1. Special inspections are not required for work of a minor nature or as warranted by conditions in the jurisdiction as approved by the building

2. Special inspections are not required for building components unless the design involves the practice of professional engineering or architecture as defined by applicable state statutes and regulations governing the professional registration and certification of engineers or architects.

3. Unless otherwise required by the building official, special instructions are not required for occupancies in Group R-3 and occupancies in Group U that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.

1704.1.1 Statement of special inspections. The permit applicant shall submit a statement of special inspections prepared by the registered design professional in responsible charge in accordance with Section 106.1, Appendix Chapter 1, as a condition for permit issuance. This statement shall be in accordance with Section 1705.

1. A statement of special inspections is not required for structures designed and constructed in accordance with the conventional construction provisions of

2. The statement of special inspections is permitted to be prepared by a qualified person approved by the building official for construction not designed by a registered design professional.

1704.1.2 Report requirement. Special inspectors shall keep records of inspections. The special inspector shall furnish inspection reports to the building official, and to the registered design professional in responsible charge. Reports shall indicate that work inspected was done in conformance to approved construction documents. Discrepancies shall be brought to the immediate attention of the contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the building official and to the registered design professional in responsible charge prior to the completion of that phase of the work. A final report documenting required special inspections and correction of any discrepancies noted in the inspections shall be submitted at a point in time agreed upon by the permit applicant and the building official prior to the start of work.

1704.2 Inspection of fabricators. Where fabrication of structural load-bearing members and assemblies is being performed on the premises of a fabricator's shop, special inspection of the fabricated items shall be required by this section and as required elsewhere in this code.

1704.2.1 Fabrication and implementation procedures. The special inspector shall verify that the fabricator maintains detailed fabrication and quality control procedures that provide a basis for inspection control of the workmanship and the fabricator's ability to conform to approved construction documents and referenced standards. The special inspector shall review the procedures for completeness and adequacy relative to the code requirements for the fabricator's scope of work.

Exception: Special inspections as required by Section 1704.2 shall not be required where the fabricator is approved in accordance with Section 1704.2.2.

1704.2.2 Fabricator approval. Special inspections required by this code are not required where the work is done on the premises of a fabricator registered and approved to perform such work without special inspection. Approval shall be based upon review of the fabricators written procedural and quality control manuals and periodic auditing of fabrication practices by an approved special inspection agency. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building official stating that the work was performed in accordance with the approved construction documents.

1704.3 Steel construction. The special inspections for steel elements of buildings and structures shall be as required by Section 1704.3 and Table

Exceptions: 1. Special inspection of the steel fabrication process shall not be required where the fabricator does not perform any welding, thermal cutting or heating operation of any kind as part of the fabrication process. In such cases, the fabricator shall be required to submit a detailed procedure for material control that demonstrates the fabricator's ability to maintain suitable records and procedures such that, at any time during the fabrication process, the material specification, grade and mill test reports for the main stress-carrying elements are capable of being determined.

2. The special inspector need not be continuously present during welding of the following items, provided the materials, welding procedures and qualifications of welders are verified prior to the start of the work; periodic inspections are made of the work in progress; and a visual inspection of all welds is made prior to completion or prior to shipment of shop welding.

2.1. Single—pass fillet welds not exceeding 5/16 inch (7.9 mm) in size.

2.2. Floor and roof deck welding.

2.3. Welded studs when used for structural diaphragm.

2.4. Welded sheet steel for cold-formed steel framing members such as studs and 2.5. Welding of stairs and railing systems.

1704.3.1 Welding. Welding inspection shall be in compliance with AWS D1.1.

The basis for welding inspector qualification shall be AWS D1.1.

1704.3.2 Details. The special inspector shall perform an inspection of the steel frame to verify compliance with the details shown on the approved construction documents, such as bracing, stiffening, member locations and proper application of joint details at each connection.

