# INITIAL EXPRESS TERMSFOR PROPOSED BUILDING STANDARDSOF THE DIVISION OF THE STATE ARCHITECT (DSA-SS, DSA-SS/CC)REGARDING THE 2025 CALIFORNIA BUILDING CODE,CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2(DSA-SS 05/24)

The state agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific (Government Code Section 11346.2(a)(1)).

If using assistive technology, please adjust your settings to recognize underline, strikeout, italic, highlight and ellipsis.

## LEGEND for EXPRESS TERMS (Based on model codes - Parts 2, 2.5, 3, 4, 5, 9, 10)

* Model Code or reference standard language appears upright
* Existing California amendments appear in *italic*
* Amended model code or reference standard language, or new California amendments appear *underlined & italic*
* Reference standard language included in new California amendments appears underlined & upright if unchanged
* Repealed model code or reference standard language appears ~~upright and in strikeout~~
* Repealed California amendments appear in *~~italic and strikeout~~*
* Ellipsis ( ...) indicate existing text remains unchanged
* Instructions:  Text which contains instructions only that are not amendments and will not be printed appears in text with grey highlight*.*

## INITIAL EXPRESS TERMS

### ITEM 1Chapter 1 SCOPE AND ADMINISTRATION

**CHAPTER 1**

**SCOPE AND ADMINISTRATION**

Adopt Chapter 1 of the 2024 IBC as amended below. All existing California amendments that are not revised below shall continue without change.

***DIVISION I***

***CALIFORNIA ADMINISTRATION***

…

***SECTION 1.9 – DIVISION OF THE STATE ARCHITECT***

…

***1.9.2 Division of the State Architect—Structural Safety.***

***1.9.2.1 DSA-SS Division of the State Architect-Structural Safety.***

…

***1.9.2.1.1 Applicable administrative standards.***

***1. Title 24, Part 1, California Code of Regulations:***

1. *Sections 4-301 through 4-355, Group 1, and Sections 4-401 through 4-435, Group 2, Chapter 4 for public elementary and secondary schools and community colleges.*

*…*

***2. Title 24, Part 2, California Code of Regulations:***

*[applies to public elementary and secondary schools, community colleges and state-owned or state-leased essential services building(s)]:*

*Sections 1.1 and 1.9.2.1 of Chapter 1, Division I.*

1. *Sections 102.1, 102.2, 102.3, 102.4, 104.2.3, 102.5,104.9, 104.10, ~~104.11~~, 106.1, 107.2.5 and 110.3.6 of Chapter 1, Division II.*

…

***1.9.2.1.3 Identification of amendments. ~~Amendments.~~*** *Division of the State Architect—Structural Safety amendments in this code appear preceded with the acronym* ***[DSA-SS]****.*

***Exception:*** *Chapters 16A, 17A, 18A, 19A, 21A and 22A—Amendments appearing in these chapters without an acronym have been co-adopted by DSA-SS and OSHPD.*

***1.9.2.1.4 Reference to other chapters.*** *Where reference is made within the California Building Standards Code (CBSC) ~~this code~~ to sections in Chapters 16, 17, 18, 19, 21 and 22, the respective sections in Chapters 16A, 17A, 18A, 19A, 21A and 22A shall apply instead.*

***1.9.2.2 DSA-SS/CC Division of the State Architect-Structural Safety/Community Colleges***

…

***1.9.2.2.1 Applicable administrative standards.***

***1. Title 24, Part 1, California Code of Regulations:***

1. *Sections 4-301 through 4-355, Group 1, and Sections 4-401 through 4-435, Group 2, Chapter 4.*

***2. Title 24, Part 2, California Code of Regulations:***

1. *Sections 1.1 and 1.9.2 of Chapter 1, Division I.*
2. *Sections 102.1, 102.2, 102.3, 102.4, 104.2.3,102.5, 104.9, 104.10, ~~104.11~~, 106.1, 107.2.5 and 110.3.6 of Chapter 1, Division II.*

…

***1.9.2.2.3 Identification of amendments.*** ***~~Amendments.~~*** *Division of the State Architect—Structural Safety/Community Colleges amendments in this code appear preceded with the acronym* ***[DSA-SS/CC]****.*

***Exception:*** *Chapters 17A, and 18A—Amendments appearing in these chapters without an acronym have been co-adopted by DSA-SS, DSA-SS/CC and OSHPD.*

***1.9.2.2.4 Reference to other chapters.*** *Where reference is made within the California Building Standards Code (CBSC) ~~this code~~ to sections in Chapters 17 and 18, the respective sections in Chapters 17A and 18A shall apply instead.*

*…*

***DIVISION II***

**SCOPE AND ADMINISTRATION**

…

**PART 2 – ADMINISTRATION AND ENFORCEMENT**

…

**SECTION 104 – DUTIES AND POWERS OF BUILDING OFFICIAL**

…

**104.2.3** (formerly 104.11) **Alternative materials, design and methods of construction and equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved.

**Exception:** Performance-based alternative materials, designs or methods of construction and equipment complying with the International Code Council Performance Code. This exception shall not apply to alternative structural materials or to alternative structural designs*.* ***[DSA-SS, DSA-SS/CC]*** *Not permitted by DSA.*

**104.2.3.1 Approval authority.** An alternative material, design or method of construction shall be approved where the building official finds that the proposed alternative is satisfactory and complies with Sections 104.2.3 through 104.2.3.7, as applicable.

**104.2.3.2 Application and disposition.** Where required, a request to use an alternative material, design or method of construction shall be submitted in writing to the building official for approval. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons the alternative was not approved.

**104.2.3.3 Compliance with code intent.** An alternative material, design or method of construction shall comply with the intent of the provisions of this code.

(Relocated from existing 104.11) ***[DSA-SS, DSA-SS/CC]*** *Alternative system shall satisfy ASCE 7 Section 1.3, unless more restrictive requirements are established by this code for an equivalent system.*

(Relocated from existing 104.11) ***[DSA-SS, DSA-SS/CC]*** *Alternative systems shall also satisfy the California Administrative Code, Section 4-304.*

**104.2.3.4 Equivalency criteria.** An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

* 1. Quality.
	2. Strength.
	3. Effectiveness.
	4. Durability.
	5. Safety, other than fire safety.
	6. Fire safety.

**104.2.3.5 Tests.** Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the building official.

**104.2.3.5.1 Fire Tests.** Tests conducted to demonstrate equivalent fire safety in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. Tests shall be performed by a party acceptable to the building official.

**104.2.3.6 Reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

**104.2.3.6.1 Evaluation reports.** Evaluation reports shall be issued by an approved agency and use of the evaluation report shall require approval by the building official for the installation. The alternate material, design or method of construction and product evaluated shall be within the scope of the building official’s recognition of the approved agency. Criteria used for the evaluation shall be identified within the report and, where required, provided to the building official.

**104.2.3.6.2 Other reports.** Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the building official. The building official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

**104.2.3.7 Peer review.** The building official is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the building official.

…

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

…

### ITEM 2Chapter 2 DEFINTIONS

**CHAPTER 2**

**DEFINITIONS**

Adopt Chapter 2 of the 2024 IBC as amended below. All existing California amendments that are not revised below shall continue without change.

**SECTION 202**

**DEFINTIONS**

…

***~~NEXT GENERATION ATTENUATION WEST 2 (NGA WEST 2). [DSA-SS, DSA-SS/CC]~~*** *~~Attenuation~~**~~relations used for the 2014 United States Geological Survey (USGS) seismic hazards maps (for the Western United States) or their equivalent as determined by the enforcement agency.~~*

…

***~~PERIODIC SPECIAL INSPECTION. [DSA-SS, DSA-SS/CC]~~*** *~~Special inspection by the special inspector who is intermittently present where the work to be inspected has been or is being performed and at the completion of the work.~~*

…

PUBLIC-OCCUPANCY TEMPORARY STRUCTURE. Any building or structure erected for a period of 1 year or less that serves an assembly occupancy or other public use. *[DSA-SS, DSA-SS/CC] School buildings as defined in Section 4-314 of the California Administrative Code are not permitted to be classified as public-occupancy temporary structures.*

…

SPECIAL INSPECTION. Inspection of construction requiring the expertise of an approved special inspector in order to ensure compliance with this code and the approved construction documents.

Continuous special inspection. Special inspection by the special inspector who is present continuously when and where the work to be inspected is being performed.

**Periodic special inspection.** Special inspection by the special inspector who is intermittently present where the work to be inspected has been or is being performed ***[DSA-SS, DSA-SS/CC]*** *~~Special inspection by the special inspector who is intermittently present where the work has been or is being performed~~ and at the completion of the work.*

…

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

### ITEM 3Chapters 3-10, 12

**CHAPTER 3**

**OCCUPANCY CLASSIFICATION AND USE**

Adopt Chapter 3 of the 2024 IBC without amendment.

**CHAPTER 4**

**SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE**

Adopt Chapter 4 of the 2024 IBC without amendment.

**CHAPTER 5**

**GENERAL BUILDING HEIGHTS AND AREAS**

Adopt Chapter 5 of the 2024 IBC without amendment.

**CHAPTER 6**

**TYPES OF CONSTRUCTION**

Adopt Chapter 6 of the 2024 IBC without amendment.

**CHAPTER 7**

**FIRE AND SMOKE PROTECTION FEATURES**

Adopt Chapter 7 of the 2024 IBC without amendment.

**CHAPTER 8**

**INTERIOR FINISHES**

Adopt Chapter 8 of the 2024 IBC without amendment.

**CHAPTER 9**

**FIRE PROTECTION AND LIFE SAFETY SYSTEMS**

Adopt Chapter 9 of the 2024 IBC without amendment.

**CHAPTER 10**

**MEANS OF EGRESS**

Adopt Chapter 10 of the 2024 IBC without amendment.

**CHAPTER 12**

**INTERIOR ENVIRONMENT**

Adopt Chapter 12 of the 2024 IBC without amendment.

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

### ITEM 4Chapter 14 EXTERIOR WALLS

**CHAPTER 14**

**EXTERIOR WALLS**

Adopt Chapter 14 of the 2024 IBC as amended below. All existing California amendments that are not revised below shall continue without change.

…

**SECTION 1404 - INSTALLATION OF WALL COVERINGS**

**1404.1 General.** Exterior wall coverings shall be designed and constructed in accordance with the applicable provisions of this section.

