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Standard Practice for Concrete for Civil Works StructuresConcrete Testing on the Kroch Library ProjectMinnesota RulesDurability and Sustainability of ConcreteGuide for Curing of Portland Cement Concrete PavementsSelf-consolidating Concrete for Precast Structural ApplicationsEffects of Supplementary Cementing Materials on the Setting Time and Early Strength of ConcreteHigh Performance ConcreteManual of Test Procedures for MaterialsConcrete InternationalASTM Standards in ACI 301 and 318Significance of Tests and Properties of Concrete and Concrete-making MaterialsTime Dependent Compressive Strength and Modulus of Elasticity of Florida ConcreteConcrete and Concrete Pavement ConstructionConcrete Construction Engineering HandbookProperties of ConcreteACI Manual of Concrete InspectionThe Effect of Curing Temperatures on the Development of Mechanical Properties of Fresh and Hardened High-strength Silica Fume MixturesGuidelines for Early-opening-to-traffic Portland Cement Concrete for Pavement RehabilitationAccelerated Techniques for Concrete PavingACI Manual of Concrete PracticeTransportation Research RecordConcrete MicrostructureHigh Performance Concrete Technology and ApplicationsIn-place Methods to Estimate Concrete StrengthACI Manual of Concrete InspectionSpecifications for Structural Concrete, ACI 301-05, with Selected ACI ReferencesApplication of Concrete Maturity in Evaluation of Rapid Hardening Portland Cement ConcreteSynthesis of Current and Projected Concrete Highway TechnologyPlain Concrete at Early AgesExtending the

Season for Concrete Construction and RepairCompilation and Evaluation of Results from High-performance Concrete Bridge ProjectsMaturity Method DemonstrationACI Materials JournalPerformance-Based Specifications and Control of Concrete DurabilityTechniques and Procedures for Bonded Concrete OverlaysPCI JournalQuality Control of Concrete On-siteHandbook on Nondestructive Testing of ConcreteGuidelines for Early-opening-to-traffic Portland Cement Concrete for Pavement Rehabilitation

Standard Practice for Concrete for Civil Works Structures

Concrete Testing on the Kroch Library Project

Minnesota Rules

A maturity function based on the Arrhenius equation of the rate of chemical reactions was investigated with apparent activation energies for cement hydration being estimated at different stages of cement hydration. Equivalent ages at the times of initial and final set, and during compressive strength and modulus of elasticity gain were calculated.

Durability and Sustainability of Concrete

Guide for Curing of Portland Cement Concrete Pavements

A complete review of the fast-developing topic of high performance concrete (HPC) by one of the leading researchers in the field. It covers all aspects of HPC from materials, properties and technology, to construction and testing. The book will be valuable for all concrete technologists and construction engineers wishing to take advantage of the re

Self-consolidating Concrete for Precast Structural Applications

Properties of Concrete, first published in 1963, has been internationally acclaimed as the definitive work of reference on the subject for both the professional and the student engineer. The fifth edition has been updated to reflect advances in concrete technology over the past decade without losing sight of the original aim: to provide reliable, comprehensive and practical information on the properties and use of concrete, and the selection of mix proportions all based on scientific observations and the author's extensive engineering experience. The emphasis is on understanding the behaviour of concrete and relating it to physical and

chemical phenomena involved in its performance in service, so that you can achieve the best possible construction in concrete. Also, the scientific basis of the information provided is invaluable in planning research and in the interpretation of test results.

Effects of Supplementary Cementing Materials on the Setting Time and Early Strength of Concrete

High Performance Concrete

Manual of Test Procedures for Materials

Concrete International

ASTM Standards in ACI 301 and 318

Significance of Tests and Properties of Concrete and Concrete-making Materials

Time Dependent Compressive Strength and Modulus of Elasticity of Florida Concrete

Concrete and Concrete Pavement Construction

Concrete Construction Engineering Handbook

Durability of concrete in highway systems is a problem of national concern. In order to better understand the mechanisms which intrinsically control durability in highway concrete, it is necessary to define and understand those factors which impact concrete microstructure which is a consequence of both its formulation and the processes taking place during mixing, placing and curing. This report documents an investigation of those variables which control cement hydration and consequent microstructural development.

Properties of Concrete

The substitution of a portion of cement in concrete with supplementary cementing materials (SCM) frequently results in delayed setting and low early strength. When SCM-containing concrete is placed during cold weather and/or contains certain chemical admixtures, these problems can intensify and can seriously impact the performance of a pavement. This project investigated the setting time, early strength gain, maturity, bleeding, and plastic shrinkage cracking of several concrete pavement mixtures containing SCM under different temperature conditions (mimicking summer, spring, and winter weather). The data were used to develop guidelines for identifying slow-setting mixtures and preventing their use in pavements.