REQUIRED VERIFICATION AND INS	PECTION OF	21EEF (ONZIKUCIION	
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENC
Material verification of high-strength bolts, nuts and washers :				
a. Identification markings to conform to ASTM standards specified in the approved construction documents	1	х	Applicable ASTM material specifications; AISC 360, Section A3.3	-
b. Manufacturer's certificate of compliance required.	-	Х	-	-
2. Inspection of high-strength bolting :				
a. Bearing—type connections.	-	Х	AISC 360, Section M2.5	1704.3.3
b. Slip-critical connections.	Х	Х	AISC 300, Section W2.3	1704.5.5
3. Material verification of structural steel :				
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	-	-	ASTM A 6 or ASTM A 568	1708.4
b. Manufacturer's certified mill test reports.	-	-	ASTM A 6 or ASTM A 568	
4. Material verification of weld filler materials :				
 a. Identification markings to conform to AWS specification in the approved construction documents. 	-	-	AISC 360, Section A3.5	-
b. Manufacturer's certificate of compliance required.	-	-	-	-
5. Inspection of welding :	-	-		
a. Structural steel :				
1) Complete and partial penetration groove welds.	Х	-		
2) Multipass fillet welds.	Х	ı	AWS D1.1	1704.3.1
3) Single-pass fillet welds > 5/16"	Х	ı	A40 Di.1	1704.5.1
4) Single—pass fillet weld <u>s</u> < 5/16"	-	Х		
5) Floor and roof deck welds.	-	Х	AWS D1.3	ı
b. Reinforcing steel :	-	-		
 Verification of weldability of reinforcing steel other than ASTM A706. 	-	Х		
 Reinforcing steel—resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special reinforced concrete shear walls and shear reinforcement. 	х	-	AWS D1.4 ACI 318 : 3.5.2	-
3) Shear reinforcement.	Х	-		
4) Other reinforcing steel.	-	Х		
6. Inspection of steel frame joint details for compliance with approved construction documents :		х		
a. Details such as bracing and stiffening.	-	-	_	1704.3.2
b. Member locations.			1	•

c. Application of joint details at each connection. For S1: 1 inch = 25.4 mm a. Where applicable, see also Section 1701.1. Special inspection for seismic resistance.

1704.3.3 High-strength bolts. Installation of high-strength bolts shall be periodically inspected in accordance with AISC specifications.

1704.3.3.1 General. While the work is in progress, the special inspector shall determine that the requirements for bolts, nuts, washers and paint; bolted parts and installation and tightening in such standards are met. For bolts requiring pretensioning, the special inspector shall observe the preinstallation testing and calibration procedures when such procedures are required by the installation method or by project plans or specifications; determine that all plies of connected materials have been drawn together and properly snugged and monitor the installation of bolts to verify that the selected procedure for installation is properly used to tighten bolts. For joints required to be tightened only to the snug-tight condition, the special inspector need only verify that the connected materials have been drawn together and properly snugged.

1704.3.3.2 Periodic monitoring. Monitoring of bolt installation for pretensioning is permitted to be performed on a periodic basis when using the turn-of-nut method with match marking techniques, the direct tension indicator method or the alternate design fastener (twist-off bolt) method. Joints designated as snug tight need be inspected only on a periodic basis.

1704.3.3.3 Continuous monitoring. Monitoring of bolt installation for pretensioning using the calibrated wrench method or the turn-of-nut method without matchmarking shall be performed on a continuous basis.

1704.4 Concrete construction. The special inspections and verifications for concrete construction shall be required by this section and Table 1704.4. Exception: Special inspections shall not be required for: 1. Isolated spread concrete footings of buildings three stories or less in

height that are fully supported on earth or rock. 2. Continuous concrete footings supporting walls of buildings three stories or less in height that are fully supported on earth or rock where:

2.1. The footings support walls of light-frame construction; 2.2. The footings are designed in accordance with Table 1805.4.2; or 2.3. The structural design of the footing is based on a specified compressive strength, fo no greater than 2,500 pounds per square inch (psi) (17.2 MPa),

or used in the footing construction. 3. Nonstructural concrete slabs supported directly on the ground, including prestressed slabs on grade, where the effective prestress in the concrete is

regardless of the compressive strength specified in the construction documents

less than 150 psi (1.03 MPa). 4. Concrete foundation walls constructed in accordance with Table 1805.5(5).

