

Community Development

Building Inspections

Special Inspection Manual

(REV. 3/22/2023)

City of Salem, VA
Adopted by Virginia Uniform Statewide Building Code
21 S. Bruffey Street
Salem VA, 24153
(540) 375-3036

The purpose of this document is to familiarize the Owner, Engineer, Architect, Testing/Inspection Laboratory, and Contractor of the Special Inspections required by Chapter 17 of the International Building Code, as adopted by the State of Virginia Uniform Statewide Building Code (VCC).

Chapter 17 of the International Building Code (IBC) has specific requirements for Special Inspections and Tests. These tests and inspections are in addition to the inspections required by VCC Section 113. The special inspection does not waive the requirement for inspections by the Building Inspector. The contractor is responsible for scheduling all inspections required by VCC and the Community Development Building Inspections office. These tests and inspections are to be made by an agency, inspector, testing lab, and fabricator shop approved by the Building Official.

The approved agency, inspector, testing lab, and fabricator shop must be employed by the owner or the registered design professional in responsible charge acting as the owner's agent.

This handout outlines the mandatory requirements and responsibilities of all parties involved with special inspections and construction. However, recognizing that there are many ways to evaluate construction quality and inspection, this handout is NOT intended to be a step-by-step procedural specification sufficient for all projects. Adjustments may be needed to satisfy a project's particular conditions.

It is hoped that by becoming more familiar with items which will be examined by the special inspector, all parties to the construction process can better prepare to foster quality control in the constructed project.

When special inspections are required by the VCC, the registered design professional in responsible in charge shall prepare a Special Inspections Statement, for submittal by the permit applicant. This statement shall include the following:

1. The materials, systems, components, and work required to have special inspection
2. The type and extent of each inspection
3. The type and extent of each test
4. Identification as to whether it will be a continuous or periodic special inspection

This agreement applies to special inspections covered in Chapter 17 of the VCC. It does not waive any other inspections that do not fall under Chapter 17. It is the permit holder's responsibility to call for all required inspections prior to concealment and prior to proceeding on with the work.

PRECONSTRUCTION MEETING

Prior to the issuance of a building permit, a preconstruction meeting may be required. The Plan Reviewer for the City of Salem shall contact the Register Design Professional in responsible charge of the project, owner or owner agent to schedule the meeting time and location. The following, depending on the project, are required to attend this meeting.

1. The Building Official, Plans Reviewer, and Building Inspector
2. Owner or designated agent
3. The Registered Design Professional in Responsible Charge or representative.
4. Architect of Record or representative.
5. Structural Engineer of record or representative
6. Geotechnical Engineer of Record or representative
7. The General Contractor or representative.
8. Special Inspections Engineer of Record or representative
9. The Approved Agency or representative.

DUTIES AND RESPONSIBILITIES

A. Approval of Special Inspection Agencies, Special Inspectors, Fabricator Shop and/or Testing labs:

Special Inspections Agencies, Special Inspectors, Fabricator Shop, and Testing Labs shall disclose any possible conflicts of interest. The Registered Design Professional in responsible charge shall pre-qualify the designated Special Inspection Agencies, Special Inspectors, Fabricator Shop, and Testing Labs, and submit their qualifications as part of the Statement of Special Inspections. The Building Official approves the designated Special Inspection Agencies, Special Inspectors, Fabricator Shops, and Testing Labs, prior to any work being performed.

B. Duties and Responsibilities of the Project Owner:

1. Agree and sign the Statement of Special Inspections

2. Employ and Fund Special Inspections and Testing Services:

The project Owner is responsible for employing and funding the special inspection and testing services. The special inspection agencies, special inspectors and testing labs, shall not be in the employ of the contractor, a subcontractor or material supplier. In the case of an Owner who is also acting as the contractor; special inspection agencies, special inspectors and testing labs shall be employed as specified and approved by the Building Official.

C. Duties and Responsibilities of the Engineer of Record

The engineer or architect of record has many duties and responsibilities related to special inspection and structural observation activities. These include the following:

1. Agree and sign the Statement of Special Inspections:

The Engineer or Architect of record shall complete the Statement of Special Inspections and submit with the building permit Application.