**1404.1.1 Soffits and fascias.** Soffits and fascias installed as part of roof overhangs shall comply with Section1412.

***1404.1.2*** ***~~1404.1.1~~ Additional requirements. [DSA-SS, ~~&~~ DSA- SS/CC]*** *In addition to the**requirements of**~~Sections 1404.6 1404.7, 1404.8, 1404.9 and 1404.10,~~ Section 1404, the installation of anchored or adhered veneer shall comply with applicable provisions of Section ~~1410~~ 1413.*

…

***SECTION ~~1410~~ 1413 - ADDITIONAL REQUIREMENTS FOR ANCHORED AND ADHERED VENEER [DSA-SS & DSA-SS/CC]***

***1413.1 ~~1410.1~~ General.*** *In no case shall veneer be considered as part of the backing in computing strength or deflection, nor shall it be considered a part of the required thickness of the backing.*

*Veneer shall be anchored in a manner which will not allow relative movement between the veneer and the wall. Anchored or adhered veneer shall not be used on overhead horizontal surfaces.*

***1413.2 ~~1410.2~~ Adhered veneer.*** *Units of tile, masonry, stone or terra cotta which exceed 5/8 inch (~~16~~ 15.9 mm) in thickness shall be applied as for anchored veneer where used over exit ways or more than 20 feet (~~6096 mm~~ 6.1 m) in height above adjacent ground elevation.*

***1413.2.1******~~1410.2.1~~ Bond strength and tests.*** *Irrespective of the mortar type, veneer type, or design methodology used,**adhered masonry veneer ~~Veneer~~ shall develop a bond shear strength to the backing of at least 50 psi (345 kPa) based on gross unit bonded area. ~~in accordance with TMS 402, Section 12.3.2.4.~~ The bond between adhered veneer units and the backing shall be shear tested in accordance with ASTM C1823, on a field-constructed mock-up, using the specified unit, mortar, and substrate.*

*Not less than two shear tests shall be performed for the adhered veneer between the units and the supporting element. At least one shear test shall be performed at each building for each 5,000 square feet (465 m2) of ~~floor~~ wall area or fraction thereof.*

***1413.2.2 TMS 402 Section 13.3.2.2.*** *Replace TMS 402, Section 13.3.2.2 (c) with the following:*

1. The weight of adhered masonry veneer units shall not exceed ~~30 psf (146.5 kg/m2)~~ *15 psf (73 kg/m2)*.

…

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

…

### ITEM 5Chapter 15 ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

**CHAPTER 15**

**ROOF ASSEMBLIES AND ROOFTOP STRUCTURES**

Adopt Chapter 15 of the 2024 IBC as amended below. All existing California amendments that are not revised below shall continue without change.

…

**SECTION 1511—ROOFTOP STRUCTURES**

…

***1511.10 ~~1511.9~~******Photovoltaic (PV) panel systems. [DSA-SS, DSA-SS/CC]*** *Rooftop-mounted photovoltaic panels and modules shall be**listed and labeled in accordance ~~with UL 1703 or with both~~**~~UL 61730-1 and UL 61730-2~~ Section 3111.3.1 and ~~shall be~~ installed in accordance**with the manufacturer’s printed installation instructions.*

***1511.10.1 ~~1511.9.1~~******Design ~~Installation~~. [DSA-SS, DSA-SS/CC]*** *Supports and attachments**of photovoltaic panels to the roof structure, the panels, modules and components shall be designed ~~for applied loads per~~ in accordance with this code: ~~, and shall comply with industry standards determined applicable by the enforcement agency.~~*

1. *Seismic design ~~requirements~~ shall be in accordance with ~~determined from~~ ASCE 7, Section 13.6.12.*
2. *Wind design pressures shall be determined from ASCE 7, Section 29.4.3 or 29.4.4 using effective wind area ~~per~~ in accordance with ASCE 7, Section 26.2.*

*~~Calculations and drawings of~~ Construction documents for the supports and attachments shall be submitted to the enforcement agency for ~~review~~ approval****.***

…

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

…

### ITEM 6Chapter 16 STRUCTURAL DESIGN

**CHAPTER 16**

**STRUCTURAL DESIGN**

Adopt Chapter 16 of the 2024 IBC as amended below. All existing California amendments that are not revised below shall continue without change.

**SECTION 1601 – GENERAL**

**1601.1 Scope.** The provisions of this chapter …

…

***1601.1.2 Amendments in this chapter. [DSA-SS/CC]*** *DSA-SS/CC adopts this chapter ~~and all amendments~~ as amended.*

***~~Exception:~~*** *~~Amendments adopted by only one agency appear in this chapter preceded with the appropriate acronym of the adopting agency, as follows:~~*

(Relocate Item 1 below to 1601.1.3)

1. *~~Division of the State Architect - Structural Safety/Community Colleges:~~*

***~~[DSA-SS/CC]~~****~~- For applications listed in Section 1.9.2.2.~~*

1. (Reserved for OSHPD)

***1601.1.3 Identification of amendments. [DSA-SS/CC]***(Items below are relocated from existing 1601.1.2)

1. *Division of the State Architect - Structural Safety/Community Colleges amendments appear in this chapter preceded by the appropriate acronym, as follows:*

***[DSA-SS/CC]*** *- For applications listed in Section 1.9.2.2.*

1. (Reserved for OSHPD)

***1601.1.4*** ***~~1601.1.3~~*** ***Reference to other chapters.*** ***[DSA-SS/CC]*** *Where reference within this chapter is made to sections in Chapters 17 and 18, the provisions in Chapters 17A and 18A respectively shall apply instead.* (No changes to existing California amendment except renumbering)

***1601.1.5*** ***~~1601.1.4~~*** ***Additional amendments. ~~Amendments.~~ [DSA-SS/CC]***

1. (Reserved for OSHPD)
2. ***[DSA-SS/CC]*** *See Section 1617 for additional requirements.*

…

***SECTION 1617 - ADDITIONAL REQUIREMENTS FOR COMMUNITY COLLEGES [DSA-SS/CC]***

*…*

***1617.2 General design requirements.***

***1617.2.1 Lateral load deflections.***

*…*

***~~1617.2.1.3~~*** (Relocate existing 1617.2.1.3 to 1617.2.2) ***~~Risk Category of buildings and other structures.~~*** *~~Risk Category IV includes structures as defined in~~…*

***~~1617.2.1.4 Analysis.~~*** *~~Structural analysis shall explicitly include consideration of stiffness of diaphragm in accordance with ASCE 7, Section 12.3.1. A diaphragm is rigid for the purpose of distribution of story shear and torsional moment where so indicated in Section 12.3.1 of ASCE 7.~~*

***1617.2.2*** (Relocated from existing 1617.2.1.3) ***Risk Category of buildings and other structures.*** *Risk Category IV includes structures as defined in…*

***1617.2.3 ~~1617.2.2~~ Structural walls.*** *For anchorage of concrete or masonry walls…*

***1617.2.4 Photovoltaic (PV) panel systems.*** *The risk category for elevated PV support structures shall not be less than the risk category that corresponds to the usable space underneath.*

***1617.3 Load combinations.***

***1617.3.1 Stability.*** *When checking stability under the provisions of Section 1605.1.1 using allowable stress design, the factor of safety for soil bearing values shall not be less than the overstrength factor of the structures supported. ~~Strength design for foundation geotechnical capacity shall be in accordance with ASCE 7, Section 12.13.5 for all strength design load combinations, except that Resistance Factor (Ø) shall be permitted to be 1.0 for load combinations with overstrength factor. Allowable stress design for foundation geotechnical capacity shall be in accordance with ASCE 7, Section 12.13.6 for all allowable stress design load combinations, and shall be established to be consistent with strength design requirements in ASCE 7, Section 12.13.5.~~*

*…*

***1617.3.3 Modifications to load combinations in ICC 300.*** *Modify the text of ICC 300 as follows:*

***~~1617.3.3.1 ICC 300, Section 303.5.2.~~*** *~~Modify Section 303.5.2 by adding Equation 3-5a as follows:~~*

*~~D + 0.4L + Z (Equation 3-5a)~~*

***1617.3.3.1 ~~1617.3.3.2~~ ICC 300, Section 303.5.3.*** *Modify Section 303.5.3 as follows:*

*The uniform live load L used in Equation 3-2 and 3-4 ~~may~~ shall be permitted to be taken as zero when evaluating elements supporting the handrail/guard provided those elements do not also support L.*

…

***1617.5 Live loads.***

***1617.5.1 Modifications to Table 1607.1.***

*…*

***1617.5.1.4 Item ~~37~~ 38. Yards and terraces, pedestrians.*** *Item ~~37~~ 38 applies to pedestrian bridges and walkways …*

***1617.5.1.5 Item ~~38~~ 39. Storage racks and wall-hung cabinets.*** *The minimum vertical design live load shall be as follows:*

*…*

***1617.5.3 Seating for assembly uses.*** *Replace Section ~~1607.19~~ 1607.18 with the following:*

*Bleachers, folding and telescopic seating and grandstands shall be designed for the loads specified in ICC 300 as modified by Section 1617.3.3 load combinations. Stadiums and arenas with fixed seats shall be designed for the horizontal sway loads in Section ~~1607.19.1~~ 1607.18.1.*

*…*

***1617.8 Soil loads.***

***1617.8.1 Lateral pressures.*** *Structures below grade shall be designed to resist lateral soil loads from adjacent soil in accordance with Sections 1807A.1.1 and 1807A.2.2 respectively.*

***Note:*** *Sections 1807A.1.1 and 1807A.2.2 require the foundation and retaining walls be designed using the lateral soil loads determined by a geotechnical investigation in accordance with Section 1803A. Section 1807A.2.2 requires that design lateral soil load be at least eighty percent of the design lateral soil loads in accordance with Table 1610.1.*

***1617.9 Flood loads.***

***1617.9.1 ~~1617.8~~ Establishment of flood hazard areas.*** *Flood hazard maps shall include…*

***1617.10 ~~1617.9~~ Earthquake loads.***

***~~1617.9.1 Modifications to Table 1613.2.3(1).~~*** *~~Replace Table 1613.2.3(1) with Table 1613A.2.3(1).~~*

***~~1617.9.2 Modifications to Table 1613.2.3(2).~~*** *~~Replace Table 1613.2.3(2) with Table 1613A.2.3(2).~~*

***~~1617.9.3 Seismic design category.~~*** *~~The seismic design category for a structure shall be determined in accordance with Section 1613.~~*

***~~1617.9.4 Mapped acceleration parameters.~~*** *~~Seismic Design Category shall be determined in accordance with Section 1613.2.5.~~*

