design, including recommendations for designers of thin concrete shells. Prepared by ACI Tech. Comm. 334, also in all MCP formats (Vol. 3).

Construction of Concrete Shells Using Inflated Forms – 334.3R-05, 2005, 13 pp.

Order Code: 334305.CAT
$69.50 (ACI members $35.00)

This report provides information on the construction of structural concrete shells using an inflated form. Major facets of the construction process are covered, including foundations, inflation, monitoring, and backup systems. Other aspects, such as the geometric variations of inflated forms, thickness of polyurethane foam, and mixture proportions for shotcrete, are also considered. Prepared by ACI Tech. Comm. 334, also in all MCP formats (Vol. 3).

SHOTCRETE

Guide to Shotcrete – 506R-05, 2005, 40 pp.

Order Code: 50605.CAT
$65.50 (ACI members $39.00)

This guide provides information on materials and properties of both dry- and wet-mix shotcrete. Most facets of the shotcrete process are covered, including application procedures, equipment requirements, and responsibilities of the shotcrete crew. Other aspects, such as preconstruction trials, craftsman qualification tests, materials tests, and finished shotcrete acceptance tests, are also discussed. Prepared by ACI Tech. Comm. 506, also in all MCP formats (Vol. 6).

Guide to Fiber-Reinforced Shotcrete – 506.1R-08, 2008, 12 pp.

Order Code: 506108.CAT
$42.50 (ACI members $26.00)

This guide describes the technology and applications of fiber-reinforced shotcrete (FRS) using synthetic and steel fibers. Mechanical properties, particularly toughness, impact, and flexural strength, are improved by fiber addition. These improvements are described, along with other typical properties and benefits such as control of shrinkage cracking. Proportions of typical mixtures, batching, mixing, and application procedures are described, including methods of reducing rebound and equipment used to apply FRS. Applications of FRS are described, including rock-slope stabilization work, construction and repair of tunnel and mining linings, fire explosive spalling-resistant linings, channel linings, pools and rockscapes, and structure repair. Available design information is briefly discussed, and design references are listed. Prepared by ACI Tech. Comm. 506, also in all MCP formats (Vol. 6).

Specification for Shotcrete – 506.2-95

Order Code: 506295.CAT
$26.50 (ACI members $16.00)

This specification, which was written in the three-part CSI format, covers materials, proportioning, and the application of shotcrete. Prepared by ACI Tech. Comm. 506, also in all MCP formats (Vol. 6).

Guide for the Evaluation of Shotcrete – 506.4R-94, 1994 (Reapproved 2004), 12 pp.

Order Code: 506494.CAT
$32.50 (ACI members $17.00)

This document serves as a guide for engineers, inspectors, contractors, and others involved in accepting, rejecting, or evaluating in-place dry- or wet-mix shotcrete. Prepared by ACI Tech. Comm. 506, also in all MCP formats (Vol. 6).

Guide for Specifying Underground Shotcrete – 506.5R-09, 2009, 52 pp.

Order Code: 506509.CAT
$79.50 (ACI members $47.00)

This document provides a guide for owners, contractors, designers, and testing, specifying, and inspection organizations engaged in the application of shotcrete for underground support. The guide provides general information for the selection of constituent materials and methods to proportion shotcrete. Typical methods of batching, mixing, and handling of proportioned shotcrete materials are detailed along with shotcrete placement methods and equipment. Prepared by ACI Tech. Comm. 506, also in all MCP formats (Vol. 6).

Shotcrete for the Craftsman — Concrete Craftsman Series 4, 2008, 85 pp.

Order Code: CCS408.CAT
$30.00 (ACI members $18.00)

This publication describes and illustrates proper placement of quality shotcrete. Beginning with an explanation of dry- and wet-mix process shotcretes, chapters cover equipment, materials, environmental conditions, inspection and surface preparation, placement principles and techniques, finishing and tolerances, safety, and testing. Prepared by ACI Educ. Comm. E703.

Spanish Version of CCS4-08

Order Code: CCS4S.CAT
$30.00 (ACI members $18.00)

This is the Spanish language version of CCS4-08.

ACI CERTIFICATION PROGRAM

Shotcrete Nozzleman

ACI administers certification programs for Shotcrete Nozzlemen in both wet- and dry-mix processes. See pages 15-20 for general program descriptions and training materials. For local program availability and detailed information, visit the Certification section of ACI's website—**www.ACICertification.org**.

SHRINKAGE-COMPENSATING CONCRETE

See also CEMENTITIOUS MATERIALS

Guide for the Use of Shrinkage-Compensating Concrete — 223R-10, 2010, 16 pp.

Order Code: 22310.CAT
$52.50 (ACI members $32.00)

This guide sets forth criteria and practices to ensure the development of expansive strain in concrete. In addition to a discussion of basic principles, methods and details are given covering structural design, concrete mixture proportioning, placement, finishing, and curing. Prepared by ACI Tech. Comm. 223, also in all MCP formats (Vol. 1).

SILICA FUME

See also POZZOLANS

Guide for the Use of Silica Fume in Concrete — 234R-06, 2006 (reapproved 2012), 63 pp.

Order Code: 23406.CAT
$83.50 (ACI members $49.00)

This report describes the physical and chemical properties of silica fume; how silica fume interacts with portland cement; the effects of silica fume on the properties of fresh and hardened concrete; recent typical applications of silica-fume concrete; how silica-fume concrete is proportioned, specified, and handled in the field; and areas where additional research is needed. Prepared by ACI Tech. Comm. 234, also in all MCP formats (Vol. 2).