5. Concrete patios, driveways and sidewalks, on grade.

TABLE 1704.4 DECLIDED VEDICICATION AND INSPECTION OF CONCRETE CONSTRUCTION

				REFERENCED	
	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	STANDARD ^a	IBC REFERENCE
1.	Inspection of reinforcing steel, including prestressing tendons, and placement.	-	X	ACI 318: 3.5, 7.1–7.7	1913.4
2.	Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5b.	ı	-	AWS D1.4 ACI 318: 3.5.2	-
3.	Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased.	х	-	-	1911.5
4.	Verifying use of required design mix.	-	Х	ACI 318: Ch. 4, 5.2-5.4	1904.2.2, 1913.2, 1913.3
5.	At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	х	-	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1913.10
6.	Inspection of concrete and shotcrete placement for proper application techniques.	х	-	ACI 318: 5.9, 5.10	1913.6, 1913.7, 1913.8
7.	Inspection for maintenance of specified curing temperature and techniques.	-	х	ACI 318: 5.11-5.13	1913.9
8.	Inspection of prestressed concrete : a. Application of prestressing forces. b. Grouting of bonded prestressing tendons in the seismic-force-resisting system.	X X	-	ACI 318: 18.20 ACI 318: 18.18.4	-
9.	Erection of precast concrete members.	-	Х	ACI 318: Ch. 16	=
10.	Verification of in—situ concrete strength, prior to stressing of tendons in posttensioned concrete and prior to removal of shores and forms from beams and structural slabs.	-	Х	ACI 318: 6.2	-
11.	Inspect formwork for shape, location and dimensions of the concrete member being formed.	-	Х	ACI 318: 6.1.1	-

a. Where applicable, see also Section 1701.1, Special inspection for seismic resistance.

1704.4.1 Materials. In the absence of sufficient data or documentation providing evidence of conformance to quality standards for materials in Chapter 3 of ACI 318, the building official shall require testing of materials in accordance with the appropriate standards and criteria for the material in Chapter 3 of ACI 318. Weldability of reinforcement, except that which conforms to ASTM A 706, shall be determined in accordance with the requirements of Section 3.5.2 of ACI 318.

1704.4.2 Placing record. A record shall be kept on the site of the time and date of placing the concrete in each portion of the structure. Such record shall be kept until the completion of the structure and shall be open to the inspection of the enforcement agency.

1704.5 Masonry construction. Masonry construction shall be inspected and evaluated in accordance with the requirements of Sections 1704.5.1 through 1704.5.3, depending on the classification of the building or structure or nature of the occupancy, as defined by this code.

Exception: Special inspections shall not be required for: 1. Empirically designed masonry, glass unit masonry or masonry veneer designed by Section 2109, 2110 or Chapter 14, respectively, or by Chapter 5, 7 or 6 of ACI 530/ASCE 5/TMS 402, respectively, when they are part of structures classified as Occupancy Category I, II or III in accordance with Section 1604.5. 2. Masonry foundation walls structured in accordance with Table 1805.5(1), 1805.5(2), 1805.5(3) or 1805.5(4).

3. Masonry fireplaces, masonry heaters or masonry chimneys installed or constructed in accordance with Section 2111, 2112 or 2113, respectively.

1704.5.1 Empirically designed masonry, glass unit masonry and masonry veneer in Occupancy Category IV. The minimum special inspection program for empirically designed masonry, glass unit masonry or masonry veneer designed by Section 2109, 2110 or Chapter 14, respectively, or by Chapter 5, 7 or 6 of ACI 530/ASCE 5/TMS 402, respectively, in structures classified as Occupancy Category IV, in accordance with Section 1604.5, shall comply with Table 1704.5.1.

1704.5.2 Engineered masonry in Occupancy Category I, II or III. The minimum special inspection program for masonry designed by Section 2107 or 2108 or by chapters other than Chapters 5, 6 or 7 of ACI 530/ASCE 5/TMS 402 in structures classified as Occupancy Category I, II or III, in accordance with Section 1604.5, shall comply with Table 1704.5.1.

1704.5.3 Engineered masonry in Occupancy Category IV. The minimum special inspection program for masonry designed by Section 2107 or 2108 or by chapters other than Chapters 5, 6 or 7 of ACI 530/ASCE 5/TMS 402 in structures classified as Occupancy Category IV, in accordance with Section 1604.5, shall comply with