ACI Manual of Concrete Inspection

The Effect of Curing Temperatures on the Development of Mechanical Properties of Fresh and Hardened High-strength Silica Fume Mixtures

Guidelines for Early-opening-to-traffic Portland Cement Concrete for Pavement Rehabilitation

This synthesis reviews the literature in the field of concrete materials, construction practices, and major application areas as applied to highway construction technology. It covers current and projected developments in materials including cements, aggregates, admixtures, fibers, and sealers. Topic areas covered include mix proportioning, batching and transport, placement, finishing, and curing. The applications included here focus on repair and reconstruction including full depth repairs, slab replacement, partial depth repairs, overlays, and recycling. Quality control of concrete including traditional approaches as well as new test methods and quality assurance schemes are discussed. The appendix describes the history of developments in concrete pavement construction in Europe.

Accelerated Techniques for Concrete Paving

ACI Manual of Concrete Practice

Transportation Research Record

The first edition of this comprehensive work quickly filled the need for an in-depth handbook on concrete construction engineering and technology. Living up to the standard set by its bestselling predecessor, this second edition of the Concrete Construction Engineering Handbook covers the entire range of issues pertaining to the construction

Concrete Microstructure

High Performance Concrete Technology and Applications

In-place Methods to Estimate Concrete Strength

ACI Manual of Concrete Inspection

Written by international experts in the field, this new edition provides the most comprehensive, up-to-date information available on nondestructive testing (NDT) methods used to evaluate concrete structures. Sixteen chapters give you a comprehensive understanding of the tools and techniques used to estimate the

inplace strength of concrete and permeation properties that relate to potential durability, and describe methods used to assess the internal condition of concrete and corrosion activity of steel reinforcement.

Specifications for Structural Concrete, ACI 301-05, with Selected ACI References

Application of Concrete Maturity in Evaluation of Rapid Hardening Portland Cement Concrete

Synthesis of Current and Projected Concrete Highway Technology

Plain Concrete at Early Ages

This work gives an overview of significant research from recent years concerning performance-based design and quality control for concrete durability and its implementation. In engineering practice, performance approaches are often still

used in combination with prescriptive requirements. This is largely because, for most durability test methods, sufficient practical experience still has to be gained before engineers and owners are prepared to fully rely on them. This book, compiled by RILEM TC 230-PSC, is intended to assist efforts to successfully build the foundation for the full implementation of performance-based approaches through the exchange of relevant knowledge and experience between researchers and practitioners worldwide.

Extending the Season for Concrete Construction and Repair

Compilation and Evaluation of Results from High-performance Concrete Bridge Projects

Maturity Method Demonstration

ACI Materials Journal

Performance-Based Specifications and Control of Concrete Durability

Techniques and Procedures for Bonded Concrete Overlays

PCI Journal

Information on the current state of knowledge of curing hydraulic-cement concrete and on current curing practice was gathered by means of a literature review and a review of current standard guidance. From this information, a draft guide for curing hydraulic-cement concrete pavements was developed. Draft guidance was based around type of curing used (water added, water retention by sheet, or curing compound) and around temperature effects. As a result of review by the project technical advisory panel, additional information was gathered from existing sources on several subjects. Laboratory studies were conducted on topics for which information was needed but not currently available. The result of the investigation was a set of guidelines that focused particularly on attention to details of moisture retention and temperature immediately after placing (initial curing period) and on details of selection of materials for final curing and determining when to apply final

curing. Test methods for evaluating application rate of curing compound and effectiveness of curing were also reported. A separate report (FHWA RD-02-099 Guide for Curing of Portland Cement Concrete Pavements, Volume I) has been written that captures the details of the recommended guidance. That report is intended to be the principal technology transfer medium.

Quality Control of Concrete On-site

This implementation package provides descriptions and evaluations of conventional concrete testing and new concrete testing. New test descriptions and evaluations include 1) microwave oven drying, 2) temperature-matched curing, 3) maturity, 4) density, and 5) pulse-velocity.

Handbook on Nondestructive Testing of Concrete

Concrete is widely used because of its versatility, affordability, and availability of raw materials, strength, and durability. Urban development that took place through the world in the last few decades yielded significant developments for concrete technology. The term high-performance concrete (HPC) is relatively new, and it refers to many properties such as strength, durability, sound and heat insulation, waterproofing, and side advantages such as air purification, self-cleaning, etc.

Researchers and engineers are constantly working for improving concrete properties. This book provides the state of the art on recent progress in the high-performance concrete applications written by researchers and experts of the field. The book should be useful to graduate students, researchers, and practicing engineers in related fields.

Guidelines for Early-opening-to-traffic Portland Cement Concrete for Pavement Rehabilitation

ROMANCE ACTION & ADVENTURE MYSTERY & THRILLER BIOGRAPHIES & HISTORY CHILDREN'S YOUNG ADULT FANTASY HISTORICAL FICTION HORROR LITERARY FICTION NON-FICTION SCIENCE FICTION