SILOS

See also CHIMNEYS

Standard Practice for Design and Construction of Concrete Silos and Stacking Tubes for Storing Granular Materials and Commentary — 313-97/313R-97, 1997, 39 pp.

Order Code: 31397.CAT
$67.50 (ACI members $38.00)

Digital Format Only

This standard puts forth special requirements for the unique cases of static and dynamic loading such as funnel flow, mass flow, concentric flow, and asymmetric flow in silos. The commentary presents some of the considerations and assumptions of ACI Committee 313 in developing the standard. Prepared by ACI Tech. Comm. 313, also in all MCP formats (Vol. 2).

SLABS

See also PAVEMENTS, PARKING LOTS, and SHEAR

Guide for Concrete Floor and Slab Construction — 302.1R-04, 2004, 76 pp.

Order Code: 302104.CAT
$108.50 (ACI members $66.00)

Learn how to produce high-quality concrete slabs-on-ground and suspended floors for various classes of service. This guide contains recommendations for controlling random cracking and edge curling caused by the concrete's normal volume change. Additionally, this guide emphasizes aspects of construction such as site preparation, concreting materials, concrete mixture proportions, concreting workmanship, joint construction, load transfer across joints, form stripping procedures, finishing methods, and curing. Flatness/levelness requirements and measurements are also outlined. Prepared by ACI Tech. Comm. 302, also in all MCP formats (Vol. 2).

Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials — 302.2R-06, 2006, 42 pp.

Order Code: 302206.CAT
$72.50 (ACI members $43.00)

This guide contains materials, design, and construction recommendations for concrete slabs-on-ground and suspended slabs that are to receive moisture-sensitive flooring materials. These flooring materials include sheet rubber, epoxy coatings, vinyl composition tile, sheet vinyl, carpet, athletic flooring, laminates, and hardwood. Chapters 1 through 8 provide an understanding of concrete moisture behavior and drying, and show how recommended construction practices can contribute to successful performance of floor-covering materials. This background provides a basis for the recommendations in Chapter 9 to improve performance of floor-covering materials in contact with concrete moisture and alkalinity.

Because this guide is specific to floor moisture problems and solutions, refer to the most current editions of both ACI 302.1R, "Guide for Concrete Floor and Slab Construction," and ACI 360R, "Design of Slabs-on-Ground," for general information. These two documents contain guidance on floor design and construction that is needed to achieve successful floor-covering performance. Prepared by ACI Tech. Comm. 302, also in all MCP formats (Vol. 2).

Guide to Design of Slabs-on-Ground — 360R-10, 2010, 72 pp.

BEST SELLER!

Order Code: 36010.CAT
$89.50 (ACI members $54.00)

This guide presents information on the design of slabs-on-ground, primarily industrial floors. It addresses the planning, design, and detailing of slabs. Background information on design theories is followed by a discussion of the types of slabs, soil-support systems, loadings, and jointing. Design methods are given for unreinforced concrete, reinforced concrete, shrinkage-compensating concrete, post-tensioned concrete, fiber-reinforced concrete slabs-on-ground, and slabs-on-ground in refrigerated buildings, followed by information on shrinkage and curling. Advantages and disadvantages of these slab design methods are provided, including the ability of some slab designs to minimize cracking and curling more than others. Prepared by ACI Tech. Comm. 360, also in all MCP formats (Vol. 5).

SPECIAL SLAB COMBINATION PACK

Order Code: SLABPACK.CAT
$201.50 (ACI members $121.00)

Order all three slab publications and save approximately 25%: ACI 302.1R, "Guide for Concrete Floor and Slab Construction"; ACI 302.2R-06, "Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials"; and ACI 360R, "Guide to Design of Slabs-on-Ground." No quantity discounts.

Slabs-on-Ground, third edition — Concrete Craftsman Series 1, 2010, 68 pp.

Order Code: CCS110.CAT
$37.00 (ACI members $22.00)

This third edition deals primarily with construction practices relating to slabs-on-ground but also presents useful information on concrete. The knowledge presented in CCS-1 can be used to train concrete craftsmen and is especially useful for those interested in earning credentials as ACI-certified finishers. This edition adds material on placing with laser-guided screeds and finishing with walk-behind and riding power equipment. All of the revised chapters have been rewritten to focus primarily on the impact that concrete finishers can have on the quality of slabs-on-ground. Prepared by ACI Educ. Comm. 703.

Concrete Floors and Moisture, second edition — Publisher: Portland Cement Association, 2008, 164 pp.

Order Code: CFM.CAT
$85.00 (No discounts on industry publications)

For a description, see INDUSTRY PUBLICATIONS on page 87.

Educational Resources on various topics are available through ACI. For details, go to pages 34-37, call (248) 848-3754, or visit our website: www.concreteeducation.org.

SLAG

See also POZZOLANS

Slag Cement in Concrete and Mortar – 233R-03, 2003 (Reapproved 2011), 18 pp.

Order Code: 23303.CAT
$56.50 (ACI members $33.00)

Digital Format Only

The use of iron blast-furnace slag as a constituent in concrete as an aggregate, a cementitious material, or both is well known. Recent attention has been given to the use of slag cement as an additional cementitious constituent in concrete. This report addresses the use of slag cement added along with portland cement in the production of concrete. This report does not address slags derived from the smelting of materials other than iron ores. The material characteristics described, and the recommendations for its use, pertain solely to cement ground from granulated iron blast-furnace slag. Prepared by ACI Tech. Comm. 233, also in all MCP formats (Vol. 2).