2. Identify the need for special inspections and structural observation services:

The project plans and/or specifications which are submitted to the Building Official shall clearly indicate the design parameters and material selection. The engineer or architect of record is the development team member who analyzes the critical elements of the design and determines where special inspection and structural observation is required in accordance with Chapter 17 of the VCC Special Inspections and Tests requirements. The engineer or architect of record is responsible for submitting the Statement of Special Inspections and the Contractor Statement of Responsibility document with the structural plan sets.

3. Respond to field discrepancies

Material and design discrepancies which are not resolved in a timely manner or are about to be incorporated in the work must be brought to the attention of the engineer or architect of record and to the Building Official. Uncorrected field deficiencies observed by the special inspector must also be brought to their attention. The engineer or architect of record is instrumental in effecting the remedial process of deficiency correction. The engineer or architect of record is responsible for any design changes in addition to acknowledgment and approval of shop drawings which may detail structural information, and for submission of such changes to the Building Official for approval.

4. Special Inspections Interim Report

The engineer or architect of record must contact the Building Official or his representative to decide what, if any, interim reports may be required and on what schedule. The Special Inspections Interim Report document must be used to document these agreed upon special inspections.

5. Submit final completion report

The engineer of record shall submit the Special Inspections Final Report, an overall final completion report, to the Community Development Building Inspections Office stating that all items requiring special inspection and structural observation were performed in accordance with the approved plans, specifications, and applicable workmanship provisions of the VCC.

This report shall be submitted to the Building Official or his representative within 30-days prior to the application for a temporary or permanent Certificate of Occupancy or final inspection.

D. Duties and responsibilities of the engineer responsible for the structural observation program

The owner shall employ the engineer or architect responsible for structural design, or another engineer or architect designated by the engineer or architect responsible for structural design, to perform structural observation as defined in VCC. Observed deficiencies shall be reported in writing to the owner's representative, special inspector, contractor, and the Building Official. The

structural observer shall submit to the Community Development Building Inspections Office a written statement declaring that the site visits have been made and identify any reported deficiencies that, to the best of the structural observer's knowledge, have not been resolved.

E. Duties and Responsibilities of the Special Inspector

The special inspectors are individuals with highly developed, specialized skills who observe those critical building or structural features which they are qualified to inspect. Duties of special inspectors and/or inspection agencies include the following:

1. Observe and inspect all work for which they are responsible:

The special inspector shall inspect all work for conformance with the approved plans and specifications and applicable of the code. The special inspector shall be on-site at all times to observe construction operations that require continuous or periodic inspections as per the tables in Chapter 17 of the VCC. Work shall be inspected according to the approved construction documents, listed standards and nationally recognized testing methods.

2. Provide Timely Progress Reports:

The special inspector should complete written inspection reports for each inspection visit and provide the report in a timely manner. The special inspector or inspection agency shall furnish these reports directly to the Building Official, engineer or architect of record and the general contractor. Special inspectors shall bring all non-conforming items to the immediate attention of the contractor. If any such item is not resolved in a timely manner or is about to be incorporated in the work, the engineer or architect of record and the Building Official shall be notified immediately.

Special inspections reports are due within 48 hours of the inspection. The reports must be emailed to the Community Development Building Inspections Department.

3. Submit a Final Report.

Special inspectors or inspection agencies shall submit a final report that is sealed, signed and dated by the registered engineer or architect who is responsible for the special inspection to the Community Development Building Inspections Department stating that all items requiring special inspection and testing were constructed, to the best of their knowledge, in conformance with the approved design plans, specifications, approved change order and the applicable provision of the building code.

This report shall be submitted no later than 30 days prior to application for a Certificate of Occupancy or Temporary Certificate of Occupancy.

F. Duties and Responsibilities of the Contractor:

1. Agree and sign the Contractor's Statement of Responsibility.

2. Notifying the Special Inspection Agency, Special Inspector, and Testing Lab.

The contractor or the holder of the Building Permit is responsible for notifying the Special Inspector, special inspection agency and Testing Lab regarding special inspections required by the Community Development Building Inspections Department. Adequate notice shall be provided so that the special inspector has time to become familiar with the project. The permit holder is responsible for

calling for all required inspections both the Building Inspector and the special inspector.