TABLE 1704..5.1 LEVEL 1 SPECIAL INSPECTION

FREQUENCY OF INSPECTION

REFERENCE FOR CRITERIA

inpsection task	Continuous during task listed	Periodically during task listed	IBC section		ACI 530.1/ASCE 6/TMS 602 ⁰
1. As masonry construction begins, the following shall be verified to ensure compliance :	-				
a. Proportions of site-prepared mortar.	-	Х	-	-	Art. 2.6A
b. Construction of mortar joints.	-	Х	-	-	Art. 3.3B
c. Location of reinforcement, connectors, prestressing tendons and anchorages.	-	х	-	-	Art. 3.4, 3.6A
d. Prestressing technique.	-	Х	-	-	Art. 3.6B
e. Grade and size of prestressing tendons and anchorages.	-	х	-	-	Art. 2.4B, 2.4H
2. The inspection program shall verify :					
a. Size and location of structural elements.	-	Х	-	-	Art. 3.3G
Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction	-	х	-	Sec. 1.2.2(e) 2.1.4, 3.1.6	-
c. Specified size, grade and type of reiforcement.	-	Х	-	Sec. 1.13	Art. 2.4, 3.4
d. Welding of reinforcing bars.	х	-	-	Sec. 2.1.10.7.2, 3.3.3.4(b)	-
e. Protection of masonry during cold weather (temperature below 40 F) or hot weather (temperature above 90 F).	-	х	Sec. 2104.3, 2104.4	1	Art. 1.8C, 1.8D
f. Application and measurement of prestressing force.	-	Х	-	-	Art. 3.6B
3. Prior to grouting, the following shall be verified to ensure compliance :					
a. Grout space is clean.	-	Х	-	-	Art. 3.2D
b. Placement of reinforcement and connectors and prestressing tendons and anchorages.	-	х	-	Sec. 1.13	Art. 3.4
c. Proportions of site-prepared grout and prestressing grout for bonded tendons.	-	х	-	-	Art. 2.6B
d. Construction of mortar joints.	-	Х	-	-	Art. 3.3B
4. Grout placement shall be verified to ensure compliance with code and construction document provisions.	х	-	-	-	Art. 3.5
a. Grouting of prestressing bonded tendons.	х	-	-	-	Art. 3.6C
5. Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.	х	-	Sec. 2105.2.2 2105.3	-	Art. 1.4
Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.	-	х	-	-	Art. 1.5

For S1: $^{\circ}$ C = $^{\circ}$ F-32)/1.8.

a. The specific standards referenced are those listed in Chapter 35.

TABLE 1704.5.3 LEVEL 2 SPECIAL INPSECTION

	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA		
inpsection task	Continuous during task listed		IBC section	ACI 530/ASCE 5/TMS 402ª	ACI 530.1/ASCI 6/TMS 602 0
From the beginning of masonry construction, the following shall be verified to ensure compliance:					
 a. Proportions of site-prepared mortar, grout and prestressing grout for bonded tendons. 	-	х	-	-	Art. 2.6A
 Placement of masonry units and construction of mortar joints. 	-	х	-	-	Art. 3.3B
c. Placement of reinforcement, connectors and prestressing tendons and anchorages.	-	Х	-	Sec. 1.13	Art. 3.4, 3.6A
d. Grout space prior to grouting.	х	-	-	-	Art. 3.2D
e. Placement of grout.	х	-	-	-	Art. 3.5
f. Placement of prestressing grout.	Х	-	-	-	Art. 3.6C
2. The inspection program shall verify :					
a. Size and location of structural elements.	-	Х	-	-	Art. 3.3G
Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.	х	-	-	Sec. 1.2.2(e), 2.1.4, 3.1.6	-
c. Specified size, grade and type of reinforcement.	-	х	-	Sec. 1.13	Art. 2.4, 3.4
d. Welding of reinforcing bars.	х	-	-	Sec. 2.1.10.7.2, 3.3.3.4(b)	-
e. Protection of masonry during cold weather (temperature below 40 F) or hot weather (temperature above 90 F).	-	Х	Sec. 2104.3, 2104.4	-	Art. 1.8C, 1.8D
f. Application and measurement of prestressing force.	х	-	-	-	Art. 3.6B
3. Preparation of any required grout specimens, motar specimens and/or prisms shall be observed.	х	-	Sec. 2105.2.2, 2105.3	-	Art. 1.4
Compliance with required inspection provisions of the contruction documents and the approved submittals shall be verified.	-	х	-	-	Art. 1.5

For S1: $^{\circ}$ C = $^{\circ}$ (F-32)/1.8.

a. The specific standards referenced are those listed in Chapter 35.

1704.6 Wood construction. Special inspections of the fabrication process of prefabricated wood structural elements and assemblies shall be in accordance with Section 1704.2. Special inspections of site—built assemblies shall be in accordance with this section.

1704.6.1 High-load diaphragms. High-load diaphragms designed in accordance with Table 2306.3.2 shall be installed with special inspections as indicated in Section 1704.1. The special inspector shall inspect the wood structural panel sheathing to ascertain whether it is of the grade and thickness shown on the approved building plans. Additionally, the special inspector must verify the nominal size of framing members at adjoining panel edges, the nail or staple diameter and length, the number of fastener lines and that the spacing between fasteners in each line and at edge margins agrees with the approved building

1704.6.2 Manufactured trusses and assemblies. The fabrication of trusses and other assemblages constructed using wood and metal members, or using light metal plate connectors, shall be continuously inspected by a qualified inspector approved by the enforcement agency. The inspector shall furnish the architect, structural engineer and the enforcement agency with a report that the lumber species, grades and moisture content; type of glue, temperature and gluing procedure; type of metal members and metal plate connectors; and the workmanship conform in every material respect with the duly approved plans and specifications. Each inspected truss shall be stamped by the inspector with an identifying mark.