***1617.10.1 ~~1617.9.5~~ Determination of seismic design category.*** *The seismic design category for a structure shall be determined in accordance with Section 1613.2. Seismic design category shall be D or higher. ~~Structures not assigned to Seismic Design Category E or F, in accordance with Section 1613.2, shall be assigned to Seismic Design Category D.~~*

***~~1617.9.5.1 Alternative seismic design category determination.~~*** *~~The alternative Seismic Design Category determination procedure of Section 1613.2.5.1 is not permitted by DSA-SS/CC.~~*

***1617.10.2 ~~1617.9.5.2~~ Simplified design procedure.*** *The simplified design procedure of Section ~~1613.2.5.2~~ 1613.3 is not permitted by DSA-SS/CC.*

***1617.10.3 ~~1617.9.6~~ Ballasted photovoltaic panel systems.*** *Ballasted, roof-mounted photovoltaic panel systems…*

***1617.11 ~~1617.10~~ Tsunami loads.*** *…*

***1617.12 ~~1617.11~~ Modifications to ASCE 7.*** *The text of ASCE 7 shall be modified as indicated in Sections 1617.12.1 ~~1617.11.1~~ through 1617.12.19 ~~1617.11.24~~.*

(All numbered subsections within this section are renumbered from 1617.11 to 1617.12)

***1617.12.1 ~~1617.11.1~~ ASCE 7, Section 1.3.*** *Modify ASCE 7, Section 1.3 by adding Section 1.3.8 as follows:*

***1.3.8 Structural design criteria.*** *Where design is based on ASCE 7, Chapters 16, 17, 18 or 31, the seismic ground motion, wind tunnel test based design recommendations, analysis and design methods, material assumptions, testing requirements and acceptance criteria ~~proposed by the engineer~~ shall be submitted to the enforcement agency as an alternative system. ~~in the form of structural design criteria for approval~~.*

*Peer review requirements in Section 322 of the California Existing Buildings Code shall apply to design reviews required by ASCE 7, Chapters 17 and 18.*

***~~1617.11.2 ASCE 7, Section 11.4.~~*** *~~Modify ASCE 7, Section 11.4 to include the following:~~*

*~~Seismic ground motion values shall include updated subsections in Supplement 3.~~*

***1617.12.2 ~~1617.11.3~~ ASCE 7, Table 12.2-1.*** *Modify ASCE 7, Table 12.2-1 as follows:*

1. **BEARING WALL SYSTEMS**

…

18. ~~17.~~ Light-framed walls with shear panels of all other materials*—Not permitted by DSA-SS/CC.*

1. **BUILDING FRAME SYSTEMS**

…

25. ~~24.~~ Light-framed walls with shear panels of all other materials*—Not permitted by DSA-SS/CC.*

*…*

***~~1617.11.4 ASCE 7, Section 12.2.3, 12.2.3.1, and 12.2.3.2.~~*** *~~Modify ASCE 7, Sections 12.2.3, 12.2.3.1, and 12.2.3.2 as follows:~~*

***~~1617.11.4.1 ASCE 7, Section 12.2.3.~~*** *~~Replace ASCE 7, Section 12.2.3 with the following:~~*

*~~Where different seismic force-resisting systems are used in combinations to resist seismic forces in the same direction, other than those combinations considered as dual systems, the design shall comply with the requirements of this section. The most stringent applicable structural system limitations contained in Table 12.2-1 shall apply, except as otherwise permitted by this section.~~*

***~~1617.11.4.2 ASCE 7, Section 12.2.3.1.~~*** *~~Replace ASCE 7, Section 12.2.3.1, Items 1 and 2, by the following:~~*

*~~The value of the response modification coefficient, R, used for design at any story shall not exceed the lowest value of R that is used in the same direction at any story above that story. Likewise, the deflection amplification factor, C~~~~d~~~~, and the system over strength factor, Ω~~~~0~~~~, used for the design at any story shall not be less than the largest value of these factors that are used in the same direction at any story above that story.~~*

***~~1617.11.4.3 ASCE 7, Section 12.2.3.2.~~*** *~~Modify ASCE 7, Section 12.2.3.2 by modifying Item a and adding Items f, g, and h, as follows:~~*

1. ~~The stiffness of the lower portion shall be at least 10 times the stiffness of the upper portion.~~ *~~For purposes of determining this ratio, the base shear shall be computed and distributed vertically according to Section 12.8. Using these forces, the stiffness for each portion shall be computed as the ratio of the base shear for that portion to the elastic displacement, δ~~~~xe~~~~, computed at the top of that portion, considering the portion fixed at its base. For the lower portion, the applied forces shall include the reactions from the upper portion, modified as required in Item d.~~*
2. *~~The structural height of the upper portion shall not exceed the height limits of Table 12.2-1 for the seismic force-resisting system used, where the height is measured from the base of the upper portion.~~*
3. *~~Where Horizontal Irregularity Type 4 or Vertical Irregularity Type 4 exists at the transition from the upper to the lower portion, the reactions from the upper portion shall be amplified in accordance with Sections 12.3.3.3, 12.10.1.1, and 12.10.3.3 as applicable, in addition to amplification required by Item d.~~*
4. *~~Where design of vertical elements of the upper portion is governed by special seismic load combinations, the special loads shall be considered in the design of the lower portion.~~*

***~~1617.11.5 Reserved.~~***

***1617.12.3 ~~1617.11.6~~ ASCE 7, Section 12.2.5.6.1.*** *…*

***1617.12.4 ~~1617.11.7~~ ASCE 7, Section 12.2.5.7.1.*** *…*

***1617.12.5 ~~1617.11.8~~ ASCE 7, Section 12.2.5.7.2.*** *…*

***1617.12.6 ~~1617.11.9~~ ASCE 7, Section 12.3.3.1.*** *~~Modify~~ Replace ASCE 7, Section 12.3.3.1 by the following: ~~as follows:~~*

**12.3.3.1 Prohibited ~~horizontal and~~ vertical irregularities for Seismic Design Categories *D through* F.** Structuresassigned to Seismic Design Category E or F*~~having horizontal structural irregularity Type 1b of~~**~~Table 12.3-1~~* ~~or~~ that have vertical ~~structural~~ irregularities Type 1b,~~5a~~ 4a or ~~5b~~ 4b of Table 12.3-2 shall not be permitted. *Structures assigned to Seismic Design Category D having vertical irregularity Type 1b or ~~5b~~ 4b of Table 12.3-2 shall not be permitted.*

**Exception: ~~Exceptions:~~** Structures assigned to Seismic Design Category E or F that have vertical irregularity Type 4a shall be permitted where the story lateral strength is not less than 80% of that in the story above.

1. *~~Structures with reinforced concrete or reinforced masonry shear wall systems and rigid or semi-rigid diaphragms, consisting of concrete slabs or concrete-filled metal deck having a span-to-depth ratio of 3 or less, having a horizontal structural irregularity Type 1b of Table 12.3-1 are permitted, provided that the maximum story drift in the direction of the irregularity, computed including the torsional amplification factor from Section 12.8.4.3, is less than 10 percent of the allowable story drift in ASCE 7, Table 12.12-1.~~*
2. *~~Structures having a horizontal structural irregularity Type 1b of Table 12.3-1 are permitted, provided a redundancy factor,~~* ~~ρ~~*~~, of 1.3 as defined in ASCE 7 12.3.4 is assigned to the seismic force-resisting system in both orthogonal directions and the structure is designed for one of the orthogonal procedures as defined in ASCE 7, Section 12.5.3.1.~~*

***1617.12.7 ~~1617.11.10~~ ASCE 7, Section 12.7.2.*** *Modify ASCE 7, Section 12.7.2, by adding Item ~~6~~ 7 to read as follows:*

1. *~~6.~~ Where buildings provide lateral support for walls retaining earth, and the exterior grades on opposite sides of the building differ by more than 6 feet (1829 mm), the load combination of the seismic increment of earth pressure due to earthquake acting on the higher side, as determined by a geotechnical engineer qualified in soils engineering plus the difference in earth pressures shall be added to the lateral forces provided in this section.*

***1617.12.8 ASCE 7, Section 12.10.2.1.*** *Replace Exception to ASCE 7, Section 12.10.2.1 by the following:*

**EXCEPTION:** In *light-frame* structures or portions thereof braced entirely by wood light-frame shear walls, collector elements and their connections, including connections to vertical elements, need only be designed to resist forces using the load combinations of Section 2.3.6 with seismic forces determined in accordance with Section 12.10.1.1.

***~~1617.11.11 Reserved.~~***

***~~1617.11.12 Reserved.~~***

***1617.12.9 ~~1617.11.13~~ ASCE 7, Section 12.13.1.*** *…*

***1617.12.10 ASCE 7, Section 12.13.5.2.*** *Modify ASCE 7, Section 12.13.5.2 by the following:*

*Replace last sentence by the following: When vertical nominal strength (upward or downward) is determined by approved in-situ prototype testing program, resistance factor (ᶲ) shall be permitted to be 0.75 (ᶲ = 0.75).*

***1617.12.11 ~~1617.11.14~~ ASCE 7, Section 12.13.9.2.*** *Modify ASCE 7, Section 12.13.9.2 by adding the following sentence ~~added to~~ at the end of ~~item b~~ the exception: ~~as follows:~~*

*Seismic load effects determined in accordance with Section 12.4 need not be considered in this check.*

***1617.12.12 ~~1617.11.15~~ ASCE 7, Section 13.1.4.*** *Replace ASCE 7 Section 13.1.4 with the following:*

***13.1.4. Nonstructural Component* *and Equipment Support and Attachment Requirements:*** *The following nonstructural components and equipment shall be anchored in accordance with this section. Design and detailing shall be in accordance with Chapter 13 except as modified by this section.*