3. Provide access to approved construction documents.

The contractor is responsible for providing the special inspector with access to approved plans, construction documents, and approved shop drawings.

4. Retain special inspection records at the job site:

The contractor is responsible for retaining at the job site all special inspection records submitted by the special inspector and testing labs, and providing these records for review by the Building Inspector upon request.

5. Obtain Building Inspection approval prior to concealment:

The Contractor shall contact the Building Inspection Department for required inspections and obtain approval prior to concealing any work requiring Special Inspections.

G. Duties and responsibilities of Building Inspections Department

1. The specific duties and responsibilities of the Building Inspections Department relating to Special Inspections include the following:

2. Review and examine plans, specifications, structural observation, and contract documents for approval and compliance with the building code and Special Inspection Program Requirements:

The Building Inspections Department is responsible for reviewing all submitted construction plans, specifications, forms related to the Special Inspection Program, and any other submitted documents for compliance with Virginia Uniform Statewide Building Code. All items submitted must be reviewed and approved prior to issuance of the Building Permit. This includes the following:

1. Check the qualifications of each Special Inspector, Special Inspection Agency, Testing Lab, and Fabricator Shop that is listed on the Special Inspections Statement.

2. Check that all parties involved in the Special Inspection Program have completed their portion of the Special Inspections Statement.

3. Issue the Building Permit with the approved Special Inspections Statement and permit conditions attached to the approved plans that will be kept on the job site.

4. Determine if pre-construction meeting is required to review the Special Inspection Program with all appropriate members of the construction team.

3. Monitor Special Inspection and Testing Activities:

The Community Development Building Inspections will monitor work requiring Special Inspection and Testing Activities at the jobsite to assure that the designated qualified Special Inspectors are performing their duties when work requiring Special Inspection is in progress.

4. Review Special Inspection Progress Reports:

The Community Development Building Inspections will review the submitted Special Inspection progress reports and perform field inspections to verify conformance to the approved plans, construction documents, and specifications prior to concealing any work

related to the Special Inspections

5. Perform Final Inspection and Issue Certificate of Occupancy:

The Community Development Building Inspections will approve all site inspections as partial inspection, and will not perform a final inspection nor approve the final inspection until the Special Inspections Final Report has been reviewed and approved by the Building Official.

STATEMENT OF SPECIAL INSPECTIONS

City of Salem, Virginia COMMUNITY DEVELOPMENT Building Inspection

DATE: _____

PROJECT TITLE: _____

PROJECT ADDRESS: _____

BUILDING PERMIT #: _____

REGISTERED DESIGN PROFESSIONAL: _____

This **Statement of Special Inspections** is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Virginia Construction Code (VCC). It includes a schedule of Special Inspection services applicable to this project as well as the name of the Special Inspection Coordinator and the identity of other approved agencies to be retained for conducting inspections and tests. This **Statement of Special Inspections** encompasses the following disciplines:

Structural Mechanical/Electrical/Plumbing

Architectural Other: _____

The Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the **immediate** attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the Building Official and the Registered Design Professional in Responsible Charge.

A **Final Report of Special Inspections** documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the General Contractor (GC).

Interim Report Frequency: _____

Prepared by: _____
(Type or print name and date)

Signature: _____
(Design Professional Stamp)

Owner Authorization: _____
(Print name and date) Building Official: _____
(Print name and date)

Owner Signature: _____ Building Official Signature: _____

STATEMENT OF SPECIAL INSPECTIONS

City of Salem, Virginia
COMMUNITY DEVELOPMENT
Building Inspection

Schedule of Inspection and Testing Agencies

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems (see attached list)

Special Inspection Agencies	Firm	Address, Telephone, e-mail
1. Special Inspection Coordinator		
2. Inspector		
3. Inspector		
4. Testing Agency		
5. Testing Agency		
6. Other		

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

STATEMENT OF SPECIAL INSPECTIONS

City of Salem
Community Development
Building Inspections

QUALITY ASSURANCE PLAN

VCC sections 1704 and 1705 require quality assurance plans to be submitted for certain seismic and/or wind requirements. Please review the requirements, as applicable, for the City of Salem.