1704.7 Soils. Special inspections for existing site soil conditions, fill placement and load-bearing requirements shall be as required by this section and Table 1704.7. The approved soils report, required by Section 1802.2, and the documents prepared by the registered design professional in responsible charge shall be used to determine compliance. During fill placement, the special inspector shall determine that proper materials and procedures are used in accordance with the provisions of the approved soils report, as specified in Section 1803.2.

Exception: Special inspection is not required during placement of controlled fill having a total depth of 12 inches (305 mm) or less.

1704.8 Pile foundations. Special inspections shall be performed during installation and testing of pile foundations as required by Table 1704.8. The approved soils report, required by Section 1802.2, and the documents prepared by the registered design professional in responsible charge shall be used to determine compliance.

1704.9 Pier foundations. Special inspections shall be performed during installation and testing of pier foundations as required by Table 1704.9. The approved soils report, required by Section 1802.2, and the documents prepared by the registered design professional in responsible charge shall be used to

determine compliance.

TABLE 1704.7 REQUIRED VERIFICATION AND INSPECTION OF SOILS

REQUIRED VERIFICATION AND INSPECTION OF SOILS					
VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED			
 Verify materials below footings are adequate to achieve the design bearing capacity. 	-	X			
Verify excavations are extended to proper depth and have reached proper material.	-	x			
3. Perform classification and testing of controlled fill materials.	-	X			
4. Verify use of proper materials, densities and lift thickness during placement and compaction of controlled fill.	х	-			
Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly.	-	x			
_	-	-			

TABLE 1704	4.8	
REQUIRED VERIFICATION AND INSPECTION	N OF PILE FOUNDATIONS	TABLE
VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
 Verify pile materials, sizes and lengths comply with the requirements. 	х	-
Determine capacities of test piles and conduct additional load tests, as required.	х	-
Observe driving operations and maintain complete and accurate records for each pile.	х	-
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 pile damage.	х	-
5. For steel piles, perform additional inspections in accordance with Section 1704.3.	-	-
6. For concrete piles and concrete-filled piles, perform additional inspections in accordance with Section 1704.4.	-	-
 For specialty piles, perform additional inspections as determined by the reqistered design professional in responsible charge. 	-	-
8. For augered uncased piles and caisson piles, perform inspections in accordance with Section 1704.9.	-	-

TABLE 1704.9

REQUIRED VERIFICATION AND INSPECTION OF PIER FOUNDATIONS				
VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED		
Observe drilling operations and maintain complete and accurate records for each pier.	X	-		
Verify placement locations and plumbness, confirm pier diameters, bell diameters (if accplicable), lengths, embedment into bedrock (if applicable) and adequate end bearing strata capacity.	x	-		
3. For concrete piers, perform additional inspections in accordance with Section 1704.4.	-	-		
For masonry piers, perform additional inspections in accordance with Section 1704.5.	-	-		

1704.10 Sprayed fire-resistant materials. Special inspections for sprayed fire—resistant materials applied to structural elements and decks shall be in accordance with Sections 1704.10.1 through 1704.10.5. Special inspections shall be based on the fire—resistance design as designated in the approved construction

1704.10.1 Structural member surface conditions. The surfaces shall be prepared in accordance with the approved fire-resistance design and the approved manufacturer's written instructions. The prepared surface of structural members to be sprayed shall be inspected before the application of the sprayed fire—resistant material.

1704.10.2 Application. The substrate shall have a minimum ambient temperature before and after application as specified in the approved manufacturer's written instructions. The area for application shall be ventilated during and after application as required by the approved manufacturer's written instructions.

1704.10.3 Thickness. The average thickness of the sprayed fire—resistant materials applied to structural elements shall not be less than the thickness required by the approved fire-resistant design. Individually measured thickness, which exceeds the thickness specified in a design by 1/4 inch (6.4 mm) or more, shall be recorded as the thickness specified in the design plus 1/4 inch (6.4 mm). For design thicknesses 1 inch (25 mm) or greater, the minimum allowable individual thickness shall be the design thickness minus 1/4 inch (6.4 mm). For design thicknesses less than 1 inch (25 mm), the minimum allowable individual thickness shall be the design thickness minus 25 percent. Thickness shall be determined in accordance with ASTM E 605. Samples of the sprayed fire-resistant materials shall be selected in accordance with Sections 1704.10.3.1 and 1704.10.3.2.