1. ***Fixed Equipment:*** *Equipment shall be anchored if it is directly attached to the building utility services such as electricity, gas, or water. For the purposes of this requirement, “directly attached” shall include all electrical connections except plugs for 110/220-volt receptacles having a flexible cable/cord. Equipment that is connected to the building plumbing system with a shut-off valve in proximity to the equipment shall not be considered as directly attached provided the inside diameter of the pipe/tubing is less than ½ inches.*
2. ***Movable Equipment:*** *Equipment is subject to the same requirement as fixed equipment, but is permitted to be anchored by re-attachable anchors or restraints in a manner approved by the enforcement agency. Utilities and services at the equipment shall have flexible connections to allow for necessary movement.*
3. ***Mobile equipment:*** *Equipment heavier than 400 lb. or has a center of mass located 4 ft. or more above the adjacent floor or roof level that directly supports the equipment* *shall be restrained in a manner approved by the enforcement agency. Mobile equipment shall be restrained when not in use and is stored, unless the equipment is stored in a storage room that does not house hazardous materials or any facility systems or fixed equipment that can be affected by mobile equipment lacking restraint.*
4. ***Countertop Equipment:*** *Countertop Equipment shall be subject to the same anchorage or restraint requirements for fixed or movable equipment as applicable. Countertop equipment shall also be subject to the same requirements as mobile or other equipment if weight of equipment is greater than 100 lb. and has a center of mass located 4 ft. or more above the adjacent floor level or if equipment could fall and block a required means of egress.*
5. ***Other Equipment:*** *Equipment shall be anchored where any of the following apply:*
	1. *Weight of equipment is greater than 100 lb. and essential to operations for emergency preparedness, communications and operations centers, and other facilities required for emergency response of state-owned essential services buildings as defined in the California Administrative Code (Title 24, Part 1, CCR) Section 4-207 and all structures required for their continuous operation or access/egress.*
	2. *Could fall and block a required means of egress.*
	3. *Weight of equipment is greater than 400 lb. or center of mass is located greater than 4 ft. above the finished floor or roof level that directly supports the component.*
6. *Equipment with hazardous contents.*
7. *Other architectural, mechanical and electrical components stated in Chapter 13. Cabinets shall be restrained in a manner approved by the enforcement agency if it could fall and block a required means of egress.*
8. ***Wall-, Roof- or Floor-Hung Equipment:*** *Seismic design and seismic details shall be provided for wall-, roof- or floor-hung nonstructural components and equipment when the component weighs more than 20 pounds (9 kg) or, in the case of a distribution system, 5 pounds per foot (73 N/m).*

***Exemptions:*** *The following nonstructural components are exempt from the requirements of ASCE 7, Chapter 13:*

1. *Furniture except storage cabinets as noted in Table 13.5-1.*
2. *Nonstructural components and equipment, that are positively attached to the structure, provided that the component weighs 20 pounds (9 kg) or less.*
3. *~~2~~. Discrete architectural, mechanical and electrical components and ~~fixed~~ equipment that are positively attached to the structure, provided that the component weighs 400 pounds (18.44 kg) or less, and the center of mass is located 4 feet (1219 mm) or less above the adjacent floor or roof level that directly support the component, ~~none of the conditions in this section apply,~~ ~~and~~ flexible connections are provided between the component and associated ductwork, piping and conduit where required, and the component Importance Factor, Ip, is equal to 1.0.*

***1617.12.13 ~~1617.11.16~~ ASCE 7, Section 13.5.6.2.*** *…*

***1617.12.14 ~~1617.11.17~~ ASCE 7, Section 13.6.5.*** *…*

***1617.12.15 ~~1617.11.18~~ ASCE 7, Section 13.6.6.*** *…*

***1617.12.16 ~~1617.11.19~~ ASCE 7, Section 13.6.7.3.*** *Replace ASCE 7, Section 13.6.7.3 with the following:*

***13.6.7.3 Additional Provisions for Piping and Tubing Systems***

1. Design for the seismic forces of Section 13.3 shall not be required for piping systems where flexible connections, expansion loops, or other assemblies are provided to accommodate the relative displacement between component and piping, where the piping system is positively attached to the structure, and where *any* of the following conditions apply:
2. Trapeze assemblies are supported by 3/8 inch (10 mm) *or ½ inch* diameter rod hangers not exceeding 12 inches (305 mm) in length from the pipe support point to the connection at the supporting structure*, and no single pipe exceeds the diameter limits set forth in item 2b below or 2 inches. (50 mm) where Ip is greater than 1.0* and the total weight supported by any single trapeze is 100 pounds (445 N) or less; *or*
3. Piping ~~that has an Rp in Table 13-6-1 of 4.5 or greater~~is supported by rod hangers and provisions are made to avoid impact with other structural or nonstructural components or to protect the piping in the event of such impact; *~~,~~* (Revise punctuation) or pipes ~~with I~~~~p~~ ~~= 1.0~~ are supported by individual rod hangers 3/8 inch (10mm) or ½ inch (13 mm) in diameter, where each hanger in the pipe run is 12 inches (305mm) or less in length from the pipe support point to the connections, at the supporting structure, *~~;~~* (Revise punctuation)and the total weight supported by any single hanger is 50 pounds (220 N) or less. In addition, the following limitations on the size of piping shall be observed:
4. In structures assigned to Seismic Design Category D, E, or F where Ip is greater than 1.0, the nominal pipe size shall be 1 inch (35 mm) or less.
5. In structures assigned to Seismic Design *~~Categories~~* CategoryD, E, or F where Ip = 1.0, the nominal pipe size shall be 3 inches (80 mm) or less.

***1617.12.17 ~~1617.11.20~~ ASCE 7, Section 13.6.11.1.*** *…*

***1617.12.18 ~~1617.11.21~~ ASCE 7, Section 13.6.11.4.*** *…*

***~~1617.11.22 Reserved.~~*** *…*

***~~1617.11.23 Reserved.~~*** *…*

***1617.12.19 ~~1617.11.24~~ ASCE 7, Section 17.2.4.7.*** *…*

*…*

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

*…*

### ITEM 7Chapter 16A STRUCTURAL DESIGN

**CHAPTER 16A**

**STRUCTURAL DESIGN**

Adopt Chapter 16 of the 2024 IBC as Chapter 16A of the 2025 CBC as amended below. All existing California amendments that are not revised below shall continue without change.

…

**SECTION 1604*A* - GENERAL DESIGN REQUIREMENTS**

…

**1604*A*.4 Analysis.** Load effects on structural members and their connections shall be determined by methods of structural analysis that take into account equilibrium, general stability, geometric compatibility and both short- and long-term material properties.

Members that tend to accumulate residual deformations under repeated service loads shall have included in their analysis the effects of added deformations expected to occur during their service life.

Any system or method of construction to be used shall be based on a rational analysis in accordance with well-established principles of mechanics. Such analysis shall result in a system that provides a complete load path capable of transferring loads from their point of origin to the load-resisting elements.

The total lateral force shall be distributed to the various vertical elements of the lateral force-resisting system in proportion to their rigidities, considering the rigidity of the horizontal bracing system or diaphragm. Rigid elements assumed not to be a part of the lateral force-resisting system are permitted to be incorporated into buildings provided that their effect on the action of the system is considered and provided for in the design. *~~Structural analysis shall explicitly include consideration of stiffness of diaphragms in accordance with ASCE 7, Section 12.3.1.~~* Where a diaphragm is not permitted to be idealized as either flexible or rigid in accordance with ASCE 7 or for wood diaphragms in accordance with AWC SDPWS, the structure shall be analyzed and designed utilizing one of the following procedures:

1. An envelope analysis of the structure using a flexible and rigid diaphragm analysis separately and designing each component for the more severe load condition.
2. A semirigid diaphragm analysis and design.

Where required by ASCE 7, provisions shall be made for the increased forces induced on resisting elements of the structural system resulting from torsion due to eccentricity between the center of application of the lateral forces and the center of rigidity of the lateral force-resisting system.

Every structure shall be designed to resist the effects caused by the forces specified in this chapter, including overturning, uplift and sliding. Where sliding is used to isolate the elements, the effects of friction between sliding elements shall be included as a force.

…

**1604*A*.5 Risk category.** Each building and structure shall be assigned a risk category in accordance with **Table 1604*A*.5**. Where a referenced standard specifies an occupancy category, the risk category shall not be taken as lower than the occupancy category specified therein. Where a referenced standard specifies that the assignment of a risk category be in accordance with **ASCE 7**, Table 1.5-1, **Table 1604*A*.5** shall be used in lieu of **ASCE 7**, Table 1.5-1.

**Exceptions:**

* 1. The assignment of buildings and structures to Tsunami Risk Categories III and IV is permitted to be in accordance with Section 6.4 of **ASCE 7**.
	2. Freestanding parking garages not used for the storage of emergency services vehicles or not providing means of egress for buildings or structures assigned to a higher risk category shall be assigned to Risk Category II.

…

**TABLE 1604*A*.5
RISK CATEGORY OF BUILDINGS AND OTHER STRUCTURES**

| **RISK CATEGORY** | **NATURE OF OCCUPANCY** |
| --- | --- |
| … | … |
| III | Buildings and other structures that represent a substantial hazard to human life in the event of failure, including but not limited to:* Buildings and other structures whose primary occupancy is public assembly with an occupant load greater than 300.
* Buildings and other structures containing one or more public assembly spaces, each having an occupant load greater than 300 and a cumulative occupant load of these public assembly spaces of greater than 2,500.
* Buildings and other structures containing Group E or Group I-4 occupancies or combination thereof, with an occupant load greater than 250.
* Buildings and other structures containing educational occupancies for students above the 12th grade with an occupant load greater than 500.
* Group I-3, Condition 1 occupancies.
* Any other occupancy with an occupant load greater than 5,000.a
* Power-generating stations with individual power units rated 75 MWAC (megawatts, alternating current) or greater, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Risk Category IV.
* Buildings and other structures not included in Risk Category IV containing quantities of toxic or explosive materials that:
	+ Exceed maximum allowable quantities per control area as given in Table 307.1(1) or 307.1(2) or per outdoor control area in accordance with the *California Fire Code*; and
	+ Are sufficient to pose a threat to the public if released.b
 |
| IV | Buildings and other structures designated as essential facilities and buildings where loss of function represents a substantial hazard to occupants or users, including but not limited to:* (Reserved for OSHPD)
* Group I-2 occupancies.
* Ambulatory care facilities having emergency surgery or emergency treatment facilities.
* Group I-3 occupancies other than Condition 1.
* Fire, rescue, ambulance and police stations and emergency vehicle garages
* Designated earthquake, hurricane or other emergency shelters.
* Designated emergency preparedness, communications and operations centers and other facilities required for emergency response ***[DSA-SS]*** *as defined in the California Administrative Code (Title 24, Part 1, CCR) Section 4-207 and all structures required for their continuous operation or access/egress.* (No change to existing California amendment)
* Public utility facilities providing power generation, potable water treatment, or wastewater treatment.
* Power-generating stations and other public utility facilities required as emergency backup facilities for Risk Category IV structures.
* Buildings and other structures containing quantities of highly toxic materials that:
	+ Exceed maximum allowable quantities per control area as given in Table 307.1(2) or per outdoor control area in accordance with the *California Fire Code*; and
	+ Are sufficient to pose a threat to the public if released.b
* Aviation control towers, air traffic control centers and emergency aircraft hangars.
* Buildings and other structures having critical national defense functions.
* Water storage facilities and pump structures required to maintain water pressure for fire suppression.
 |

1. For purposes of occupant load calculation, occupancies required by **Table 1004.5** to use gross floor area calculations shall be permitted to use net floor areas to determine the total occupant load. The floor area for vehicular drive aisles shall be permitted to be excluded in the determination of net floor area in parking garages.
2. Where approved by the building official, the classification of buildings and other structures as Risk Category III or IV based on their quantities of toxic, highly toxic or explosive materials is permitted to be reduced to Risk Category II, provided that it can be demonstrated by a hazard assessment in accordance with Section 1.5.3 of ASCE 7 that a release of the toxic, highly toxic or explosive materials is not sufficient to pose a threat to the public.

