

The “New” ACI Concrete Transportation Construction Inspector Program

by Luke M. Snell

The ACI Concrete Transportation Construction Inspector program has been updated. ACI defines a “Concrete Transportation Construction Inspector” as a person who has demonstrated proficiency in concrete inspection methods for transportation projects, including preplacement, placement, and post-placement operations. To achieve that level of proficiency requires an extensive knowledge of concrete construction, including plan reading; soil-cement construction; piling installations; formwork; reinforcement and embedments; sampling and testing freshly mixed concrete; and conveying, placing, consolidating, finishing, jointing, curing, and protection of concrete.

I view this certification as an opportunity for concrete inspectors and their employers to distinguish themselves as leaders in our industry. Also, because many state and federal transportation agencies require inspection of projects by a Concrete Transportation Construction Inspector, it is prudent for inspection agencies to ensure that they always have qualified individuals on their staffs.

Scope

The certification program is concentrated on transportation construction and inspection, so it requires knowledge gained from documents that are unique to the inspection of transportation projects. It also requires knowledge from numerous, more general publications.

Current ACI documents that contain information applicable for concrete transportation construction inspection include:

- SP-2, Manual of Concrete Inspection;
- CT-16, ACI Concrete Terminology;
- 117, Specification for Tolerances for Concrete Construction and Materials and Commentary;
- 213R, Guide for Structural Lightweight-Aggregate Concrete;
- 230.1R, Report on Soil Cement;
- 301, Specifications for Structural Concrete;
- 304R, Guide for Measuring, Mixing, Transporting, and Placing Concrete;

- 304.2R, Guide to Placing Concrete by Pumping Methods;
- 305R, Guide to Hot Weather Concreting;
- 306R, Guide to Cold Weather Concreting;
- 308R, Guide to External Curing of Concrete;
- 309R, Guide for Consolidation of Concrete;
- 318, Building Code Requirements for Structural Concrete and Commentary;
- 325.9R, Guide for Construction of Concrete Pavements;
- 327R, Guide to Roller-Compacted Concrete Pavements;
- 336.3R, Report on Design and Construction of Drilled Piers;
- 345R, Guide for Concrete Highway Bridge Deck Construction;
- 347R, Guide to Formwork for Concrete; and
- 543R, Guide to Design, Manufacture, and Installation of Concrete Piles.

Relevant documents from other organizations include the International Building Code, published by the International Code Council, and the Manual of Standard Practice, published by the Concrete Reinforcing Steel Institute.

For certification as a Concrete Transportation Construction Inspector, a candidate must pass two exams: A 3-hour, open-book written exam on the referenced documents, and a 1-hour plan-reading exam, using plans from typical transportation projects. This certification also requires current certification as a Concrete Field Testing Technician - Grade I as well as documented work experience including:

- Decision-making authority and responsibility;
- Verification of compliance with plans, specifications, and codes;
- Evaluation of concrete construction in the field;
- Documentation and reporting of inspection results; and
- Proficiency in appropriate areas of concrete construction inspection.

Certification as a Concrete Transportation Concrete Inspector in Training is available to those who pass both exams yet lack the background and work experience required to be certified as an Inspector.

To help in preparation for the concrete transportation inspector certification exam, ACI offers the Concrete Transportation Inspector Reference Package (CP-31), which contains reprints of sections from documents published by ACI and other organizations. ACI also offers optional training classes.

3. For concrete bridge decks, the minimum curing period should not be less than:

Answer: 7 days (Reference: ACI 345R-11, Section 6.3.4).

Selected for reader interest by the editors.



Luke M. Snell, FCI, is a member of ACI Committee C631, Concrete Transportation Inspector Certification. He is one of the instructors for this certification.

Training and Exams

The certification examination is comprehensive and covers over 1000 pages of material. While it is an open-book exam, inspectors are expected to understand how to quickly use the previously listed reference documents to find answers to problems. Of course, the inspector is also expected to keep and use the reference materials when on the job.

Many people are initially overwhelmed by the amount of material they must understand; however, classes have been developed that teach how to use the reference documents effectively. Typically, these classes take 3 to 4 days and require a concentrated time of study, reviewing sample questions, and solving homework problems.

The classes and exams are available at several locations, but travel may be required. Locations and schedules can be found under Certification Sessions in the Events menu at www.concrete.org.

Sample Questions

The following questions are from ACI "Sample Written Examination," published in CP-31. They are slightly revised in this article, with just the correct answer provided (originally published as multiple choice).

1. How often should pile cushions be changed for prestressed or precast concrete piles?

Answer: For each pile (Reference ACI 543R-12, Section 8.3.2).

2. What is the slump recommendation for drilled shaft concrete installed by the slurry method?

Answer: 7 to 9 in. (175 to 230 mm) (Reference: ACI 336.3R-14, Section 5.4.5).

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