1704.10.3.1 Floor, roof and wall assemblies. The thickness of the sprayed fire—resistant material applied to floor, roof and wall assemblies shall be determined in accordance with ASTM E 605 by taking the average of not less than four measurements for each 1,000 square feet (93 m²) of the sprayed area on each floor or part thereof.

1704.10.3.2 Structural framing members. The thickness of the sprayed fire-resistant material applied to structural members shall be determined in accordance with ASTM E 605. Thickness testing shall be performed on not less than 25 percent of the structural members on each floor.

1704.10.4 Density. The density of the sprayed fire-resistant material shall not be less than the density specified in the approved fire-resistant design. Density of the sprayed fire-resistant material shall be determined in accordance with ASTM E 605.

sprayed fire—resistant material applied to structural elements shall not be 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 E 736 by testing in-place samples of the sprayed fire-resistant material selected in accordance with Sections 1704.10.5.1 and 1704.10.5.2.

1704.10.5 Bond strength. The cohesive/adhesive bond strength of the cured

1704.10.5.1 Floor, roof and wall assemblies. The test samples for determining the cohesive/adhesive bond strength of the sprayed fire—resistant materials shall be selected from each floor, roof and wall assembly at the rate of not less than one sample for every 10,000 square feet (929 m²) or part thereof of the sprayed area in each story.

1704.10.5.2 Structural framing members. The test samples for determining the cohesive/adhesive bond strength of the sprayed fire-resistant materials shall be selected from beams, girders, joists, trusses and columns at the rate of not less than one sample for each type of structural framing member for each 10,000 square feet (929 m²) of floor area or part thereof in each story.

1704.11 Mastic and intumescent fire-resistant coatings. Special inspections for mastic and intumescent fire-resistant coatings applied to structural elements and decks shall be in accordance with AWCI 12-B. Special inspections shall be based on the fire-resistance design as designated in the approved construction documents.

1704.12 Exterior insulation and finish systems (EIFS). Special inspections shall be required for all EIFS applications.

1. Special inspections shall not be required for EIFS applications installed over a water-resistive barrier with a means of draining moisture to the

2. Special inspections shall not be required for EIFS applications installed over masonry or concrete walls. 1704.13 Special cases. Special inspections shall be required for proposed work that is, in the opinion of the building official, unusual in its nature,

such as, but not limited to, the following examples: 1. Construction materials and systems that are alternatives to materials and systems prescribed by this code.

2. Unusual design applications of materials described in this code. 3. Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in this code or in standards referenced by this code.

1704.14 Special inspection for smoke control. Smoke control systems shall be tested by a special inspector.

1704.14.1 Testing scope. The test scope shall be as follows: 1. During erection of ductwork and prior to concealment for the purposes of leakage testing and recording of device location. 2. Prior to occupancy and after sufficient completion for the purposes of

pressure difference testing, flow measurements and detection and control

1704.14.2 Qualifications. Special inspection agencies for smoke control shall have expertise in fire protection engineering, mechanical engineering and certification as air balancers.

SECTION 1705

STATEMENT OF SPECIAL INSPECTIONS

1705.1 General. Where special inspection or testing is required by Section 1704, 1707 or 1708, the registered design professional in responsible charge shall prepare a statement of special inspections in accordance with Section 1705 for submittal by the permit applicant (see Section 1704.1.1).

1705.2 Content of statement of special inspections. The statement pf special inspections shall identify the following:

1. The materials, systems, components and work required to have special inspection or testing by the building official or by the registered design professional responsible for each portion of the work. 2. The type and extent of each special inspection.

3. The type and extent of each test.

4. Additional requirements for special inspection or testing for seismic or wind resistance as specified in Section 1705.3, 1705.4, 1707, or 1708 5. For each type of special inspection, identification as to whether it will be continuous special inspection or periodic special inspection.

1705.3 Seismic resistance. The statement of special inspections shall include seismic requirements for the following cases: 1. The seismic-force-resisting systems in structures assigned to Seismic Design Category C, D, E, or F in accordance with Section 1613.

2. Designated seismic systems in structures assigned to Seismic Design Category 3. The following additional systems and components in structures assigned to Seismic Design Category C:

3.1 Heating, ventilating and air-conditioning (HVAC) ductwork containing hazardous materials and anchorage of such ductwork.

