

TECHNICAL DOCUMENTS

ACI 439.6R-19: Guide for the Use of ASTM A1035/A1035M Type CS Grade 100 (690) Deformed Steel Bars for Structural Concrete

This guide provides recommendations on design provisions for the use of ASTM A1035/A1035M Type CS Grade 100 (690) deformed steel bars for reinforced concrete members. (Free to ACI Members)

ACI 130R-19: Report on the Role of Materials in Sustainable Concrete Construction

Information in this report is presented to assist in the development of practical knowledge and selection of materials used in concrete manufacture. (Free to ACI Members)

RAP-8S: Installation of Embedded Galvanic Anodes (Spanish)

Embedded galvanic anodes reduce the corrosion activity of the reinforcing steel in the vicinity of the installed anode. Anodes are installed in areas of the concrete where there is a high likelihood of corrosion occurring or recurring. (Free download)

RAP-9S: Spall Repair by the Preplaced Aggregate Method (Spanish)

Preplaced aggregate concrete is used for repairs to restore structural integrity, provide extra cover, reduce the potential for shrinkage-related repair failures, and for underwater repair, particularly when cofferdams are impractical. (Free download)

ACI UNIVERSITY ONLINE COURSES

On-Demand Course: Field Experience and Structural Performance of Self-Consolidating Concrete in High-Rise and Bridge Construction

Learning Objectives:

1. Describe achievable properties of self-consolidating concrete that is required to successfully construct high-rise reinforced concrete buildings such as New World Trade Center Tower in New York and others.
2. Recall lessons learned in material selection in SCC mixtures, flow retention, workability, slump loss, admixtures affecting workability in constructing reinforced SCC highway bridge arches, piers, columns and bridge beams.
3. Explain comparisons of bond strength and shear resistance properties, lab-tested beams using an SCC mixture and a vibrating concrete (non-SCC) mixture.
4. Identify effects of fiber reinforcing in SCC mixtures with regards to first crack resistance and flexural toughness and strength characteristics.

Continuing Education Credit: 0.15 CEU (1.5 PDH)

On-Demand Course: Installation of Embedded Galvanic Anodes (RAP 8S) – Spanish Language

Learning Objectives:

1. Explain the process by which galvanic technology protects the reinforcement in concrete;
2. Discuss suitable repair materials that can be used;
3. Recognize the impact of steel density on the spacing of anodes; and
4. Describe proper anode placement.

Continuing Education Credit: 0.1 CEU (1.0 PDH)

On-Demand Course: Spall Repair by the Preplaced Aggregate Method (RAP 9S) – Spanish Language

Learning Objectives:

1. List the benefits of preplaced aggregate concrete;
2. Describe the types of repairs that can benefit from this method;
3. Explain the pumping techniques and procedure; and
4. Determine the proper surface moisture conditions of substrate concrete.

Continuing Education Credit: 0.1 CEU (1.0 PDH)

On-Demand Course: Alternative Cements

Learning Objectives:

1. Define alternative cement.
2. Identify the drivers for the development of alternative cements.
3. Recognize the benefits of using alternative cements.
4. Recognize the challenges alternative cements face in the concrete industry.

Continuing Education Credit: 0.1 CEU (1.0 PDH)

On-Demand Course: Innovation in Concrete Construction: Use of New Technology in Post-Extreme Event Reconnaissance

Learning Objectives:

1. Discover the contributions of ACI Committee 133, Disaster Reconnaissance, and opportunities this Committee offers young professionals.
2. Illustrate the use of image analysis and machine learning in post-event reconnaissance.
3. Recognize the power of artificial intelligence to tackle structural engineering challenges.
4. Review the contributions of engineers, including ACI members, in post-extreme event reconnaissance.

Continuing Education Credit: 0.1 CEU (1.0 PDH)