

ACI/CRSI Adhesive Anchor Certification at Annual Conference

On July 10, 2006 a passenger car traveling to Boston's Logan Airport passed through the Interstate 90 connector tunnel in Boston, part of a project referred to as the "Big Dig." As the car approached the end of the tunnel, 26 tons of concrete panels fell, killing a passenger. The panels were part of a suspended ceiling anchored to the concrete roof with threaded bolts in an epoxy-filled hole that had been drilled. The epoxy supplier was charged with one count of involuntary manslaughter. Other contractors avoided possible criminal charges with a \$450 million settlement with state and federal officials.

The failure of this adhesive anchor was the impetus for design changes within ACI 318 and the recognition that adhesive anchors are very sensitive to installation requirements. Thus ACI and CRSI came together to develop an adhesive anchor installer certification program.

ACI 318 Building Code Requirement

Starting in the 2011 edition, ACI 318 Appendix D requires that "Installation of adhesive anchors horizontally or upwardly inclined to support sustained tension loads shall be performed by personnel certified by an applicable certification program. Certification shall include written and performance tests in accordance with the ACI/CRSI Adhesive Anchor Installer Certification program, or equivalent".

We haven't seen ACI 318-11 referenced yet in 2012 contract documents, but expect to start seeing them on projects later in 2013. **Thus contractors will not be able to install any adhesive anchors without certified personnel.** If dowel bars and anchor bolts aren't placed or are placed in the wrong location, new dowels or bolts can't be drilled and epoxied in-place without both a certified contractor installer and certified inspectors watching. If contractors do not have certified installers on-site, repairs can't take place.

What to Expect at the Site

Although ACI 318 requires certified installers and qualified inspectors only for adhesive anchors installed "horizontally or upwardly inclined", concrete contractors should expect that owners, engineers, and construction managers will make this an all inclusive requirement for all adhesive anchors regardless of where they are placed. In addition, ACI 318-11 does not allow adhesive anchors to be installed into concrete unless it is a minimum of 21 days old. The concrete age requirement will likely delay most schedules.

What is the ACI/CRSI Certification Program

This certification program includes both written and practical examinations that the installer must take and pass for certification. The practical part of the program requires proper demonstration of vertical down and overhead installation procedures. The overhead portion requires knowledge related to "piston-plug" and "retaining-cap" systems. The program can be presented in two ways;

1. A two day workshop in which the first day will consist of a review / training program in a classroom setting followed by a "hands-on" practice session. The written and practical exams would follow on day two.
2. A test only day.

In developing this program a majority of those participants that attended the "Pilot Tests" recommended that a review/training component be included with the certification program. ACI-CRSI certification for Adhesive Anchor Installer is valid for a period of five [5] years from the date of completion of all certification requirements.

Get Certified at the Annual Conference

ASCC will sponsor an Adhesive Anchor Installer Certification lead by Ron Kozikowski, PE of North Starr Concrete Consulting, at the Annual Conference in September in Ohio. Make sure to sign up so that your projects will have certified installers to place adhesive anchor or rebar when the need arises.