…

**1604*A*.5.2 Photovoltaic (PV) panel systems.** Photovoltaic (PV) panel systems and elevated PV support structures shall be assigned a risk category as follows:

1. Ground-mounted PV panel systems serving only Group R-3 buildings shall be assigned to Risk Category I.
2. Ground-mounted PV panel systems other than those described in Items 1 and 5 shall be assigned to Risk Category II.
3. Elevated PV support structures other than those described in Items 4, 5 and 6 shall be assigned to Risk Category II. ***[DSA-SS]*** *The risk category shall not be less than the risk category that corresponds to the usable space underneath.*
4. Rooftop-mounted PV panel systems and elevated PV support structures installed on top of buildings shall be assigned to the same risk category as the risk category of the building on which they are mounted.
5. PV panel systems and elevated PV support structures paired with energy storage systems (ESS) and serving as a dedicated, stand-alone source of backup power for Risk Category IV buildings shall be assigned to Risk Category IV.
6. Elevated PV support structures where the usable space underneath is used for parking of emergency vehicles shall be assigned to Risk Category IV.

…

**SECTION 1605*A* - LOAD COMBINATIONS**

**1605*A*.1 General.** Buildings and other structures and portions thereof shall be designed …

**1605*A*.1.1 Stability.** Regardless of which load combinations are used to design for strength, where overall structure stability (such as stability against overturning, sliding, or buoyancy) is being verified, use of the load combinations specified in Section 2.3 or 2.4 of ASCE 7, and in Section 1605*A*.2 shall be permitted. Where the load combinations specified in ASCE 7, Section 2.3 are used, strength reduction factors applicable to soil resistance shall be provided by a registered design professional. The stability of retaining walls shall be verified in accordance with Section 1807*A*.2.3. *When using allowable stress design, factor of safety for soil bearing values shall not be less than the overstrength factor of the structures supported. ~~Strength design for foundation geotechnical capacity shall be in accordance with ASCE 7, Section 12.13.5 for all strength design load combinations, except that Resistance Factor (Ø) shall be permitted to be 1.0 for load combinations with overstrength factor. Allowable stress design for foundation geotechnical capacity shall be in accordance with ASCE 7, Section 12.13.6 for all allowable stress design load combinations, and shall be established to be consistent with strength design requirements in ASCE 7, Section 12.13.5.~~*

***1605A.1.2 Foundation Resistance.***(Reserved for OSHPD)

…

***1605A.3 Modifications to load combinations in ICC 300.*** *Modify the text of ICC 300 as follows:*

***~~1605A.3.1 ICC 300, Section 303.5.2.~~*** *~~Modify Section 303.5.2 by adding Equation 3-5a as follows:~~*

*~~D + 0.4L + Z (Equation 3-5a)~~*

***1605A.3.1 ~~1605A.3.2~~ ICC 300, Section 303.5.3.*** *Modify Section 303.5.3 as follows:*

*The uniform live load L used in Equation 3-2 and 3-4 ~~may~~ shall be permitted to be taken as zero when evaluating elements supporting the handrail/guard provided those elements do not also support L.*

...

**SECTION 1607*A* - LIVE LOADS**

**~~1607~~*~~A~~*~~.1 General.~~** (2022 CBC)~~Live loads are those loads defined in Chapter 2~~ *~~and Section 1602A.1~~* ~~of this code.~~(Repeal existing 2022 California amendment; 2024 IBC Section 1607.1 adopted instead.)

**1607*A*.1 General.** Buildings, structures, and parts thereof shall be designed to resist the effects of live loads. (No change to model code text. Adopted instead of existing 2022 California amendment.)

…

**TABLE 1607*A*.1
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS AND MINIMUM CONCENTRATED LIVE LOADS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **OCCUPANCY OR USE** | **UNIFORM (psf)** | **CONCENTRATED****(pounds)** | **ALSO SEE SECTION** |
| … | … | … | … | … |
| 20. | Libraries*d* (Add footnote d) | … | … | … |
| … | … | … | … | … |
| 38. | Yards and terraces, pedestrian*h* | 100a |  |  |
| *~~38.~~39.* | *Storage racks and wall-hung cabinets.* | *Total loadsd* | — | — |

…

1. *The minimum vertical design live load shall be as follows:* (No changes to existing California amendment)

*Paper media:*

*12-inch-deep (305 mm) shelf 33 pounds per lineal foot (482 N/m)*

*15-inch-deep (381 mm) shelf 41 pounds per lineal foot (598 N/m), or*

*33 pounds per cubic foot (5183 N/m3) per total volume of the rack or cabinet, whichever is less.*

*Film media:*

*18-inch-deep (457 mm) shelf 100 pounds per lineal foot (1459 N/m), or*

*50 pounds per cubic foot (7853 N/m3) per total volume of the rack or cabinet, whichever is less.*

*Other media:*

*20 pounds per cubic foot (311 N/m3) or 20 pounds per square foot (958 Pa), whichever is less, but not less than actual loads.*

…

1. ***[DSA-SS]*** *Item ~~37~~ 38 applies to pedestrian bridges and walkways that are not subjected to uncontrolled vehicle access.*

…

***1607A.14.4 ~~1607A.14.5~~* *Uncovered open-frame roof structures.*** *Uncovered open-frame roof structures shall be designed**for a vertical live load of not less than 10 pounds per**square foot (0.48 kN/m2) of the total area encompassed by**the framework.*

…

**1607*A*.18** (formerly 1607A.19) **Seating for assembly uses.** Bleachers, folding and telescopic seating and grandstands shall be designed for the loads specified in ICC 300 *as modified by Section 1605A.3 load combinations*. Stadiums and arenas with fixed seats shall be designed for the horizontal sway loads in Section 1607*A*.18.1.

…

**SECTION 1610*A*—SOIL LOADS AND HYDROSTATIC PRESSURE**

**1610*A*.1 Lateral pressures.** Structures below grade shall be designed to resist lateral soil loads from adjacent soil *in accordance with Sections 1807A.1.1 and 1807A.2.2 respectively*. ~~Soil loads specified in Table 1610.1 shall be used as the minimum design lateral soil loads unless determined otherwise by a geotechnical investigation in accordance with Section 1803.~~ Foundation walls and other walls in which horizontal movement is restricted at the top shall be designed for at-rest pressure. Walls that are free to move and rotate at the top, such as retaining walls, shall be permitted to be designed for active pressure.

Where applicable, lateral pressure from fixed or moving surcharge loads shall be added to the lateral soil load. Lateral pressure shall be increased if expansive soils are present at the site. Foundation walls shall be designed to support the weight of the full hydrostatic pressure of undrained backfill unless a drainage system is installed in accordance with Sections 1805*A*.4.2 and 1805*A*.4.3.

**Exception:** Foundation walls extending not more than 8 feet (2438 mm) below grade and laterally supported at the top by flexible diaphragms shall be permitted to be designed for active pressure.

***Note:*** *Sections 1807A.1.1 and 1807A.2.2 require the foundation and retaining walls be designed using the lateral soil loads determined by a geotechnical investigation in accordance with Section 1803A. Section 1807A.2.2 requires that design lateral soil load be at least eighty percent of the design lateral soil loads in accordance with Table 1610A.1.*

…

**SECTION 1613*A* - EARTHQUAKE LOADS**

**1613*A*.1 Scope.** Every structure, and portion thereof, including nonstructural components that are permanently attached to structures and their supports and attachments, shall be designed and constructed to resist the effects of earthquake motions in accordance with Chapters 11, 12, 13, 15, 17 and 18 of ASCE 7, as applicable. The seismic design category for a structure *~~shall~~* is permitted to be determined in accordance with Section 1613*A* or ASCE 7.

(Existing amendment to delete Exceptions in existing Section 1613A.1 is shown for clarity)

**~~Exceptions:~~**

1. ~~Detached one- and two-family dwellings, assigned to Seismic Design Category A, B or C.~~
2. ~~The seismic force-resisting system of wood-frame buildings that conform to the provisions of Section 2308 are not required to be analyzed as specified in this section.~~
3. ~~Agricultural storage structures intended only for incidental human occupancy.~~
4. ~~Structures that require special consideration of their response characteristics and environment that are not addressed by this code or ASCE 7 and for which other regulations provide seismic criteria, such as vehicular bridges, electrical transmission towers, hydraulic structures, buried utility lines and their appurtenances and nuclear reactors.~~
5. ~~References within ASCE 7 to Chapter 14 shall not apply, except as specifically required herein.~~
6. ~~Temporary structures complying with Section 3103.6.1.4.~~

**1613A.2 Determination of seismic design category.** Structures shall be assigned to a seismic design category (Relocated from existing 1613A.2.5) *D or higher* based on one of the following methods unless the authority having jurisdiction or geotechnical data determines that Site Class DE, E or F soils are present at the site:

1. Based on the structure risk category using Figures 1613.2(1) through 1613.2(7).
2. Determined in accordance with ASCE 7.

Where Site Class DE, E or F soils are present, the seismic design category shall be determined in accordance with ASCE 7.

(Figures 1613.2.1(1) through 1613.2.1(10) were stricken in the 2022 CBC and will not be shown in Chapter 16A. These figures are replaced by Figures 1613.2.2(1) through 1613.2.2(7) in 2024 IBC and are shown in Chapter 16.)