Slag Cement Concrete – ACI Symposium Publication 263, 2009, CD

Order Code: SP263CD.CAT
$60.50 (ACI members $37.00)

This CD contains eight papers, sponsored by ACI Committee 233, that provide insight on recent slag cement concrete developments in academia, the concrete industry, and in real-life applications of slag cement concrete. Topics include materials aspects related to the benefits of adding slag in concrete to prevent alkali-silica reactions, reducing drying shrinkage, and reducing the potential for thermal cracking during the curing period. Also covered are high-volume applications of slag cement in concrete for transportation structures, high-performance concrete pavements, mass concrete, and high-density concrete.

SOIL CEMENT

Report on Soil Cement – 230.1R-09, 2009, 28 pp.

Order Code: 230109.CAT
$60.50 (ACI members $37.00)

Soil cement is a densely compacted mixture of portland cement, soil/aggregate, other cementitious materials (possibly), and water. Used primarily as a base material for pavements, soil cement has also been used for slope protection, low-permeability liners, foundation stabilization, and other applications. This report contains information on applications, material properties, mixture proportioning, construction, and quality-control inspection and testing procedures for soil cement. This report's intent is to provide basic information on soil cement technology with an emphasis on current practice regarding design, testing, and construction. Prepared by ACI Tech. Comm. 230, also in all MCP formats (Vol. 2).

SPECIFICATIONS

Specifications for Structural Concrete – 301-10, 2010, 77 pp.

BEST SELLER!

Order Code: 30110.CAT
$96.50 (ACI members $58.00)

This document covers general construction requirements for cast-in-place structural concrete and slabs-on-ground. The first five sections cover materials and proportioning of concrete; reinforcement and prestressing steel; production, placing, finishing, and curing of concrete; formwork performance criteria and construction; treatment of joints; embedded items and repair of surface defects; and finishing of formed and unformed surfaces. Provisions governing the testing, evaluation, and acceptance of concrete as well as acceptance of the structures are included. The remaining sections are devoted to architectural concrete, lightweight concrete, mass concrete, post-tensioned concrete, shrinkage-compensating concrete, industrial floor slabs, tilt-up construction, precast structural concrete, and precast architectural concrete. Prepared by ACI Tech. Comm. 301, also in all MCP formats (Vol. 2).

Metric Version of ACI 301-10

Order Code: 301M10.CAT
$96.50 (ACI members $58.00)

Spanish Version of ACI 301-10

Order Code: 301S10.CAT
$96.50 (ACI members $58.00)

Digital Format Only

Report on Performance-Based Requirements for Concrete – ITG-8R-10, 2010, 46 pp.

Order Code: ITG810.CAT
$77.50 (ACI members $47.00)

This report discusses the differences between performance and prescriptive requirements for concrete, and provides information on developing performance requirements as an alternative to the current prescriptive requirements in codes and specifications. Performance-based requirements allow the contractor and concrete producer to be more innovative in concrete applications, providing an element for sustainability of concrete construction. The essential elements of a performance-based requirement are reviewed, which include the desired performance characteristics, sampling and testing procedures to verify these characteristics, and acceptance criteria. Because acceptance criteria are crucial elements of effective performance specifications, factors to consider in developing criteria that distribute risks to the owner and members of the construction team are also discussed. Considerations for implementing performance-based requirements on a project are presented and development of performance- based requirements for durability emphasized. Prepared by ACI Innovation Task Group 8, also in all MCP formats (Vol. 7).

Field Reference Manual: Standard Specifications for Structural Concrete ACI 301-10 with Selected ACI and ASTM References – ACI Special Publication 15, 2010, 710 pp.

BEST SELLER!

Order Code: SP1510.CAT
$227.50 (ACI members $137.00)

An essential reference document containing the following ACI documents:

- 301-10 – "Specifications for Structural Concrete";
- 117-10 – "Standard Specifications for Tolerances for Concrete Construction and Materials and Commentary";
- 214R-02 – "Evaluation of Strength Test Results of Concrete";
- 214.4R-10 – "Guide for Obtaining Cores and Interpreting Compressive Strength Results";
- 224.1R-07 – "Causes, Evaluation and Repair of Cracks in Concrete Structures";
- 302.1R-04 – "Guide for Concrete Floor and Slab Construction";
- 302.2R-06 – "Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials";
- 303R-04 – "Guide to Cast-in-Place Architectural Concrete Practice";
- 304R-00 – "Guide for Measuring, Mixing, Transporting, and Placing Concrete";
- 305R-10 – "Hot Weather Concreting";
- 306R-10 – "Cold Weather Concreting";
- 308R-01 – "Guide to Curing Concrete";
- 309R-05 – "Guide for Consolidation of Concrete";
- 318-08 Chapters 3-7 – "Building Code Requirements for Structural Concrete";
- 347-04 – "Guide to Formwork for Concrete";
- 533.1R-02 – "Design Responsibility for Architectural Precast-Concrete Projects," and
- ITG-7-09 – "Specification for Tolerances for Precast Concrete."

Also includes six ASTM Standards:

- C31/C31M-06 – "Standard Practice for Making and Curing Concrete Test Specimens in the Field";
- C94/C94M-06 – "Standard Specification for Ready-Mixed Concrete";
- C138/C138M-09 – "Standard Test Method for Unit Weight, Yield, and Air Content (Gravimetric) of Concrete";
- C143/C143M-09 – "Standard Test Method for Slump of Hydraulic-Cement Concrete";
- C172-04 – "Standard Practice for Sampling Freshly Mixed Concrete"; and
- E1155-96(2008) – "Standard Test Method for Determining F_F Floor Flatness and F_L Floor Levelness Numbers.