3.2 Piping systems and mechanical units containing flammable, combustible or highly toxic materials.

3.3 Anchorage of electrical equipment used for emergency or standby power

4. The following additional systems and components in structures assigned to Seismic Design Category D:

4.1 Systems required for Seismic Design Category C. 4.2 Exterior wall panels and their anchorage 4.3 Suspended ceiling systems and their anchorage.

4.4 Access floors and their anchorage. 4.5 Steel storage racks and their anchorage, where the importance factor is equal to 1.5 in accordance with Section 15.5.3 of ASCE7.

5. The following additional systems and components in structures assigned to Seismic Design Category E or F: 5.1 Systems required for Seismic Design Categories C and D.

5.2 Electrical equipment. Exceptions: Seismic requirements are permitted to be excluded from the

accordance with the following: 1. The structure consists of light-frame construction; the design spectral response acceleration at short periods, S DS, as determined in Section 1613.5.4, does not exceed 0.5g; and the height of the structure does not exceed 35 feet

statement of special inspections for structures designed and constructed in

(10,688 mm) above grade plane; or 2. The structure is constructed using a reinforced masonry structural system or reinforced concrete structural system; the design spectral response acceleration at short periods, S DS, as determined in Section 1613.5.4, does not exceed 0.5g; and the height of the structure does not exceed 25 feet (7620 mm) above grade

3. Detached one-or-two-family dwellings not exceeding two stories in height, provided the structure does not have any of the following plan or vertical irregularities in accordance with Section 12.3.2 of ASCE 7

3.2 Nonparallel systems. 3.3 Stiffness irregularity—extreme soft story and soft story. 3.4 Discontinuity in capacity—weak story.

miles per hour (mph) (52.8 m/s) or greater.

3.1 Torsional irregularity.

1705.3.1 Seismic requirements in the statement of special inspections. When Section 1705.3 specifies that seismic requirements be included, the statement of special inspections shall identify the following:

1. The designated seismic systems and seismic-force-resisting systems that are subject to special inspections in accordance with Section 1705.3.

2. The additional special inspections and testing to be provided as required by Sections 1707 and 1708 and other applicable sections of this code, including the applicable standards referenced by this code.

1705.3.2 Wind resistance. The statement of special inspections include wind requirements for structures constructed in the following areas: 1. In wind Exposure Category B, where the 3-second-aust basic wind speed is 120

2. In wind Exposure Category C or D, where the 3-second-gust basic wind speed is 110 mph (49 m/s) or greater. 1705.4.1 Wind requirements in the statement of special inspections. When Section 1705.4 specifies that wind requirements be included, the statement of

special inspections shall identify the main windforce—resisting systems and wind-resisting components subject to special inspections as specified in Section

1705.4.2 Detailed requirements. The statement of special inspections shall include at least the following systems and components: 1. Roof cladding and roof framing connections.

2. Wall connections to roof and floor diaphragms and framing. 3. Roof and floor diaphragm systems, including collectors, drag struts and boundary elements. 4. Vertical windforce—resisting systems, including braced frames, moment frames

5. Windforce—resisting system connections to the foundation. 6. Fabrication and installation of systems or components required to meet the impact-resistance requirements of Section 1609.1.2. Exception: Fabrication of manufactured systems or components that have a label

indicating compliance with the wind-load and impact-resistance requirements of

SECTION 1706 CONTRACTOR RESPONSIBILITY

and shear walls.

this code.

1706.1 Contractor responsibility. Each contractor responsible for the construction of a main wind— or seismic—force—resisting system, designated seismic system or a wind- or seismic-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the building official and the owner prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain the following:

1. Acknowledgement of awareness of the special requirements contained in the statement of special inspections 2. Acknowledgement that control will be exercised to obtain conformance with the construction documents approved by the building official;

3. Procedures for exercising control within the contractor's organization, the method and frequency of reporting and the distribution of the reports; and 4. Identification and qualifications of the person(s) exercising such control and their position(s) in the organization.

SECTION 1707 SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

1707.1 Special inspections for seismic resistance. Special inspections itemized in Sections 1707.2 through 1707.10, unless exempted by the exceptions for Section 1704.1, are required for the following:

1. The seismic-force-resisting systems in structures assigned to Seismic Design Category C, D, E, or F, as determined in Section 1613. 2. Designated seismic systems in structures assigned to Seismic Design Category D,

3. Architectural, mechanical and electrical components in structures assigned to Seismic Design category C, D, E, or F that are required in Sections 1707.7 and

1707.2 Structural steel. Continuous special inspection is required for structural welding in accordance with AISC 341. 1. Single-pass fillet welds not exceeding 5/16 inch (7.9 mm) in size.