Quality Assurance for Seismic Resistance

Seismic Design Category

Quality Assurance Plan Required (Y/N)

Description of seismic force resisting system and designated seismic systems:

Quality Assurance for Wind Requirements

Basic Wind Speed (3 second gust)

Wind Exposure Category

Quality Assurance Plan Required (Y/N)

Description of wind force resisting system and designated wind resisting components:

Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated above must submit a Statement of Responsibility.

STATEMENT OF SPECIAL INSPECTIONS

City of Salem Community Development Building Inspections

Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official and must meet the qualifications listed in Section 1704 of the VCC. The credentials of all inspectors and testing technicians shall be provided, if requested.

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge or the City of Salem Building Official deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the *Agency Number* on the Schedule.

Registered Design Professionals

PE/SE	Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
PE/FPE	Fire Protection Engineer - a licensed PE specializing in design of fire protection systems *
PE/ME	Mechanical Engineer - a licensed PE specializing in design of mechanical systems *
EIT	Engineer-In-Training – a graduate engineer who has passed Fundamentals of Engineering exam

American Concrete Institute (ACI) Certification

ACI-CFTT	Concrete Field Testing Technician – Grade 1
ACI-CCI	Concrete Construction Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1&2
ACI-STT	Strength Testing Technician

American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector
AWS/AISC-SSI	Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification

ASNT	Non-Destructive Testing Technician – Level II or III
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International Code Council (ICC) Certification

ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray-Applied Fireproofing Special Inspector
ICC-PCSI	Pre-stressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician - Levels I, II, III & IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III & IV

Exterior Design Institute (EDI) Certification

EDI-EIFS	EIFS Third Party Inspector
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VUSBC REQUIRED SPECIAL INSPECTIONS AND TESTS						
	Description	Reference	Standard	Required?	Continuous?	Periodic?
Special Cases						
Special Cases	Special Inspections and tests required if in the opinion of the building official alternative construction materials, special systems or unusual designs are proposed.	1705.1.1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Steel Construction						
Steel Construction	Fabrication exception: fabricator to submit a detailed procedure for material control.	1705.2, exception				
Structural steel		1705.2.1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cold-formed steel deck	Cold-formed steel floor and roof deck shall be in accordance with the quality assurance inspection requirements.	1705.2.2	SDI QA/QC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Open-web steel joists and joist girders	1. Installation of open-web steel joists and joist girders	1705.2.3				
	a. End connections – welding or bolted	Table 1705.2.3	SJI specs listed in Section 2207.1	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
	b. Bridging – horizontal or diagonal <ul style="list-style-type: none"> i. Standard Bridging ii. Bridging that differs from the SJI specifications listed in Section 2207.1 	Table 1705.2.3	SJI specs listed in Section 2207.1	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Cold-formed steel trusses spanning 60 feet or greater	Verify restraint/bracing and the permanent individual truss member restraint/bracing are installed.	1705.2.4	Per approved truss submittal package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Concrete Construction						
Concrete construction	Special inspections and of concrete construction shall be performed in accordance with Section 1705.3 and Table 1705.3	1705.3				
	1) Inspect reinforcement, including prestressing tendons, and verify placement	Table 1705.3, VCC 1908.4	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
	2) Reinforcing bar welding: <ul style="list-style-type: none"> a) Verify weldability of reinforcing bars other than ASTM A706; b) Inspect single-pass fillet welds, maximum 5/16"; and c) Inspect all other welds 		AWS D1.4; ACI 318: 26.6.4	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
			AWS D1.4; ACI 318: 26.6.4	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
			AWS D1.4; ACI 318: 26.6.4	<input checked="" type="checkbox"/>		<input type="checkbox"/>
	3) Inspect anchors cast in concrete		ACI 318: 17.8.2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
	4) Inspect anchors post-installed in hardened concrete members <ul style="list-style-type: none"> a) Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads. b) Mechanical anchors and adhesive anchors not defined in 4.a. 		ACI 318: 17.8.2.4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
			ACI 318: 17.8.2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