SUSTAINABLE CONCRETE

See also ENVIRONMENTAL, FLY ASH, SILICA FUME, SLAG, and PERVIOUS CONCRETE

Guide to Thermal Properties of Concrete and Masonry Systems – 122R-02, 2002, 21 pp.

Order Code: 12202.CAT
$49.50 (ACI members $27.00)

This guide reports data on the thermal properties of concrete and masonry constituents, masonry units, and systems of materials and products that form building components. This guide includes the consideration of the thermal mass of concrete and masonry, passive solar design, and procedures to limit condensation within assemblages. Prepared by ACI Tech. Comm. 122, also in all MCP formats (Vol. 1).

Advances in Green Binder Systems – ACI Symposium Publication 294, 2013, CD

NEW!

Order Code: SP294CD.CAT
$74.50 (ACI members $45.00)

The papers in this CD deal with a wide variety of topics that are of significant interest and impact, including the chemistry of geopolymerization of fly ash, mixture proportioning of concretes containing fly ash alone as the binder, methods to improve the reactivity of fly ash through nanomodification or the use of fine limestone, and phosphate-based cements. Also, novel methods of the use of waste glass powder and rice husk ash as cementing materials are detailed. These papers are a useful addition to the library for any researcher, materials producer, or end user interested in alternative and sustainable binding materials for concrete.

Concrete: The Sustainable Material Choice – ACI Symposium Publication 269, 2010, CD

Order Code: SP269CD.CAT
$57.50 (ACI members $35.00)

This CD consists of seven papers that were presented by ACI Committees 130 and 233 at the ACI Spring convention in San Antonio, TX, in 2009. Papers include Performance-Based Specifications for Concrete to Advance Sustainable Development, Supplementary Cementitious Materials for Sustainability, and Cementitious Blends and Their Impact on Sustainable Construction.

The Sustainable Concrete Guide—Strategies and Examples, Publisher: U.S. Green Concrete Council, 2010, 89 pp.

For description and additional options, see page 91.

The Sustainable Concrete Guide—Applications, Publisher: U.S. Green Concrete Council, 2010, 177 pp.

For description and additional options, see page 92.

See page 35 for information on an eLearning course on Concrete Sustainability.

TANKS

See also ENVIRONMENTAL

Guide for the Analysis, Design, and Construction of Elevated Concrete and Composite Steel-Concrete Water Storage Tanks – 371R-08, 2008, 41 pp.

Order Code: 37108.CAT
$66.50 (ACI members $41.00)

This guide presents recommendations for materials, analysis, design, and construction of concrete-pedestal elevated water storage tanks. Both the all-concrete tank and the composite tank, consisting of a steel water storage vessel supported on a cylindrical reinforced concrete pedestal, are included. Prepared by ACI Tech. Comm. 371, also in all MCP formats (Vol. 5).

Guide to Design and Construction of Circular Wire- and Strand-Wrapped Prestressed Concrete Structures – 372R-13, 2013, 31 pp.

NEW!

Order Code: 37213.CAT
$71.50 (ACI members $43.00)

This guide provides recommendations for the design and construction of circular, wrapped, prestressed concrete structures commonly used for liquid or bulk storage. These structures are constructed using thin cylindrical shells of either concrete or shotcrete. Shotcrete and precast concrete core walls incorporate a thin steel diaphragm that serves both as a liquid barrier and vertical reinforcement. Cast-in-place concrete core walls incorporate either vertical prestressing or a steel diaphragm. Recommendations are given for circumferential prestressing achieved by wire or strand wrapping. In wrapping, the wire or strand is fully tensioned before placing it on the structural core wall. Procedures for preventing corrosion of the prestressing elements are emphasized. The design and construction of dome roofs are also covered. Many recommendations of this guide can also be applied to similar structures containing low-pressure gases, dry materials, chemicals, or other materials capable of creating outward pressures. Prepared by ACI Tech. Comm. 372.

Code Requirements for Design and Construction of Concrete Structures for the Containment of Refrigerated Liquefied Gases (ACI 376-11) and Commentary – 376-11, 2013, 149 pp.

NEW!

Order Code: 37611.CAT
$131.50 (ACI members $79.00)

This code provides minimum requirements for design and construction of reinforced concrete and prestressed concrete structures for the storage and containment of refrigerated liquefied gases (RLG) with service temperatures between +40 and –325°F. The principles listed herein are applicable to concrete foundations of double-steel tanks subject to the approval of the owner. Container design shall include the design of the container wall, its foundation (footing and floor slab), the concrete portions of its roof, and the bund wall, whenever applicable. Prepared by ACI Tech. Comm. 376, also in all MCP formats (Vol. 5).

Metric Version of ACI 376-11

Order Code: 376M11.CAT
$131.50 (ACI members $79.00)

TESTING

See also EVALUATION and NONDESTRUCTIVE EVALUATION

Guide to Evaluation of Strength Test Results of Concrete – 214R-11, 2011, 16 pp.

Order Code: 21411.CAT
$54.50 (ACI members $33.00)

Statistical procedures provide valuable tools for evaluating the results of concrete strength tests. Information derived from such procedures is valuable in defining design criteria, specifications, and other parameters needed for structural evaluation and repair. This guide discusses variations that occur in concrete strength and presents statistical procedures useful in interpreting these variations with respect to specified testing and criteria. Prepared by ACI Tech. Comm. 214, also in all MCP formats (Vol. 1).

Guide for Obtaining Cores and Interpreting Compressive Strength Results – 214.4R-10, 2010, 17 pp.