2. Floor and roof deck welding. 1707.3 Structural wood. Continuous special inspection is required during field gluing operations of elements of the seismic-force-resisting system.

Periodic special inspection is required for nailing, bolting, anchoring and other fastening of components within the seismic-force-resisting system, including wood shear walls, wood diaphragms, drag struts, braces, shear panels and hold-downs.

Exception: Special inspection is not required for wood shear walls, shear panels and diaphragms, including nailing, bolting, anchoring and other fastening to other components of the seismic-force-resisting system, where the fastener spacing of the sheathing is more than 4 inches (102 mm) on center (o.c.). 1707.4 Cold-formed steel framing. Periodic special inspection is required

during welding operations of elements of the seismic-force-resisting system. Periodic special inspection is required for screw attachment, bolting, anchoring and other fastening of components within the seismic-force-resisting system. including struts, braces, and hold-downs. 1707.5 Pier foundations. Special inspection is required for pier foundations

for building assigned to Seismic Design Category C, D, E, or F in accordance with Section 1613. Periodic special inspection is required during placement of reinforcement and continuous special inspection is required during placement of the concrete.

1707.6 Storage racks and access floors. Periodic special inspection is required during the anchorage or access floors and storage racks 8 feet (2438 mm) or greater in height in structures assigned to Seismic Design Category D, E,

1707.7 Architectural components. Periodic special inspection is required during the erection and fastening of exterior cladding, interior and exterior nonbearing walls and interior and exterior veneer in structures assigned to Seismic Design Category D, E, or F.

1. Special inspection is not required for architectural components in structures 30 feet (9144 mm) or less in height.

2. Special inspection is not required for cladding and veneer weighing 5 psf 3. Special inspection is not required for interior nonbearing walls weighing 15

1707.8 Mechanical and electrical components. Special inspection for mechanical and electrical equipment shall be as follows: 1. Periodic special inspection is required during the anchorage of electrical equipment for emergency or standby power systems in structures assigned to

Seismic Design Category C, D, E, or F. 2. Periodic special inspection is required during the installation of anchorage of other electrical equipment in structures assigned to Seismic Design Category

3. Periodic special inspection is required during installation of piping systems intended to carry flammable, combustible or highly toxic contents and their associated mechanical units in structures assigned to Seismic Design Category C, D, E, or F; 4. Periodic special inspection is required during the installation of HVAC

ductwork that will contain hazardous materials in structures assigned to Seismic Design Category C, D, E, or F; and 5. Periodic special inspection is required during the installation of vibration isolation systems in structures assigned to Seismic Design Category C, D, E, or F where the construction documents require a nominal clearance or 0.25 inches

(6.4 mm) or less between the equipment support frame and restraint. 1707.9 Designated seismic system verifications. The special inspector shall examine designated seismic systems requiring seismic qualification in accordance with Section 1708.5 and verify the label, anchorage or mounting conforms to the

certificate of compliance. 1707.10 Seismic isolation system. Period special inspection is required during the fabrication and installation of isolator units and energy dissipation devices that are part of the seismic isolation system.

SECTION 1709 STRUCTURAL OBSERVATIONS

with Section 1604.5.

1709.1 General. Where required by the provisions of Section 1709.2 or 1709.3 the owner shall employ a registered design professional to perform structural observations as defined in Section 1702. At the conclusion of the work included in the permit, the structural observer shall submit to the building official a written statement 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.

1709.2 Structural observations for seismic resistance. Structural observations shall be provided for those structures included in Seismic Design Category D. E. or F. as determined in Section 1613, where one of more of the following conditions exist: 1. The structure is classified as Occupancy Category III or IV in accordance

2. The height of the structure is greater than 75 feet (22, 860 mm) above the 3. The structure is assigned to Seismic Design Category E, is classified as

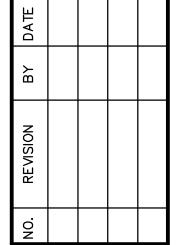
two stories in height 4. When so designated by the registered design professional in responsible charge of the design.

Occupancy Category I or II in accordance with Section 1604.5 and is greater than

5. When such observation is specifically required by the building official. 1709.3 Structural observations for wind requirements. Structural observations shall be provided for those structures sited where the basic wind speed exceeds 110 mph (49 m/s), determined from Figure 1609, where one or more of the following conditions exist:

1. The structure is classified as occupancy Category III or IV in accordance with Table 1604.5. 2. The building height is greater than 75 feet (22,860 mm). 3. When so designated by the registered design professional in responsible charge of the design

4. When such observation is specifically required by the building official.



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