ACI Report for M-TRAC meeting 8/17/10

ACI/CRSI Adhesive Anchor Installer Certification Program

Background

Adhesive concrete 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 required published bond strength. Key components of proper installation include but are not limited to:

1. Understanding the jobsite conditions relevant for correct selection of installation procedures in accordance with manufacturer's instructions, such as concrete wetness, hole drilling method used, possible embedded obstructions (e.g., reinforcing steel), and air and concrete temperature.
2. Understanding the manufacturer's instructions (pictograms, text) and using the proper procedures, sequence, and tools to clean the hole in accordance with the manufacturer's instructions.
3. Proper selection and assembly of the injection equipment as applicable.
4. Awareness of the potential impact of storage conditions and verification of the expiration date on the cartridge as applicable.
5. Rejection of the initial adhesive expressed from new cartridges as applicable and proper procedures followed for disposal of rejected/waste adhesive/used nozzles and cartridges.
6. Injection of adhesive into hole to the proper depth using proper technique and equipment that minimizes air voids.
7. Correct assembly of anchor element in drill chuck and drill settings for capsule anchor installation.
8. Recognition of time limits for installation and positioning of anchor element (i.e., gel time) depending on type of adhesive, ambient conditions, and size/depth of anchor hole.
9. Installation of the anchor element in accordance with manufacturer's instructions.
10. Knowledge of proper measures for protection of anchor element threads from adhesive.
11. Knowledge of measures to secure and protect the anchor element from load/movement during adhesive cure.

In recognition that performance of their anchor systems rely on proper installation, some manufacturers provide technical assistance to qualify installers of their adhesive anchor systems. Training may also occur in the context of jobsite instruction, verbal instruction and video/online instruction materials. In all cases, the printed instructions that accompany the product packaging (MPII) are mandatory and peremptory. It is required that the installer can read, comprehend and execute those instructions properly. The ACI/CRSI Adhesive Anchor Installer Certification program is designed to verify these skills.

Description

A Candidate for certification as Adhesive Anchor Installer is required to be able to read, comprehend, and execute instructions to properly install adhesive anchors as are typically provided by adhesive anchor manufacturers. In addition, Candidates must possess the knowledge to properly assess ambient conditions, the condition of the concrete, materials, equipment, and tools for installing adhesive anchors and determine when it is appropriate to proceed with installation or when additional guidance from a supervisor/foreman/project engineer is needed.

Development & Launch Timeline

Development of this program is being facilitated by Professional Testing, Inc. to be in compliance with ISO 17024, and will be operational by January 1, 2011. Approximately 20 locations will be conducting exam sessions by the end of 2011.

ACI Associate Concrete Transportation Construction Inspector Training

Development of a multi-day training program geared to prepare individuals to sit for the ACI Associate Concrete Transportation Construction Inspector is nearing completion with the Instructor's Notes in the last stages of editing. Instructors who have assisted in the vetting of the program will be available to deliver the training, but it is also likely that a package will be available to organizations having the training personnel with the knowledge appropriate to deliver it. This training integrates plan reading throughout to impress upon new inspectors the necessity of honing this critical skill.

Seminars from ACI to DOTs available at no charge through FHWA

The following seminars are available from ACI through the FHWA at no charge to DOTs:

Self-Consolidating Concrete
Cementitious Materials
Chemical Admixtures

Availability is limited -- DOTs can request the seminars from:

Antonio (Tony) Nieves Torres
Concrete Pavement Engineer
Office of Pavement Technology
1200 New Jersey Ave. SE./E73-446/ HIPT-20
Washington DC, 20590
Tel: 202-366-4597
Fax: 202-366-2070

FHWA Inspector Training

Tailored by FHWA, this inspector training covers a subset of the resources identified by the full ACI Concrete Transportation Construction Inspector Certification Program. This ACI Seminar is available from ACI through the FHWA the same manner as the Seminars listed above; the seminar is 1 day in duration, with an optional 1/2-day add-on available to address the inspection of bridge decks. The seminar covers:

- ACI 304R-00 *Guide for Measuring, Mixing, Placing, Transporting, and Placing Concrete*
- ACI 309R-05 *Guide for Consolidation of Concrete*
- ACI 325.9R-91 *Construction of Pavements and Bases*
- ACI 305R-99 *Hot Weather Concreting*
- ACI 306R-88 *Cold Weather Concreting*
- ACI 308R-01 *Guide to Curing Concrete*
- ACI 325.10R *Roller Compacted Concrete Pavements*

Optional 1/2 day bridge deck training covers:

- ACI 301-05 *Specifications for Structural Concrete*
- ACI 345R-91 *Guide for Concrete Highway Bridge Deck Construction*

The ACI contact for these programs is Mike Tholen, ACI Managing Director, Professional Development
Ph. 248/848-3717 Email: Mike.Tholen@concrete.org