

## **ACI Inspector Certification Program: Concrete Construction Special Inspector**

### **Definition**

A Concrete Construction Special Inspector is a person qualified to inspect and record the results of concrete construction inspection based on codes and job specifications. The program covers inspection during preplacement, placement, and post-placement operations.

An Associate Concrete Construction Special Inspector is a person who is knowledgeable about inspection procedures for concrete construction, including preplacement, placement, and post-placement operations; but does not have the experience required to qualify as an ACI Concrete Construction Special Inspector.

### **Scope and Knowledge**

The programs require a knowledge of concrete construction, including plans reading, formwork installation and removal, reinforcements, embedments, sampling and testing freshly mixed concrete, conveying, placing, consolidation, finishing, jointing curing, and protection.

The technical resource materials used in these programs include the following:

### **ACI PUBLICATIONS**

SP-2 - Manual of Concrete Inspection

116R – Cement and Concrete Terminology

117 - Tolerances for Concrete Construction and Materials

213R - Guide for Structural Lightweight-Aggregate Concrete

301 - Specifications for Structural Concrete

302.1R - Floor and Slab Construction

304R - Measuring, Mixing, Transporting and Placing Concrete

304.2R - Placing Concrete by Pumping Methods

305R - Hot Weather Concreting

306R - Cold Weather Concreting

308 - Curing Concrete

309R - Consolidation of Concrete

311.4R – Guide for Concrete Inspection

318 - Building Code Requirements for Reinforced Concrete

347R - Formwork for Concrete

### **OTHER PUBLICATIONS**

MSP-1 - Manual of Standard Practice, Concrete Reinforcing Steel Institute

EB001 - Design and Control of Concrete Mixtures, Portland Cement Association

### **Certification Requirements**

#### **For Concrete Construction Special Inspector:**

ACI will grant certification only to those applicants who:

Hold current certification as an ACI Concrete Field Testing Technician - Grade I, and

Obtain a passing grade on the written inspection examination, and

Obtain a passing grade on the written plans reading examination, and

Possess at least one of the following qualifications:

A B.S. degree in Civil Engineering, Civil Engineering Technology, Engineering Technology, Construction Engineering or Construction Engineering Technology from a program accredited by ABET (aka Accreditation Board for Engineering and Technology), including courses in concrete materials, design or construction), PLUS six months satisfactory work experience, or

A B.S. degree in an engineering program PLUS one year of satisfactory work experience, or

A Minimum of two years of college or technical school, earning at least 60 credit hours, plus two years of satisfactory work experience, or

A high school diploma, or equivalent, PLUS a minimum of three years of satisfactory work experience, or

Five years of satisfactory work experience.

The work experience must include:

- 1) Decision making authority and responsibility
- 2) Verification of compliance with plans, specifications, and codes
- 3) Evaluation of concrete construction in the field
- 4) Documentation and reporting of inspection results
- 5) Proficiency in appropriate areas of concrete construction inspection

Verification of the amount and range of work experience by the applicant's employer(s) is required. (D5).

The three-hour written inspection examination is open-book and consists of approximately 80 multiple choice questions. The one-hour plans reading examination consists of approximately 20 questions and is designed to test the examinee's ability to read and understand engineering drawings. The minimum passing grade for each examination is 70%.

Recertification is necessary every five years, and requires successful completion of the written examinations.

#### **For Associate Concrete Construction Special Inspector:**

ACI will grant certification to those applicants who meet the Field Technician prerequisite and pass both written examinations. Individuals with Associate certification can upgrade to full Inspector status upon submittal and approval of sufficient education/work experience.

Recertification is necessary every five years, and requires successful completion of the written examinations.

### **Study Material** Title: Inspector Reference Package (CP21)

Description: This package contains all of the resource materials needed to properly prepare for certification as an ACI Concrete Construction Inspector. The ring binder contains the following materials: Inspector Workbook (includes program information, lesson plan, study aids, work experience forms and instructions); reprints of ACI documents (including ACI's Manual of Concrete Inspection, SP-2); reprints of ASTM documents; PCA's Design & Control of Concrete Mixtures, and CRSI's Manual of Standard Practice.