

JOB TAKS LISTS FOR SPECIAL INSEPECTORS

These task lists are representative of the tasks tested in the ICC certification exams and is found in the “Exam Information Bulletin” found at <http://www.iccsafe.org/certification/pdf/NationalCertificateCandidateBulletin.pdf>

The building official may desire to review these tasks in reviewing the proposed special inspection activities for a particular project and evaluating the qualifications of special inspectors.

A. Reinforced Concrete

1. General Requirements

Review approved plans and specifications for special inspection requirements. Comply with special inspection requirements of the enforcing jurisdiction. Notify the contractor of deviations from approved plans and specifications. If the deviations are uncorrected, notify the registered design professional in responsible charge and the building official. Submit progress reports to the registered design professional in responsible charge and the building official, describing tests that 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.

2. Concrete Quality

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. Determine the required type, quantify 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. Provide or arrange for proper specimen identification, site storage and protection, and transportation to the testing laboratory. Provide or arrange for communication of field-testing results to the registered design professional in responsible charge and to the building official.

3. Reinforcement

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. Verify that reinforcing steels are located within acceptable tolerances and are adequately supported and secured to prevent displacement during concrete placement. Verify that minimum concrete cover is provided. Verify that placement of reinforcing steel (or ducts) complies with required spacing, profile and quantify requirements, as indicated by both the approved plans and installation drawings. Verify that hooks bends, ties, stirrups and supplemental reinforcement are fabricated and placed as specified. Verify that required

lap lengths, stagger and offset 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.

4. Formwork, Joints and Embeds

Verify that formwork will provide concrete elements of the specified size and shape. Verify that the location and preparation of construction joints are in accordance with the approved plans, specifications and building code requirements. Verify that the type, quantity, size, spacing and location of embedded items are as specified.

5. Concrete Placement, Protection and Curing

Verify acceptable condition of the place of deposit before the concrete is placed. Verify that methods of conveying and depositing concrete avoid contamination and segregation of the mix. Verify that concrete is being properly consolidated during placement. Verify that concrete is protected from temperature extremes, and determine that proper curing is initiated.

B. Prestressed Concrete All items listed above under Reinforced Concrete are considered prerequisite to the knowledge for special inspection of prestressed concrete.)

1. General Requirements

Comply with special inspection requirements of the enforcing jurisdiction. Review approved plans and specifications for project details that pertain to special inspection requirements. Notify the contractor of deviations from approved plans and specifications. If the deviations are uncorrected, notify the registered design professional in responsible charge and the building official. Submit progress reports to the registered design professional in responsible charge and the building official, describing tests that were performed and compliance of work. Submit final summary report stating whether work requiring special inspection was in conformance with the approved construction documents and applicable provisions of the building code.

2. Concrete Quality

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. 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. Provide or arrange for proper specimen identification, site storage and protection, and transportation to the testing laboratory. Provide or arrange for communication of field testing results to the registered design professional in responsible charge and to the building official.

3. Reinforcement

Verify that reinforcing steel and tendons are of the type, grade and size specified and are in conformance with acceptable quality standards. Verify that the reinforcing steel and tendon system are fabricated in conformance with acceptable quality standards. Verify that the condition of tendons at the time of concrete placement are free of oil, dirt and excessive rust, and are properly coated and/or sheathed as specified. Verify that reinforcing steel and tendons are located within specified tolerances, and are adequately supported and secured to prevent displacement during concrete placement. Verify that minimum concrete cover is provided. Verify that placement of reinforcing steel and tendons (or ducts) comply with spacing, profile and quantity requirements, as indicated by the installation drawings and approved plans. Verify that hooks, bends, ties, stirrups and supplemental reinforcement are fabricated and placed as specified. 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. Verify that welds have been inspected and approved as specified. Verify that prestressed rock and soil anchors are fabricated and installed as specified.

4. Prestressing and Grouting

Verify that the required concrete strength has been attained prior to transferring prestressing forces. Verify proper equipment calibration. Verify that proper stressing (or tensioning) sequences are used, proper jacking forces are applied and acceptable elongations are attained and recorded. Verify that tendons and anchorages are properly sealed or otherwise protected as specified. Verify that ducts including inlets and outlets are of the required size, are mortar-tight and are located correctly. Verify that proper grout materials, strength and grouting pressures are used as specified.

5. Formwork, Joints and Embedments

Verify that formwork will provide concrete elements of the specified size and shape. Verify that the location and preparation of construction joints are in accordance within the approved plans, specifications, and applicable codes and standards. Verify that the type, quantity, size, spacing, condition and location of embedded items are as specified.

6. Concrete Placement, Protection and curing

Verify acceptable condition of the place of deposit before the concrete is placed. Verify that methods of conveying and depositing concrete avoid contamination, segregation of the mix, and displacement of reinforcement, embedments and forms. Verify that concrete is being properly consolidated during placement. Verify that concrete is protected from ambient temperature extremes during placement and curing. Verify that concrete is being cured as specified by approved plans, specifications and applicable codes.

