What's New from aci

TECHNICAL DOCUMENTS

ACI 364.14T-17 Section Loss Determination of Damaged or Corroded Reinforcing Steel Bars TechNote

This document describes a method for determining the section loss of deformed and square, uncoated, round, reinforcing steel bars due to damage, corrosion, or both. A similar procedure can be used to determine the section loss of deformed square and twisted square reinforcing steel bars due to damage, corrosion, or both. Reinforcing bar section loss is the loss of cross-sectional area that can reduce the load-carrying capacity of a member. Section loss is typically caused by corrosion of the reinforcing bar or construction damage, such as saw cutting or drilling into a reinforcing bar.

ACI 506.6T-17 Visual Shotcrete Core Quality Evaluation TechNote

During shotcrete construction, owners, architects, engineers, and contractors want to verify the quality of shotcrete being placed. Shotcrete cores are normally extracted from shotcrete sample panels or when needed from as-placed shotcrete for evaluation of shotcrete quality (ACI 506.4R). In addition to the routine tests such as compressive strength or other material quality tests required by project specification, visual examination of shotcrete cores by an experienced licensed design professional (LDP) is an important tool for evaluation of shotcrete quality.

ACI UNIVERSITY ONLINE COURSES

On-Demand Course: Enhancements in Building Design and Construction: Prerequisites for Resilient Communities

Learning Objectives

1. Interpret statistics and data on disasters and property losses that create a need for enhanced resiliency.
2. Understand factors that influence both risk and consequences.
3. Describe the pros and cons of voluntary and mandatory resiliency programs.
4. Identify basic code criteria that help to provide enhanced resiliency.
5. Explain the importance and rationale for embracing enhanced resiliency.

Continuing Education Credit: 0.1 CEU (1 PDH)

On-Demand Course: The Use of Viscosity-Modifying and Rheology-Modifying Admixtures in Concrete

Learning Objectives

1. Explain the differences between viscosity-modifying and rheology-modifying admixtures.
2. Describe the impact of viscosity-modifying and rheology-modifying admixtures on the concrete mixture.
3. List practical applications for viscosity-modifying and rheology-modifying admixtures.
4. Explain troubleshooting tips for mixtures with viscosity-modifying and rheology-modifying admixtures.

Continuing Education Credit: 0.1 CEU (1 PDH)

On-Demand Course: Fiber-Reinforced Polymer (FRP) Systems for Strengthening Structures (3-part series)

Learning Objectives

Part 1: Introduction to Externally Bonded FRP Systems

1. Identify the components of FRP material.
2. Understand the mechanical properties of FRP.
3. Summarize typical uses of FRP in construction.
4. List FRP strengthening systems.
5. Review construction guidelines.

Part 2: Design of Externally Bonded FRP Systems

1. Describe flexural design procedure of concrete members using externally applied FRP.
2. Discuss shear design procedure of concrete members using externally applied FRP.
3. Explain design procedures for concrete member confinement using FRP.
4. Identify strengthening limits while using FRP.
5. List detailing considerations.

Part 3: Externally Bonded FRP Systems for Unreinforced Masonry Structures

1. Describe design procedure for masonry strengthening using FRP to resist out of plane loads.
2. Explain design procedure for masonry strengthening using FRP to resist in plane loads.
3. Review detailing procedures.
4. List installation guidelines.

Continuing Education Credit: 0.3 CEU (3.0 PDH)

On-Demand Course: Design and Construction with Fiber-Reinforced Polymer (FRP) Bar (2-part series)

Learning Objectives

Part 1: Design and Construction with FRP Bar

1. Understand the mechanical properties of FRP bars.
2. Describe the behavior of FRP bars.
3. Describe the flexural design procedure of concrete members internally reinforced with FRP bars.
4. Describe the use of internal FRP bars for serviceability design.

Part 2: Design and Construction with FRP Bar

1. Explain the shear design procedure of concrete members using internal FRP bars.
2. Review the procedure for determining the development and splice length of FRP bars.
3. Discuss the use of FRP bars in slabs-on-ground.
4. Recognize the development length of hooked FRP bars is different than hooked steel bar provisions in ACI 318.

Continuing Education Credit: 0.2 CEU (2.0 PDH)