Order Code: 214410.CAT
$51.50 (ACI members $31.00)

This guide summarizes practices for obtaining cores and interpreting core compressive strength test results. Factors that affect in-place concrete strength are reviewed so sampling locations that are consistent with objectives of the investigation can be selected. Strength correction factors are presented for converting the measured strength of nonstandard core-test specimens to the strength of equivalent specimens with standard diameters, length-to-diameter ratios, and moisture conditioning. This guide provides direction for checking strength compliance of concrete in a structure under construction and methods for determining equivalent specified strength to assess the capacity of an existing structure. Prepared by ACI Tech. Comm. 214, also in all MCP formats (Vol. 1).

ACI Physical Testing of Cement Training Video

NEW!

Order Code: EDPTCT13.CAT
$665.00 (ACI members $339.00)

Training of technicians for physical testing of portland cement traditionally occurs on the job, with an experienced laboratory technician guiding the new tester through the ASTM procedures. To supplement this training, ACI has developed the ACI Physical Testing of Cement Training Video as a resource for new testers and a refresher for experienced testers. The video is presented in chapters based on test methods so each one can be reviewed individually. The following tests are included:

ASTM C109 – Compressive Strength, C151 – Autoclave Expansion, C185 – Air Content, C187 – Normal Consistency, C191 – Vicat Time of Setting, C204 – Blaine Fineness, C266 – Gillmore Time of Setting, C1437 – Flow of Mortar

Additionally, there is a brief review of safety, equipment, and the laboratory environment. Each chapter reviews the equipment specific to the ASTM test, the procedure to follow the test, and the calculation of the result. Helpful tips are provided throughout to improve the technicians' knowledge and technique.

Total Running Time: 1:42:51.

ACI CERTIFICATION PROGRAMS

Concrete Field Testing Technician—Grade I
Concrete Laboratory Testing Technician—Level 1
Concrete Laboratory Testing Technician—Level 2
Concrete Strength Testing Technician
Aggregate Base Testing Technician
Aggregate Testing Technician—Level 1
Aggregate Testing Technician—Level 2

ACI administers certification programs for Testing Technicians. See the Certification section on pages 15-20 for general program descriptions and training materials. For local program availability and detailed information, visit the Certification section of ACI's website—**www.ACICertification.org**.

TILT-UP CONSTRUCTION

Tilt-Up Concrete Construction Guide – 551.1R-05, 2005, 29 pp.

Order Code: 551105.CAT
$53.50 (ACI members $31.00)

Tilt-up concrete construction is commonly used in low-rise building construction. This guide discusses many of the issues relating to the planning and construction of these buildings to a quality tilt-up project. Major topics include preconstruction planning, foundations, special considerations for slab-on-ground construction, wall panel forming and casting, panel erection, connections and repairing, and painting. Prepared by ACI Tech. Comm. 551, also in all MCP formats (Vol. 7).

Design Guide for Tilt-Up Concrete Panels – 551.2R-10, 2010, 59 pp.

Order Code: 551210.CAT
$82.50 (ACI members $50.00)

Digital Format Only

This guide presents information to expand on the provisions of ACI 318, Section 14.8, applied to the design of site-cast precast or tilt-up concrete panels, and to provide a comprehensive procedure for the design of these important structural elements. In addition, this guide provides design recommendations for various support and load conditions not specifically covered in ACI 318. Included are design guidelines for in-plane shear. Prepared by ACI Tech. Comm. 551, also in all MCP formats (Vol. 7).

ACI CERTIFICATION PROGRAMS

Tilt-Up Technician/Supervisor

ACI administers a certification program for Tilt-Up Construction Supervisors. See pages 15-20 for a general program description and training materials. For local program availability and detailed information, visit the Certification section of ACI's website—**www.ACICertification.org**.

TOLERANCES

Specification for Tolerances for Concrete Construction and Materials (ACI 117-10) and Commentary – 2010, 76 pp.

BEST SELLER!

Order Code: 11710.CAT
$91.50 (ACI members $55.00)

This specification provides standard tolerances for concrete construction and materials. This document is intended to be used by specification writers and ACI committees writing standards as the reference document for establishing tolerances for concrete construction and materials. The commentary content is for clarity of interpretation and insight into the intent of the committee regarding the application of the tolerances set forth therein. Prepared by ACI Tech. Comm. 117, also in all MCP formats (Vol. 1).

Metric Version of ACI 117-10

Order Code: 117M10.CAT
$91.50 (ACI members $55.00)

Specification for Tolerances for Precast Concrete – ITG-7-09, 2009, 37 pp.

Order Code: ITG709.CAT
$67.50 (ACI members $41.00)

For details, see page 69.

Metric Version of ITG-7-09

Order Code: ITG7M09.CAT
$67.50 (ACI members $41.00)

For details, see page 69.