C. Structural Masonry

1. General Requirements

Review approved plans, specifications and submittals for special inspection requirements. Comply with special inspection requirements of the enforcing jurisdiction in accordance with the applicable code, approved plans and specifications. Notify the contractor of deviations from approved plans and specifications. If the deviations are uncorrected, notify the registered design professional in responsible charge and the building official of deviations. Submit progress reports to the registered design professional in responsible charge and the building official, describing rests that 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.

2. Materials

Verify that brick, block, cement, lime, aggregates, reinforcement, connectors, water, admixtures and other materials are the type specified and approved. Verify that materials are properly stored. Verify that mix proportions, material handling and mixing are in accordance with code requirements. Verify that grout is batched in accordance with approved mix. Determine the required material strengths, type and frequency of tests to be performed. Observe sampling, field testing and fabrication of test specimens. Verify that masonry strength meet approved specifications. Verify proper sample identification, site storage, protection and transportation to the testing laboratory.

3. Masonry Placement

Verify that the condition of substrate is acceptable for placement, that mortar is properly placed and that the masonry units are placed in accordance with the approved plans. Verify that the type, quantity, size, spacing and location of embedded items are as specified. Verify that the location and preparation of movement joints are in accordance with the approved plans, specifications and building code requirements. Verify that the masonry is protected from temperature extremes and adverse weather conditions.

4. Reinforcement and Connector Placement

Verify that the reinforcing steel and connectors comply with required size, spacing, profile, condition and quantity requirements, as indicated by both the approved plans and installation drawings. Verify that reinforcing steel and connectors are placed in the proper location within acceptable tolerances. Verify minimum coverage and clearance to masonry surfaces. Verify that hooks, bends, ties, stirrups and supplemental reinforcement are fabricated and placed as specified. Verify that required lap lengths, stagger and offset are provided. Verify installation of approved mechanical connections per manufacturers instructions and/or evaluation reports.

5. Grout Placement

Verify that grout spaces are free of obstructions and that cleanouts are provided as required. Verify that methods of conveying and placing grout avoid contamination and segregation and comply with time limits and grout lift requirements. Verify that grout is being properly consolidated and reconsolidated during placement.

D. Structural Steel and Bolting

1. General Requirements

Review approved plans and specifications for special inspection requirements. Comply with special inspection requirements of the enforcing jurisdiction. Notify the contractor of deviations from approved plans and specifications. If the deviations are uncorrected, notify the registered design professional in responsible charge and the building official of deviations. Submit progress reports to the registered design professional in responsible charge and the building official, describing tests that 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.

2. Material sampling, Testing and Verification

Verify that the steel shapes and bolts are of the type, size, grade and condition specified on the approved plans and specifications. Verify the required type, quantity, location and frequency of tests to be performed, and witness preparation of properly identified test material samples on all materials. Provide or arrange for documentation and transportation of samples to the laboratory. Verify that required testing is performed on materials as required by applicable standards and specifications.

3. Structural, Reinforcing and Sheet Steel Welding

Verify that the welding equipment and process has the capability to produce the specified welds. Insure that welding equipment is calibrated and appropriate for use with the welding process. Verify and/or witness qualification of welders, welding operators and tackers for conformance with AWS standards and specifications. Verify that welders are qualified to perform the specified work. Verify that the proposed welding procedure for structural steel, reinforcing steel and sheet metal is a standard prequalified procedure, or has been properly qualified and approved. Verify that welding processes, sequences and procedures are followed in accordance with approved Welding Procedures Specifications. Review approved plans and specifications for weld types and locations. Verify that filler materials are stored and handled in accordance with manufacturer and project specifications. Verify that base metal to be welded is properly prepared and oriented. Verify that weldments have proper joint geometry and have backing and start/runoff tabs where required. Inspect to insure that weld and structural steel repairs are performed in accordance with approved procedures. Verify that fabricated elements are within permissible tolerances. Verify that welds have the specified length and effective throat. Verify that the weld profile meets applicable shape, size and quality requirements.

F. Spray-applied Fireproofing

1. General Requirements

Review approved plan and specifications for special inspection requirements. Comply with special inspection requirements of the enforcing jurisdiction. Notify the contractor of deviations from approved plans and specifications. If the deviations are uncorrected, notify the registered design professional in responsible charge and the building official. Submit progress reports to the registered design professional in responsible charge and the building official, describing tests that 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.

2. Materials, Preparation, Application and Testing

Verify that the proposed materials are of the type specified, are properly stored and have been approved by the registered design professional in charge and the building official. Verify that the substrate has been properly prepared and is free of oil, dirt, scale, loose paint or primer and other materials that may prevent adequate adhesion. Identify the members to be fireproofed and the minimum required coverage and thickness. Verify the condition of the finished application. Determine the required type and frequency of tests to be performed. Observe the sampling, field testing and fabrication of test specimens. Verification that materials are of type specified, properly stored and approved; verification that the substrate has been properly prepared and free of conditions which may prevent adhesion; identification of members to be fireproofed, the minimum required coverage and thickness of the fireproofing, and the condition of the finished application; and determination of the required tests and observation of sampling, field testing and fabrication of test specimens.