

Certification: Reinforced Concrete Special Inspector



Exam ID: 47

- 90 multiple-choice questions
- 3-1/2-hour limit
- Open book

Scope:

The Reinforced Concrete Special Inspector is responsible for enforcing the construction details contained in the approved plans and specifications for concrete structural elements of the building. The special inspector reviews the statement of special inspections and the approved plans and specifications, and verifies that concrete construction is installed as shown and as specified in the approved plans and specifications for formwork, concrete quality, reinforcement, and placement. The special inspector is responsible for collecting samples of materials and for performing required tests. The special inspector is responsible for writing and submitting required reports, including reports of items that do not comply with the plans, to the building official, contractor, and/or registered design professional.

01	General Requirements	10%
0101	<u>Duties and Responsibilities</u> Review approved plans and specifications for special inspection requirements. Comply with special inspection requirements of the enforcing jurisdiction.	4%
0102	<u>Notification of Discrepancies</u> Notify the contractor of deviations from approved plans and specifications. If the deviations are uncorrected, notify the architect or engineer of record and the building official of deviations.	3%
0103	<u>Inspection Reports</u> Submit progress reports to the architect or engineer of record and the building official, describing tests which were performed and compliance of work. Submit final summary report stating whether work requiring special inspection was in conformance with the approved plans and applicable provisions of the building code.	3%
02	Concrete Quality	20%
0201	<u>Mix Verification</u> Verify that individual batch tickets indicate delivery of the approved mix as specified. Verify time limits of mixing, total water added, and proper consistency and workability for placement.	5%
0202	<u>Testing</u> Determine the required type, quantity, and frequency of tests to be performed on fresh and hardened concrete. Observe sampling of concrete, field testing of fresh concrete, and making of test specimens.	8%

0203	<u>Specimen Handling and Protection</u> Provide or arrange for proper specimen identification, site storage and protection, and transportation to the testing laboratory.	5%
0204	<u>Test Reports</u> Provide or arrange for communication of field-testing results to the architect or engineer of record and to the building official.	2%
03	Reinforcement	40%
0301	<u>Quality</u> Verify that reinforcing steels are of the type, grade, and size specified and are in conformance with acceptable quality standards. Ensure that reinforcing steel is free of oil, dirt, and rust and that steel is properly coated and/or sheathed as specified.	5%
0302	<u>Tolerances</u> Verify that reinforcing steels are located within acceptable tolerances, and are adequately supported and secured to prevent displacement during concrete placement.	7%
0303	<u>Cover</u> Verify that minimum concrete cover is provided.	6%
0304	<u>Placement</u> Verify that placement of reinforcing steel (or ducts) complies with required spacing, profile, and quantity requirements, as indicated by both the approved plans and installation drawings.	9%
0305	<u>Details</u> Verify that hooks, bends, ties, stirrups, and supplemental reinforcement are fabricated and placed as specified.	7%
0306	<u>Splices</u> Verify that required lap lengths, stagger, and offsets are provided. Verify proper installation of approved mechanical connections per the manufacturer's instructions and/or evaluation reports. Insure that all welds of reinforcing steel and other weldments are as specified, and have been inspected and approved by an approved welding inspector.	6%
04	Formwork, Joints, and Embeds	15%
0401	<u>Formwork Construction</u> Verify that formwork will provide concrete elements of the specified size and shape.	6%
0402	<u>Construction Joints</u> Verify that the location and preparation of construction joints are in accordance with the approved plans, specifications, and building code requirements.	4%

0403	<u>Embeds</u>	5%
	Verify that the type, quantity, size, spacing, and location of embedded items are as	
05	Concrete Placement, Protection, and Curing	15%
0501	<u>Pre-placement</u>	3%
	Verify acceptable condition of the place of deposit before the concrete is placed.	
0502	<u>Placement</u>	3%
	Verify that methods of conveying and depositing concrete avoid contamination and segregation of the mix.	
0503	<u>Consolidation</u>	5%
	Verify that concrete is being properly consolidated during placement.	
0504	<u>Protection</u>	4%
	Verify that concrete is protected from temperature extremes, and determine that proper curing is initiated.	