TORSION

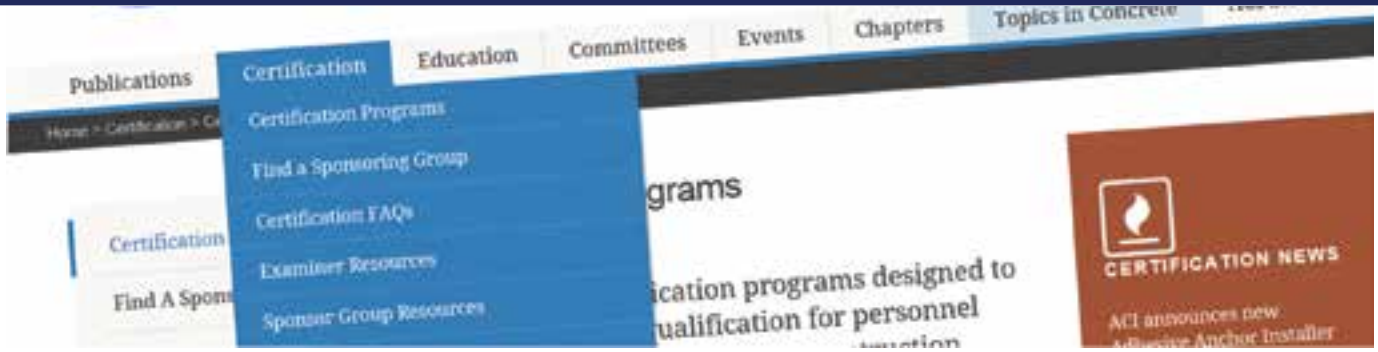
Report on Torsion in Structural Concrete – 445.1R-12, 2013, 92 pp.

NEW!

Order Code: 445112.CAT
$109.50 (ACI members $66.00)

This report emphasizes that it is essential to the analysis of torsion in reinforced concrete that members should: 1. satisfy the equilibrium condition (Mohr's stress circle); 2. obey the compatibility condition (Mohr's strain circle); and 3. establish the constitutive relationships of materials such as the "softened" stress-strain relationship of concrete and "smeared" stress-strain relationship of steel bars. The behavior of members subjected to torsion combined with bending moment, axial load, and shear is discussed. This report deals with design issues, including compatibility torsion, spandrel beams, torsional limit design, open sections, and size effects. The final two chapters are devoted to the detailing requirements of transverse and longitudinal reinforcement in torsional members with detailed, step-by-step design examples for two beams under torsion using ACI (ACI 318-11), European (EC2-04), and Canadian Standards Association (CSA-A23.3-04) standards. Two design examples are given to illustrate the steps involved in torsion design. Design Example 1 is a rectangular reinforced concrete beam under pure torsion, and Design Example 2 is a pre-stressed concrete girder under combined torsion, shear, and flexure. Prepared by ACI Tech. Comm. 445, also in all MCP formats (Vol. 6).

Explore ACI's Updated Website



In direct response to feedback from members and customers like you, ACI is pleased to announce that a reorganized website with new features and more intuitive navigation is now available. Simplified navigation will take you where you want to go FASTER, a new TOOLS section will provide guidance on concrete design issues, the committee work page will maintain functionality and be EASIER to use, the HOMEPAGE will guide diverse visitors to content of interest, a built-in translator will TRANSLATE the site into 70+ different languages, and a one-of-a-kind TOPICS IN CONCRETE section will catalog all Institute resources on 100+ concrete topics. In addition, new SEARCH capabilities will help you find exactly what you are looking for quickly and efficiently—because what good are industry-leading technical resources if you cannot find them?

Go ahead and explore the new WWW.CONCRETE.ORG – now available.

Industry Publications

As a service to our members and customers, ACI sells technical and practice-oriented documents published by other organizations. These documents have not been reviewed by ACI for technical content or accuracy and are not endorsed by ACI.

A Better Way to Build: A History of the Pankow Companies – Publisher: Purdue University Press, 2013, 480 pp.

NEW!

Order Code: BWBHPC.CAT

$45.00

While architects have been the subject of many scholarly studies, we know very little about the companies that built the structures they designed. This book is a study in business history as well as civil engineering and construction management. It details the contributions that Charles J. Pankow and his firm have made as builders of large, often concrete, commercial structures since the company's foundation in 1963. In particular, it uses selected projects as case studies to analyze and explain how the company innovated at the project level. The book includes dozens of photographs of buildings under construction from the company's archive and other sources. Extending beyond the scope of most business biographies, this book is a study in industry innovation and the power of corporate culture, as well as the story of one particular company and the individuals who created it.

Concrete Floors and Moisture, second edition– Publisher: Portland Cement Association, 2008, 164 pp.

Order Code: CFM.CAT

$85.00

Understanding moisture in concrete leads to the design of floors and flooring systems that provide excellent service for many years. This publication discusses sources of moisture, drying of concrete, methods of measuring moisture, construction practices, specifications, and responsibilities for successful flooring projects. The second edition incorporates additional references on drying times of lightweight concrete and updates to the sources of supplies and standards.

Concrete Inspection Handbook – Publisher: Portland Cement Association, 2005, 120 pp.

Order Code: CIH.CAT

$45.00

This handbook explains the inspection provisions of the 2005 edition of ACI 318, "Building Code Requirements for Structural Concrete." It explains the purpose of code requirements related to concrete construction and gives additional background information on why these provisions are necessary. With a better understanding of code provisions comes a higher level of code enforcement, thus assuring a higher level of code compliance.

Concrete Systems for Homes and Low-Rise Construction – Publisher: McGraw Hill, 2006, 425 pp.

Order Code: CSHLC.CAT

$102.95

Whether evaluating concrete systems for low-rise buildings or managing projects, this one-stop resource is a huge time and money saver. Coverage for each system includes properties and advantages, logistics of construction, logistics of connecting to other concrete systems, costs of installation, code and regulatory status, technical and testing information, and sources of additional information.

No Discounts on Industry Publications

Curing Concrete – Publisher: CRC Press, 2013, 215 pp.

Order Codes: CC.CAT
$130.00 (no discount on industry publications)

This publication explains exactly why curing is so important and shows you how to best do it. The book covers: 1. the fundamentals behind hydration, 2. how curing affects the properties of concrete; improving its long-term performance; 3. what curing technologies and techniques you can use for different applications; and 4. how to effectively specify, provide, and measure curing in a project.