…

(Delete existing amendments to Tables 1613A.2.3(1) & 1613A.2.3(2) which are repealed in 2024 IBC)

…

(Relocate amendment in existing 1613A.2.5 to 1613A.2) **~~1613~~*~~A~~*~~.2.5~~ Determination of seismic design category.** … ~~Other structures shall be assigned to~~ *~~Seismic Design Category D.~~*

**~~1613~~*~~A~~*~~.2.5.1 Alternative seismic design category determination.~~** *~~Not permitted by DSA-SS and OSHPD.~~*

**1613*A*.3** (formerly 1613*A*.2.5.2) **Simplified design procedure.** *Not permitted by DSA-SS.*

**1613*A*.4** (formerly 1613*A*.3) **Ballasted photovoltaic panel systems.** Ballasted, roof-mounted photovoltaic panel systems need not be rigidly attached to the roof or supporting structure. ~~Ballasted, unattached PV panel systems shall be designed and installed only on roofs with slopes not more than 1 unit vertical in 12 units horizontal. Ballasted, unattached~~ *~~PV panel systems~~* ~~shall be designed to accommodate sliding in accordance with ASCE 7 Chapter 13.~~ ***[DSA-SS]*** *Ballasted, roof-mounted photovoltaic panel systems shall comply with ASCE 7, Section 13.6.12.*

…

**SECTION *1617A -* MODIFICATIONS TO ASCE 7**

***1617A.1 General.*** *The text of ASCE 7 shall be modified as indicated in Sections 1617A.1.1 through* *~~1617A.1.40~~ 1617A.1.41.*

***1617A.1.1 ASCE 7, Section 1.3.*** *Modify ASCE 7, Section 1.3 by adding Section 1.3.8 as follows:*

***1.3.8 Structural design criteria.*** *Where design is based on ASCE 7, Chapters 16, 17, ~~or~~ 18, or 31, the seismic ground motion, wind tunnel test based design recommendations, analysis and design methods, material assumptions, testing requirements and acceptance criteria ~~proposed by the engineer~~ shall be submitted to the enforcement agency as an alternative system. ~~in the form of structural design criteria for approval~~.* ***~~[DSA-SS]~~*** *~~Structural design criteria including wind tunnel design recommendations are required where design is based on ASCE 7, Chapter 31.~~*

***[DSA-SS]*** *Peer review requirements in Section 322 of the California Existing Building Code shall apply to design reviews required by ASCE 7, Chapters 17 and 18.*

…

***1617A.1.3 Reserved. ~~ASCE 7, Section 11.4.~~*** *~~Modify ASCE 7, Section 11.4 to include the following:~~*

*~~Seismic ground motion values shall include updated subsections in Supplement 3.~~*

***1617A.1.4 ASCE 7, Table 12.2-1.*** *Modify ASCE 7, Table 12.2-1 as follows:*

1. **BEARING WALL SYSTEMS**

…

18. ~~17.~~ Light-framed walls with shear panels of all other materials*—Not permitted by DSA-SS.*

1. **BUILDING FRAME SYSTEMS**

…

25. ~~24.~~ Light-framed walls with shear panels of all other materials*—Not permitted by DSA-SS.*

…

***1617A.1.5 Reserved. ~~ASCE 7, Section 12.2.3, 12.2.3.1 and 12.2.3.2.~~*** *~~Modify ASCE 7, Sections 12.2.3, 12.2.3.1 and 12.2.3.2 as follows:~~*

***~~1617A.1.5.1 ASCE 7, Section 12.2.3.~~*** *~~Replace ASCE 7, Section 12.2.3 with the following:~~*

*~~Where different seismic force-resisting systems are used in combinations to resist seismic forces in the same direction, other than those combinations considered as dual systems, the design shall comply with the requirements of this section. The most stringent applicable structural system limitations contained in Table 12.2-1 shall apply, except as otherwise permitted by this section.~~*

***~~1617A.1.5.2 ASCE 7, Section 12.2.3.1.~~*** *~~Replace ASCE 7, Section 12.2.3.1, Items 1 and 2, by the following:~~*

*~~The value of the response modification coefficient, R, used for design at any story shall not exceed the lowest value of R that is used in the same direction at any story above that story. Likewise, the deflection amplification factor, C~~~~d~~~~, and the system over strength factor,~~* ~~Ω~~*~~0~~~~, used for the design at any story shall not be less than the largest value of these factors that are used in the same direction at any story above that story.~~*

***~~1617A.1.5.3 ASCE 7, Section 12.2.3.2.~~*** *~~Modify ASCE 7, Section 12.2.3.2 by modifying Item a and adding Items f, g, and h, as follows:~~*

* 1. ~~The stiffness of the lower portion shall be at least 10 times the stiffness of the upper portion.~~ *~~For purposes of determining this ratio, the base shear shall be computed and distributed vertically according to Section 12.8. Using these forces, the stiffness for each portion shall be computed as the ratio of the base shear for that portion to the elastic displacement, δ~~~~xe~~~~, computed at the top of that portion, considering the portion fixed at its base. For the lower portion, the applied forces shall include the reactions from the upper portion, modified as required in Item d.~~*
1. *~~The structural height of the upper portion shall not exceed the height limits of Table 12.2-1 for the seismic force-resisting system used, where the height is measured from the base of the upper portion.~~*
2. *~~Where Horizontal Irregularity Type 4 or Vertical Irregularity Type 4 exists at the transition from the upper to the lower portion, the reactions from the upper portion shall be amplified in accordance with Sections 12.3.3.3, 12.10.1.1, and 12.10.3.3 as applicable, in addition to amplification required by Item d.~~*
3. *~~Where design of vertical elements of the upper portion is governed by special seismic load combinations, the special loads shall be considered in the design of the lower portion.~~*

…

***1617A.1.10 ASCE 7, Section 12.3.3.1.*** *~~Modify first sentence of~~ Replace ASCE 7, Section 12.3.3.1 by the following: ~~and add exceptions as follows:~~*

**12.3.3.1 Prohibited ~~horizontal and~~ vertical irregularities for Seismic Design Categories *D through* F.** Structuresassigned to Seismic Design Category *D*, E or F*~~having horizontal structural irregularity Type 1b of~~**~~Table 12.3-1~~* ~~or~~ that have vertical ~~structural~~ irregularities Type 1b,~~5a~~ 4a or ~~5b~~ 4b of Table 12.3-2 shall not be permitted.

**Exception: ~~Exceptions:~~** Structures assigned to Seismic Design Category *D,* E or F that have vertical irregularity Type 4a shall be permitted where the story lateral strength is not less than 80% of that in the story above.

1. *~~Structures with reinforced concrete or reinforced masonry shear wall systems and rigid or semi-rigid diaphragms, consisting of concrete slabs or concrete-filled metal deck having a span-to-depth ratio of 3 or less, having a horizontal structural irregularity Type 1b of Table 12.3-1 are permitted, provided that the maximum story drift in the direction of the irregularity, computed including the torsional amplification factor from Section 12.8.4.3, is less than 10 percent of the allowable story drift in ASCE 7, Table 12.12-1.~~*
2. *~~Structures having a horizontal structural irregularity Type 1b of Table 12.3-1 are permitted, provided a redundancy factor,~~* ~~ρ~~*~~, of 1.3 as defined in ASCE 7 12.3.4 is assigned to the seismic force-resisting system in both orthogonal directions and the structure is designed for one of the orthogonal procedures as defined in ASCE 7, Section 12.5.3.1.~~*

***1617A.1.11 ASCE 7, Section 12.7.2.*** *Modify ASCE 7, Section 12.7.2, by adding Item ~~6~~ 7 to read as follows:*

1. *~~6.~~ Where buildings provide lateral support for walls retaining earth, and the exterior grades on opposite sides of the building differ by more than 6 feet (1829 mm), the load combination of the seismic increment of earth pressure due to earthquake acting on the higher side, as determined by a geotechnical engineer qualified in soils engineering plus the difference in earth pressures shall be added to the lateral forces provided in this section.*

***1617A.1.12 ~~Reserved.~~ ASCE 7, Section 12.10.2.1.*** *Replace Exception to ASCE 7, Section 12.10.2.1 by the following:*

**EXCEPTION:** In *light-frame* structures or portions thereof braced entirely by wood light-frame shear walls, collector elements and their connections, including connections to vertical elements, need only be designed to resist forces using the load combinations of Section 2.3.6 with seismic forces determined in accordance with Section 12.10.1.1.

***1617A.1.13 ~~Reserved.~~ ASCE 7, Section 12.13.5.2.*** *Modify ASCE 7, Section 12.13.5.2 by the following:*

*Replace last sentence by the following: When vertical nominal strength (upward or downward) is determined by approved in-situ prototype testing program, resistance factor (ᶲ) shall be permitted to be 0.75 (ᶲ = 0.75).*

…

***1617A.1.16 ASCE 7, Section 12.13.9.2.*** *Modify ASCE 7, Section 12.13.9.2 by adding the following sentence ~~added to~~ at the end of ~~item b~~ the exception: ~~as follows:~~*

*Seismic load effects determined in accordance with Section 12.4 need not be considered in this check.*

…

***1617A.1.18 ASCE 7, Section 13.1.4.*** *Replace ASCE 7 Section 13.1.4 with the following:*

***13.1.4. Nonstructural Component* *and Equipment Support and Attachment Requirements:*** *The following nonstructural components and equipment shall be anchored in accordance with this section. Design and detailing shall be in accordance with Chapter 13 except as modified by this section.*