	5) Verify use of required design mix	1904.1, 1904.2, 1908.2, 1908.3	ACI 318: Ch. 19, 26.4.3, 26.4.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	6) Prior to concrete placement, fabricate specimens for strength tests, perform slum and air content tests, and determine the temperature of the concrete.		ASTM C172, ASTM C31, ACI 318: 26.5, 26.12	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	7) Inspect concrete and shotcrete placement for proper application techniques	1908.6, 1908.7, 1908.8	ACI 318: 26.5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	8) Verify maintenance of specified curing temperature and techniques	1908.9	ACI 318: 26.5-26.5.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	9) Inspect prestressed concrete for:			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	a) Application of prestressing forces; and		ACI 318: 26.10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	b) Grouting of bonded prestressing tendons.		ACI 318: 26.10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	10) Inspect erection of precast concrete members		ACI 318: 26.9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	11) Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs		ACI – 318: 26.11.2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	12) Inspect formwork for shape, location and dimensions of the concrete member being formed, shoring and reshoring		ACI 318: 26.11.1.2(b)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Other			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Description	Reference	Standard	Required?	Continuous?	Periodic?

Masonry Construction

Masonry construction	Special inspections and test of masonry construction shall be performed in accordance with the quality assurance program requirements	1705.4	TMS 402 and TMS 602	<input type="checkbox"/>		
	Empirically designed masonry, glass unit masonry and masonry veneer in Risk Category IV	1705.4.1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Vertical masonry foundation elements	1705.4.2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Wood Construction

Wood construction	Special inspections of prefabricated wood structural elements and assemblies shall be in accordance with the applicable section.	1705.5		<input type="checkbox"/>		
	High-load diaphragms	1705.5.1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Metal-plate-connected wood trusses spanning 60 feet or greater	1705.5.2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Soils