Numerous examples of how curing—or a lack of it—has affected concrete performance in real-world situations are provided. These include examples from hot and cold climates, as well as examples related to high-performance concrete, performance parameters, and specifications and testing. Written for construction professionals who want to ensure the quality and longevity of their concrete structures, this book demonstrates that curing is well worth the effort and cost.

Design and Control of Concrete Mixtures – Publisher: Portland Cement Association, fifteenth edition, 2011, 444 pp.

Order Code: DCCM.CAT
$90.00

This book presents the properties of concrete as needed in concrete construction, including strength and durability. All concrete ingredients (cementitious materials, water, aggregates, chemical admixtures, and fibers) are reviewed for their optimal use in designing and proportioning concrete mixtures. The use of concrete from design to batching, mixing, transporting, placing, consolidating, finishing, and curing is addressed. This edition has added four new chapters on concrete sustainability, reinforcement, properties of concrete, and durability.

Finishing Concrete with Color and Texture – Publisher: Portland Cement Association, 2004, 72 pp.

Order Code: FCCT.CAT
$35.00

Learn how to create decorative surfaces on cast-in-place concrete slabs. Over 210 photographs illustrate the rich variations in color and texture that are possible. This publication is divided into seven sections with step-by-step instructions that demonstrate the construction procedures.

This publication is a basic guide for planning and constructing decorative concrete surfaces on concrete slabs. While intended primarily for concrete contractors, it will also be useful to concrete finishers, concrete finisher apprentices, homebuilders, general contractors, architects, engineers, landscape architects, homeowners, vocational education students, specification writers, inspectors, and many others.

High-Performance High-Volume Fly Ash Concrete for Building Sustainable and Durable Structures, third edition – Publisher: Supplementary Cementing Materials for Sustainable Development, 2008, 142 pp.

Order Code: HPHVF.CAT
$60.00

This revised third edition of the book contains up-to-date information on the role of fly ash in concrete for sustainability and case histories of some of the recently built high-volume fly-ash concrete structures in North America and India.

No Discounts on Industry Publications

Manual of Standard Practice, twenty-eighth edition — Concrete Reinforcing Steel Institute, 2009, 144 pp.

Order Code: MSP.CAT
$59.95

The twenty-eighth edition of the *Manual of Standard Practice* contains updated information on recommended industry practices for estimating, detailing, fabricating, and placing reinforcing steel for reinforced concrete construction. Includes suggested specifications for reinforcing steel. New material includes a list of specific information on structural drawings that is required by the ACI 318 Building Code and updated illustrations of the markings on Grade 60 and Grade 75 reinforcing bars. Every design firm, construction company, and inspection office that is involved with reinforced concrete needs to own a copy.

Masonry Designers' Guide, seventh edition — Publisher: The Masonry Society, 2013, 479 pp.

NEW!

Order Code: MDG7.CAT
$120.00 (ACI members $95.00)

The seventh edition of the Masonry Designers' Guide has been updated to address the numerous additions and changes in the 2011 edition of the Building Code Requirements and Specification for Masonry Structures. This edition includes updated discussion and examples related to a recalibration of the Allowable-Stress Design Method, a new chapter on the design of masonry infills, discussion on enhanced special inspection requirements, and new and revised discussions and examples throughout. In addition, information related to masonry design requirements in the 2012 International Building Code (IBC) is included, and examples use the latest loading requirements from ASCE 7-10. The topics covered include masonry materials, testing, quality assurance, quality control, construction methods, structural design, seismic design, and using the MSJC with model Building Codes. This publication is one of the most popular design guides for masonry due to its extensive examples, helpful drawings and photographs, and practical coverage of masonry design issues.

Pervious Concrete Pavements — Publisher: Portland Cement Association and National Ready Mixed Concrete Association, 2005, 36 pp.

Order Code: PCP.CAT
$40.00

This introduction to pervious concrete pavements reviews applications and engineering properties, including environmental benefits, structural properties, and durability of pervious concrete. Both hydraulic and structural designs of pervious concrete pavements are discussed, as well as construction techniques. Specific sections on engineering properties, mixture proportioning, design, construction, inspection, and maintenance of pervious concrete are included.

No Discounts on Industry Publications

Placing Reinforcing Bars, ninth edition — Publisher: Concrete Reinforcing Steel Institute, 2011, 288 pp.

NEW!

Order Code: PRB.CAT
$50.00

This publication presents the practices in placing reinforcing bars in structures and pavement. It is written for apprentices, journeymen ironworkers, and inspectors and is a definitive resource for preparing provisions in project specifications. Eighteen heavily illustrated chapters cover topics including types of materials; handling of bars at the job site; general principles for bar placing, splicing, and tying; and bar placement in footings, walls, columns, floors, roofs, pavement, and transportation structures. The book also includes a chapter on epoxy-coated and other coated reinforcement.

Post-Tensioning Manual, sixth edition — Publisher: Post-Tensioning Institute, 2006, 254 pp.

Order Code: PTM.CAT
$115.00

This book is a valuable resource for practicing engineers, architects, students, educators, contractors, inspectors, and building officials. The sixth edition of the *Post-Tensioning Manual* contains updated information on the current practices on the use, design, and construction of post-tensioning. It provides basic information and the essential principles of post-tensioning.

Seismic Detailing of Concrete Buildings — Publisher: Portland Cement Association, 2007, 76 pp.