1. ***Fixed Equipment:*** *Equipment shall be anchored if it is directly attached to the building utility services such as electricity, gas, or water. For the purposes of this requirement, “directly attached” shall include all electrical connections except plugs for 110/220-volt receptacles having a flexible cable/cord. Equipment that is connected to the building plumbing system with a shut-off valve in proximity to the equipment shall not be considered as directly attached provided the inside diameter of the pipe/tubing is less than ½ inches.*
2. ***Movable Equipment:*** *Equipment is subject to the same requirement as fixed equipment, but is permitted to be anchored by re-attachable anchors or restraints in a manner approved by the enforcement agency. Utilities and services at the equipment shall have flexible connections to allow for necessary movement.*
3. ***[DSA-SS] Mobile equipment:*** *Equipment heavier than 400 lb. or has a center of mass located 4 ft. or more above the adjacent floor or roof level that directly supports the equipment* *shall be restrained in a manner approved by the enforcement agency. Mobile equipment shall be restrained when not in use and is stored, unless the equipment is stored in a storage room that does not house hazardous materials or any facility systems or fixed equipment that can be affected by mobile equipment lacking restraint.*
4. ***[DSA-SS] Countertop Equipment:*** *Countertop Equipment shall be subject to the same anchorage or restraint requirements for fixed or movable equipment as applicable. Countertop equipment shall also be subject to the same requirements as mobile or other equipment if weight of equipment is greater than 100 lb. and has a center of mass located 4 ft. or more above the adjacent floor level or if equipment could fall and block a required means of egress.*
5. (Reserved for OSHPD)
6. (Reserved for OSHPD)
7. ***Other Equipment:*** *Equipment shall be anchored where any of the following apply:*
	1. ***[DSA-SS]*** *Weight of equipment is greater than 100 lb. and essential to operations for emergency preparedness, communications and operations centers, and other facilities required for emergency response of state-owned essential services buildings as defined in the California Administrative Code (Title 24, Part 1, CCR) Section 4-207 and all structures required for their continuous operation or access/egress.*
	2. (Reserved for OSHPD)
	3. *Could fall and block a required means of egress.*
	4. (Reserved for OSHPD)
	5. ***[DSA-SS]*** *Weight of equipment is greater than 400 lb. or center of mass is located greater than 4 ft. above the finished floor or roof level that directly supports the component.*
8. *Equipment with hazardous contents.*
9. *Other architectural, mechanical and electrical components stated in Chapter 13.* ***[DSA-SS]*** *Cabinets shall be restrained in a manner approved by the enforcement agency if it could fall and block a required means of egress.*
10. ***Wall-, Roof- or Floor-Hung Equipment:*** *Seismic design and seismic details shall be provided for wall-, roof- or floor-hung nonstructural components and equipment when the component weighs more than 20 pounds (9 kg) or, in the case of a distribution system, 5 pounds per foot (73 N/m).*

***[DSA-SS] Exemptions:*** *The following nonstructural components are exempt from the requirements of ASCE 7, Chapter 13:*

1. *Furniture except storage cabinets as noted in Table 13.5-1.*
2. *Nonstructural components and equipment, that are positively attached to the structure, provided that the component weighs 20 pounds (9 kg) or less.*
3. *~~2~~. Discrete architectural, mechanical and electrical components and ~~fixed~~ equipment that are positively attached to the structure, provided that the component weighs 400 pounds (18.44 kg) or less, and the center of mass is located 4 feet (1219 mm) or less above the adjacent floor or roof level that directly support the component, ~~none of the conditions in this section apply,~~ ~~and~~ flexible connections are provided between the component and associated ductwork, piping and conduit where required, and the component Importance Factor, Ip, is equal to 1.0.*

***1617A.1.19 ASCE 7, Section 13.4*** *Replace ASCE 7, Section~~s~~ 13.4.2.3, with the following:*

***13.4.2.3 Prequalified post-installed anchors and specialty inserts in concrete and masonry.***

*Post-installed anchors, post-installed reinforcing bars,* *and specialty inserts in concrete that are pre-qualified for seismic applications in accordance with ACI 355.2, ACI 355.4, ICC-ES AC193, ICC-ES AC232, ICC-ES AC308 or ICC-ES AC446 shall be permitted. Post-installed anchors in masonry shall be pre-qualified for seismic applications in accordance with ICC-ES AC01, AC58 or AC106.*

*~~Use of screw anchors shall be limited to dry interior conditions and shall not be used in building enclosures. Re-use of screw anchors or screw anchor holes shall not be permitted.~~*

***~~Exception: [DSA-SS]~~*** *~~Screw anchors are permitted for use in building enclosures and may also be used in exterior conditions when permitted in accordance with a valid evaluation report.~~*

***Note:*** *The removal and resetting of post-installed mechanical anchors are prohibited by ACI 318 Section 17.1.3.*

*…*

***1617A.1.23*** (Reserved for OSHPD)

***~~1617A.1.23 ASCE 7, Section 13.6.2.1 and ASCE 7, Tables 13.5-1 and 13.6-1.~~*** *~~Modify Section 13.6.2.1 by adding~~**~~the following to the end of the section:~~*

***~~ASCE 7, Tables 13.5-1 and 13.6-1.~~*** *~~Modify ASCE 7, Tables 13.5-1 & 13.6-1 by the following:~~*

*~~Where Ip = 1.5, overstrength factor (~~*~~Ω~~*~~0~~~~) need not exceed~~**~~the values of R~~~~p~~ ~~for design of anchorage to concrete.~~*

*…*

***1617A.1.26 ASCE 7, Section 13.6.7.3.*** *Replace ASCE 7, Section 13.6.7.3 with the following:*

***13.6.7.3 Additional Provisions for Piping and Tubing Systems***

1. Design for the seismic forces of Section 13.3 shall not be required for piping systems where flexible connections, expansion loops, or other assemblies are provided to accommodate the relative displacement between component and piping, where the piping system is positively attached to the structure, and where *any* of the following conditions apply:
2. Trapeze assemblies are supported by 3/8 inch (10 mm) *or ½ inch* diameter rod hangers not exceeding 12 inches (305 mm) in length from the pipe support point to the connection at the supporting structure*, and no single pipe exceeds the diameter limits set forth in item 2b below or 2 inches. (50 mm) where Ip is greater than 1.0* and the total weight supported by any single trapeze is 100 pounds (445 N) or less; *or*
3. Piping ~~that has an Rp in Table 13-6-1 of 4.5 or greater~~is supported by rod hangers and provisions are made to avoid impact with other structural or nonstructural components or to protect the piping in the event of such impact; *~~,~~* (Revise punctuation) or pipes ~~with I~~~~p~~ ~~= 1.0~~ are supported by individual rod hangers 3/8 inch (10mm) or ½ inch (13 mm) in diameter, where each hanger in the pipe run is 12 inches (305mm) or less in length from the pipe support point to the connections, at the supporting structure, *~~;~~* (Revise punctuation)and the total weight supported by any single hanger is 50 pounds (220 N) or less. In addition, the following limitations on the size of piping shall be observed:
4. In structures assigned to Seismic Design Category D, E, or F where Ip is greater than 1.0, the nominal pipe size shall be 1 inch (35 mm) or less.
5. In structures assigned to Seismic Design *~~Categories~~* CategoryD, E, or F where Ip = 1.0, the nominal pipe size shall be 3 inches (80 mm) or less.

…

***1617A.1.37 ~~Reserved.~~*** (Relocated from existing 1617A.1.38) ***ASCE 7, Section 18.3.*** *Replace exception to ASCE 7, Section 18.3 with…*

***~~1617A.1.38~~*** (Relocate existing 1617A.1.38 to 1617A.1.37) ***~~ASCE 7, Section 18.3.~~*** *~~Replace exception to ASCE 7, Section 18.3 with~~…*

***1617A.1.38*** (Reserved for OSHPD)

*…*

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

*…*

### ITEM 8Chapter 17A SPECIAL INSPECTIONS AND TESTS

**CHAPTER 17*A***

**SPECIAL INSPECTIONS AND TESTS**

Adopt Chapter 17 of the 2024 IBC as Chapter 17*A* of the 2025 CBC as amended below. All existing California amendments that are not revised below shall continue without change.

…

***1701A.4 Special inspections and tests.***

***[DSA-SS & DSA- SS/CC]*** *In addition to the project inspector required by the California Administrative Code (CCR, Title 24, Part 1), Section 4-333, the owner shall employ one or more approved agencies to provide special inspections and tests as required by the enforcement agency during construction on the types of work listed under Chapters 14, 15, 17A, 18A, 19A, 20, 21A, 22A, 23, 24 and 25 and the California Existing Building Code and noted in the special inspection, test~~, inspection~~ and observation plan required by ~~Section 4-335 of~~ the California Administrative Code.*

…

**SECTION 1704*A***

**SPECIAL INSPECTIONS AND TESTS, CONTRACTOR RESPONSIBILITY AND**

**STRUCTURAL OBSERVATION**

…

**1704*A*.2.4 Report requirement.**

*The* *inspector(s) of record and a*pproved agencies shall keep records of special inspections and tests. The *inspector of record and* approved agency shall submit reports of special inspections and tests to the building official and to the registered design professional in responsible charge at frequencies required by the approved construction documents or building official *as required by the California Administrative Code*. All reports shall describe the nature and extent of inspections and tests, the location where the inspections and tests were performed, and indicate that work inspected or tested was or was not completed in conformance to approved construction documents *~~as required by the California Administrative Code and this code~~*. Discrepancies shall be brought to the immediate attention of the contractor for correction. If they 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 tests, and correction of any discrepancies noted in the inspections or tests, shall be submitted at a point in time agreed upon prior to the start of work by the owner or the owner’s authorized agent to the building official.

…

**1704*A*.3 Statement of special inspections.** Where special inspections or tests are required by Section 1705*A*, the registered design professional in responsible charge shall prepare a statement of special inspections in accordance with Section 1704*A*.3.1 for submittal by the applicant in accordance with Section 1704*A*.2.3.

**Exception:** 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.

***[DSA-SS, DSA-SS/CC]*** *The exception is not permitted by DSA.*

…

**1704*A*.4 Contractor responsibility.** Each contractor responsible for the construction of a main wind- or seismic force-resisting system, *installation of equipment/components requiring special seismic certification* ~~designated seismic system~~ (continued existing deletion) or a wind- or seismic force-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the building official and the owner or the owner’s authorized agent prior to the commencement of work on the system or component. The contractor’s statement of responsibility shall contain acknowledgement of awareness of the special requirements contained in the statement of special inspections.

***[DSA-SS, DSA-SS/CC]*** *The contractor’s statement is only required when specified on the approved construction documents.*

**1704*A*.5 Submittals to the building official.** In addition to the submittal of reports of special inspectionsand tests in accordance with Section 1704*A*.2.4, reports and certificates shall be submitted by the owner or the owner’s authorized agent to the building officialfor each of the following:

1. *~~Certificates of compliance~~* ~~for the fabrication of structural, load-bearing or lateral load-resisting members or assemblies on the premises of an~~ *~~approved fabricator~~* ~~in accordance with Section 1704.2.5.1.~~ (continued existing deletion) *Reserved.*
2. *Reserved.*~~Certificates of compliance~~~~for the seismic qualification~~ *~~manufacturer’s certification~~* ~~of nonstructural components, supports and attachments in accordance with Section 1705~~*~~A~~*~~.14.2.~~
3. Certificates of compliancefor *~~designated seismic systems~~* (continued existing deletion) *equipment/components requiring special seismic certification* in accordance with Section 1705*A*.14.3.
4. Reports of preconstruction tests for shotcrete in accordance with ACI 318 *and Section 1705A.3.9.2*.
5. …

…

**1705*A*.2.1 Structural steel.** Special inspections and nondestructive testing of structural steel elements in buildings, structures and portions thereof shall be in accordance with the quality assurance ~~inspection~~ (Continued existing deletion of IBC Section 1704.6.1.)requirements of AISC 360 *and this code* *~~this section, Chapter 22A and quality control requirements of AISC 360, AISC 341 and AISC 358~~.*

**Exception:** Special inspection of railing systems composed of structural steel elements shall be limited to welding inspection of welds at the base of cantilevered rail posts.