Soils	Special inspections and test of existing site soil conditions, fill placement and load-bearing requirements shall be performed in accordance with this section and Table 1705.6.	Specs, 1705.6		<input type="checkbox"/>		
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	1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Table 1705.6		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	2. Verify excavations are extended to proper depth and have reached proper material.	Table 1705.6		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	3. Perform classification and testing of compacted fill materials.	Table 1705.6		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	Table 1705.6		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	Table 1705.6		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Other			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Description	Reference	Standard	Required?	Continuous?	Periodic?
Driven Deep Foundations						
Driven deep foundations	Special inspections and test shall be performed during installation of driven deep foundation elements as specified in Table 1705.7.	1705.7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1. Verify element materials, sizes and lengths comply with the requirements.	Table 1705.7		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	2. Determine capacities of test elements and conduct additional load tests, as required.	Table 1705.7		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	3. Inspect driving operations and maintain complete and accurate records for each element.	Table 1705.7		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element.	Table 1705.7		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	5. For steel elements, perform additional special inspections in accordance with Section 1705.2.	Table 1705.7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	6. For concrete elements and concrete-filled elements, perform tests and additional special inspections in accordance with Section 1705.3.	Table 1705.7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge.	Table 1705.7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cast-In-Place deep foundations elements						
Cast-in-place deep foundation elements	Special inspections and test shall be performed during installation of cast-in-place deep foundation elements as specified in Table 1705.8.	1705.8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1. Inspect drilling operations and maintain complete and accurate records for each element.	Table 1705.8		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedroom (if applicable) and adequate	Table 1705.8		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Reference exemptions	Special inspections for seismic resistance shall be required as specified in Sections 1705.12.1 through 1705.12.9, unless exempted by the exceptions of Section 1704.2.	1705.12		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Structural steel	Special inspections for seismic resistance	1705.12.1	AISC 341	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seismic isolation systems	Special inspection shall be provided for seismic isolation systems in seismically isolated structures assigned to Seismic Design Category B, C, D, E or F during the fabrication and installation of isolator units and energy dissipation devices.	1705.12.8		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Other			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Description	Reference	Standard	Required?	Continuous?	Periodic?
Testing for seismic resistance						
Structural steel	Nondestructive testing for seismic resistance shall be in accordance with Section 1705.13.1.1 or 1705.13.1.2, as applicable.	1705.13.1	AISC 341	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nonstructural components	For structures assigned to Seismic Design Category B, C, D, E or F, where the requirements of Section 13.2.1 of ASCE 7 for nonstructural components, supports or attachments are met by seismic qualification as specified in Item 2 therein, the registered design professional shall specify on the approved construction documents the requirements for seismic qualification by analysis, testing or experience data. Certificates of compliance for the seismic qualification shall be submitted to the building official as specified in Section 1704.5.	1705.13.2	ASCE 7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seismic isolation systems	Seismic isolation systems in seismically isolated structures assigned to Seismic Design Category B, C, D, E or F shall be tested in accordance with Section 17.8 of ASCE 7.	1705.13.4	ASCE 7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sprayed fire-resistant materials (SFRM)						
Physical and Visual Tests	The special inspections and tests shall include the following to demonstrate compliance with the listing and the fire-resistance rating: <ol style="list-style-type: none">1. Condition of substrates.2. Thickness of application.3. Density in pounds per cubic foot (kg/m³).4. Bond strength adhesion/cohesion.5. Condition of finished application.	1705.14.1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Structural Surface Conditions	The surfaces shall be prepared in accordance with the approved fire-resistance design and the written instructions of approved manufacturers. The prepared surface of structural members to be sprayed shall be inspected by the special inspector before the application of the sprayed fire-resistant material.	1705.14.2	Approved Manufacturer specs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Application	The substrate shall have a minimum ambient temperature before and after application as specified in the written instructions of approved manufacturers. The area for application shall be	1705.14.3	Approved Manufacturer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	ventilated during and after application as required by the written instructions of approved manufacturers.					
Thickness	Not more than 10 percent of the thickness measurements of the sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be less than the thickness required by the approved fire-resistance design, and none shall be less than the minimum allowable thickness required by Section 1705.14.4.1.	1705.14.4	ASTM E605	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Density	The density of the sprayed fire-resistant material shall be not less than the density specified in the approved fire-resistance design. Density of the sprayed fire-resistant material shall be determined in accordance with <u>ASTM E605</u> . The test samples for determining the density of the sprayed fire-resistant materials shall be selected as follows: <ol style="list-style-type: none"> 1. From each floor, roof and wall assembly at the rate of not less than one sample for every 2,500 square feet (232 m²) or portion thereof of the sprayed area in each story. 2. From beams, girders, trusses and columns at the rate of not less than one sample for each type of structural member for each 2,500 square feet (232 m²) of floor area or portion thereof in each story. 	1705.14.5	ASTM E605	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bond Strength	The cohesive/adhesive bond strength of the cured sprayed fire-resistant material applied to floor, roof and wall assemblies and structural members shall be not less than 150 pounds per square foot (psf) (7.18 kN/m ²). The cohesive/adhesive bond strength shall be determined in accordance with the field test specified in ASTM E736 by testing in-place samples of the sprayed fire-resistant material selected in accordance with Sections 1705.14.6.1 through 1705.14.6.3.	1705.14.6	ASTM E736	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Description	Reference	Standard	Required?	Continuous?	Periodic?
Mastic and intumescent fire-resistant coatings						
	Special inspections and tests for mastic and intumescent fire-resistant coatings applied to structural elements and decks shall be performed in accordance with AWCI 12-B. Special inspections and tests shall be based on the fire-resistance design as designated in the approved construction documents.	1705.15	AWCI 12-B Specs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exterior insulation and finish systems (EIFS)						
	<i>Special inspections</i> shall be required for all EIFS applications. See exceptions.	1705.16		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Description	Reference	Standard	Required?	Continuous?	Periodic?
Testing for Smoke Control						
	Smoke control systems shall be tested by a special inspector.	1705.18		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Tests						
Design Strengths of Materials	Review with Building Official	Section 1706		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative Test Procedure	Review with Building Official	Section 1707		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In-Situ Load Tests	Review with Building Official	Section 1708		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pre-Construction Load Tests	Review with Building Official	Section 1709		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>