Order Code: SDCB.CAT
$55.00

This publication contains a comprehensive summary of the seismic detailing requirements contained in Chapter 21 of "Building Code Requirements for Structural Concrete (ACI 318-05) and Commentary." Numerous tables and figures explain and illustrate the provisions for buildings located in regions of moderate and high seismic risk, including flexural members of special moment frames, special moment frame members subjected to bending and axial load, joints of special moment frames, and others.

A supplemental CD is provided with the publication. The files on the CD provide reinforcement details for beams, columns, two-way slabs, walls, and foundations that meet the ACI 318 seismic provisions. The CD content is intended to assist the designer in understanding and implementing seismic detailing of concrete building structural elements in his or her design.

Self-Consolidating Concrete: Applying What We Know — Publisher: CRC Press, 2012, 292 pp.

NEW!

Order Code: SCCA.CAT
$90.00

Self-consolidating concrete (SCC) is an innovative material used successfully throughout the world. It is a highly flowable, non-segregating concrete that can spread into place, fill the formwork, and encapsulate the reinforcement without any mechanical consolidation, improving the overall efficiency of a concrete construction project. SCC mixtures are highly fluid, yet their flowing properties can be adapted for a range of applications and allow practitioners to select and determine levels of filling ability, passing ability, and stability.

No Discounts on Industry Publications

Simplified Design of Reinforced Concrete Buildings – Publisher: Portland Cement Association, 2011, 330 pp.

Order Code: SD.CAT
$100.00

This new, fourth edition presents practicing engineers with time-saving analysis, design, and detailing methods of primary framing members of a reinforced concrete building. Revised and updated to ACI 318-11, it incorporates seismic and wind load provisions to comply with the International Building Code (2009 IBC). All equations, design aids, graphs, and code requirements have been updated to the current codes. Expanded illustrations of the theory and fundamentals and new time-saving design aids were added to include a wider range of concrete strengths. Also contains a new chapter on sustainable design.

Structural Concrete: Theory and Design, fifth edition – Publisher: Wiley, 2012, 1032 pp.

Order Code: SCTD.CAT
$165.00

Structural Concrete: Theory and Design, fifth edition, provides complete guidance for the analysis and design of reinforced and prestressed concrete structures. Coverage includes the latest ACI 318-11 code rules, emphasizing the code's strength approach and strain limits. Additional codes, standards, and specifications, as well as material properties and specific loads and safety provisions, are also examined in detail. Included are numerous SI unit examples and design tables along with step-by-step instructions on how to analyze and design for each type of structural member. They clearly explain all key concepts one should know before tackling design formulas and supplement the discussion with helpful end-of-chapter summaries, references, and problems. This book arms civil and structural engineers with a complete set of tools for designing concrete structures with confidence. It is also an excellent resource for students of civil engineering.

Supplementary Cementing Materials in Concrete – Publisher: CRC Press, 2013, 210 pp.

NEW!

Order Code: SCMC.CAT
$129.95

Supplementary cementing materials (SCMs), such as fly ash, slag, silica fume, and natural pozzolans, make a significant difference to the properties of concrete but are rarely understood in any detail. SCMs can influence the mechanical properties of concrete and improve its durability in aggressive environments. *Supplementary Cementing Materials in Concrete* covers the chemical, physical, and mineralogical properties of SCMs; their chemical reactions; and the resulting changes in the microstructure of concrete.

The Sustainable Concrete Guide—Strategies and Examples – Publisher: U.S. Green Concrete Council, 2010, 89 pp.

The first-ever comprehensive resource on concrete and sustainability, this book provides insight on specific strategies for the best use of concrete in high-performance, long-lasting green buildings. Included are case studies, technical data and references, and numerous practices that can be implemented immediately. This is the first in a series of guides on sustainable concrete published by the U.S. Green Concrete Council and available from ACI.

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The Sustainable Concrete Guide—Applications – Publisher: U.S. Green Concrete Council, 2010, 177 pp.

A companion resource to *The Sustainable Concrete Guide—Strategies and Examples*, *The Sustainable Concrete Guide—Applications* provides readers with specific sustainable benefits of concrete's various applications to assist in selecting/specifying concrete materials and products. Also included are tips and case studies on specifying concrete materials, constructing for sustainability, integrating into sustainable structures, and navigating green codes and standards.

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Some Writers on Concrete: The Literature of Reinforced Concrete, 1897-1935 – Publisher: Whittles Publishing, 2013, 320 pp.

NEW!

Order Code: SWC.CAT
$79.95

The book is a blend of biography and bibliography that traces the emergence and development of the specialist book literature on concrete at a time when reinforced concrete was a new technology. The book covers the time span from 1897 (and the first complete building of reinforced concrete in the United Kingdom) to 1935, when the literature increased and the basic technology was understood and codified. Some Writers on Concrete contains the biographies of significant figures from the United Kingdom and United States in the development of concrete technology and provides comprehensive bibliographical coverage of their work published in book form. These include Oscar Faber, C. E. Reynolds, F. M. Lea, C. A. P. Turner, G. A. Hool, and Harvey Whipple. It collates the work of numerous writers to form a corpus of literature and engender an understanding of the unfolding narrative of concrete theory and practice.

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318 Information

A collection of tools and other resources related to the ACI 318 Building Code, including case studies and design aids.

Troubleshooting Surface Imperfections

The following concrete surface imperfections are described, with definitions, photographs, bibliographies, and links to articles and related websites.

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ACI Committees, Membership, and Staff have answered common questions on a variety of concrete related topics.

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A FREE educational training resource that includes recorded presentations from ACI convention sessions. For additional details, see page 34.

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$250 - 349.99		11%	30%
$350 - 699.99		10%	30%
$700 - 1500		9%	30%

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