*~~AISC 360, Chapter N and AISC 341, Chapter J are adopted, except as noted below:~~*

 *The following provisions of AISC 360, Chapter N are not ~~adopted~~ permitted:*

1. *~~N4, Item 2 (Quality Assurance Inspector Qualifications).~~*
2. (Relocate to Item 3a below.) *~~N5, Item 2~~ …*
3. *1. N5, Item 3 (Coordinated Inspection).*
4. (Relocate to Item 3b below.) *~~N5, Item 4~~ …*
5. *2. N6 (Approved Fabricators and Erectors).*
6. *3.* ***[DSA-SS, DSA-SS/CC]*** *Quality assurance application of:*
	1. *N5, Item 2 (Quality Assurance).*
	2. *N5, Item 4 (Inspection of Welding)*.
	3. *N7 (Nonconforming Material and Workmanship).*

***[DSA-SS, DSA-SS/CC]*** *Additionally, the requirements in Table 1705A.2.1 of the California Building Code shall apply. ~~In addition to the quality assurance requirements contained in AISC 341, Chapter J, Section J5 (Inspection Tasks), the requirements of Section 1704A.3 and Table 1705A.2.1 of the California Building Code shall apply.~~*

***[DSA-SS, DSA-SS/CC]*** *References to specified standards in Table 1705A.2.1 only apply to those structural systems and elements required to comply with those by this code.*

***[DSA-SS, DSA-SS/CC]*** *~~Modify~~ Replace AISC 360, Section N5.5(b), as follows:*

For structures in~~risk category~~ *R*isk *C*ategory *II,* III or IV*,* as defined in~~ASCE/SEI 7~~ *the California Building Code,* UT shall be performed by QA on all complete-joint-penetration (CJP) groove welds subjected to transversely applied tension loading in butt, T- and corner joints, in material 5/16 in. (8 mm) thick or greater. ~~For structures in risk category II, UT shall be performed by QA on 10% of CJP groove welds in butt, T-, and corner joints subjected to transversely applied tension loading, in materials 5/16 in. (8 mm) thick or greater.~~ (all continued existing deletions of reference standard language shown in paragraph)

***[DSA-SS, DSA-SS/CC] TABLE 1705A.2.1 REQUIRED SPECIAL INSPECTIONS AND TESTS OF STEEL CONSTRUCTION***

| ***TYPE*** | ***CONTINUOUS SPECIAL INSPECTION*** | ***PERIODIC SPECIAL INSPECTION*** | ***REFERENCED******STANDARD****~~a~~* | ***CBC REFERENCEa*** |
| --- | --- | --- | --- | --- |
| 1. *Material identification and testing of high-strength bolts, nuts and washers:*
 |
| 1. *Identification markings to conform to ASTM standards specified in the approved construction documents.*
 | *─* | *X* | *RCSC: 1.5, AISC 360: A3.3, J3.2~~1~~; AISC 370: A3.3, J3.1; ~~and a~~Applicable ASTM material standards* | *220~~2~~1A.~~1~~2, [DSA- SS/CC] 220~~2~~1.~~1~~2* |
| 1. *Manufacturer's certificate of compliance required.*
 | *─* | *X* | *RCSC: 1.5, ~~&~~ ~~2.1~~; AISC 360: A3.3, ~~&~~ N3.2; AISC 370: A3.3, N3.2*  | *─* |
| 1. *Testing of high-strength bolts, nuts and washers.*
 | *─* | *─* | *RCSC: 7.2;~~,~~ Applicable ASTM material standards* | *1705A.2.~~6~~8,*  |
| 1. *Inspection of high-strength bolting:*
 |
| * 1. *Snug-tight joints.*
 | *─* | *X* | *RCSC: 7-9;~~,~~ AISC 360: ~~J3.1,~~ J3.2, M2.5, ~~&~~ N5.6; AISC 370: J3.1, M2.7, N5.6* | *1705A.2.~~6~~8, 1705A.13.1, 220~~4~~1A.~~2~~4, [DSA- SS/CC] 220~~4~~1.~~2~~4* |
| *…* |  |  |  |  |
| 1. *Material identification and testing of structural steel and cold-formed steel ~~deck~~:*
 |
| * 1. *For structural steel and stainless steel, identification markings to conform to AISC 360 and AISC 370, respectively.*
 | *─* | *X* | *AISC 360: A3~~.1~~, N2.1; AISC 341: A3; AISC 370: A3, N2.1* | *220~~2~~1A.~~1~~2, [DSA- SS/CC] 220~~2~~1.~~1~~2* |
| * 1. *For cold-formed steel and other steel, identification markings to conform to ASTM standards specified in the approved construction documents.*
 | *─* | *X* | *AISI S100: A3.1, A3.2; AISI S240: A5.5, D6.6; Applicable ASTM material standards*  | *220~~2~~1A.~~1~~2, [DSA- SS/CC] 220~~2~~1.~~1~~2* |
| * 1. *Manufacturer's certified test reports.*
 | *─* | *X* | *AISC 360: A3.1,~~&~~ N3.2; AISC 341: A3; AISC 370: A3.1, N3.2* | *─* |
| * 1. *Testing of unidentified steel.*
 | *─* | *─* | *Applicable ASTM material standards* | *220~~2~~1A.~~1~~2, [DSA- SS/CC] 220~~2~~1.~~1~~2* |
| 1. *Material identification of welding consumables and testing of welded elements:*
 |
| * 1. *Identification markings to conform to AWS specification in the approved construction documents.*
 | *─* | *X* | *AISC 360:~~,~~ A3.5, ~~&~~ N3.2; AISC 341: A3.4, J3; AISC 370: A3.6, N3.2; ~~and aA~~pplicable AWS A5 documents* | *─*  |
| * 1. *Manufacturer's certificate of compliance required.*
 | *─* | *X* | *AISC 360: N3.2; AISC 341: J3; AISC 370: N3.2* | *─*  |
| * 1. *Nondestructive testing of welded joints.*
 | *─* | *─* | *AISC 360: N5.5; AISC 341: J7; AISC 370: N5.5* | *1705A.2.1, 1705A.14.1*  |
| 1. *Inspection of welding:*
 |
| * 1. *Structural steel and cold-formed steel ~~deck~~:*
 |
| 1. *Complete and partial joint penetration groove welds.*
 | *X* | *─* | *AISC 360: J2, M2.4, ~~&~~ M4.5;~~,~~ AISC 341: I2.3, J7; AISC 370: J2, M2.6, M3.5; AWS D1.1, AWS D1.6, AWS D1.8* | *1705A.2.1, 1705A.2.~~5~~7, 1705A.13.1* |
| *…* |  |  |  |  |
| 1. *Floor and roof deck welds.*
 | *─* | *X* | *AWS D1.3;~~,~~ SDI QA/QC* | *1705A.2.1, 1705A.2.~~2~~3, 1705A.2.~~5~~7, 1705A.13.1* |
| 1. *End-welded studs.*
 | *─* | *X* | *AWS D1.1, AWS D1.6* | *1705A.2.~~5~~7, 1705A.13.1, 2213A.2, [DSA- SS/CC] 2212.6.2* |
| 1. *Welded sheet steel for cold-formed framing members.*
 | *─* | *X* | *AWS D1.3; AISI S240: Ch. D* | *1705A.2.~~5~~7, 1705A.2.~~4~~5.1, 1705A.12.2, 1705A.13.3* |
| * 1. *Reinforcing steel*
 | *─* | *─* | *─* | *Table 1705A.3, Item 2* |
| 1. *Inspection of steel frame joint details for compliance:*
 |
| * 1. *Details such as bracing and stiffening.*
 | *─* | *X* | *AISC 360: M4, N5.8; AISC 341: I2, J9; AISC 358: 3.3-3.6; AISC 370: M3, N5.7* | *1705A.2.1, 1705A.13.1* |
| * 1. *Member locations.*
 | *─* | *X* |
| * 1. *Application of joint details at each connection.*
 | *─* | *X* |

**1705*A*.2.2 Structural stainless steel.** Special inspections and nondestructive testing of structural stainless steel elements in buildings and portions thereof shall be in accordance with the quality assurance ~~inspection~~ requirements of AISC 370 *and this code*.

*The following provisions of AISC 370, Chapter N are not permitted:*

1. *N5, Item 3 (Coordinated Inspection).*
2. *N6 (Approved Fabricators and Erectors).*
3. ***[DSA-SS, DSA-SS/CC]*** *Quality assurance application of:*
	1. *N4, Item 3(c) and 3(d) (NDT Personnel Qualifications).*
	2. *N5, Item 2 (Quality Assurance).*
	3. *N5, Item 4 (Inspection of Welding)*.
	4. *N7 (Nonconforming Material and Workmanship).*

*[****DSA-SS, DSA-SS/CC****] Additionally, the applicable portions in Table 1705A.2.1 of the California Building Code shall apply.*

*Replace AISC 370, Section N5.5(b), as follows:*

For structures in ~~risk category~~ *R*isk *C*ategory *II,* III or IV, as ~~determined from ASCE/SEI 7~~ defined in *the California Building Code,* UT shall be performed by QA on all complete-joint-penetration (CJP) groove welds subjected to transversely applied tension loading in butt, T- and corner joints, in material 5/16 in. (8 mm) thick or greater. ~~For structures in risk category II, UT shall be performed by QA on 10% of CJP groove welds in butt, T-, and corner joints subject to transversely applied tension loading, in materials 5/16 in. (8 mm) thick or greater.~~

**1705*A*.2.3** (formerly 1705A.2.2) **Cold-formed steel deck.** Special inspections and qualification of welding special inspectors for cold formed steel floor and roof deck shall be in accordance with the quality assurance ~~inspection~~ requirements of SDI QA/QC *and this code*.

*~~Deck weld special inspection and testing shall also satisfy requirements in Table 1705A.2.1 and Section 1705A.2.5.~~*

***[DSA-SS, DSA-SS/CC]*** *The following provisions of SDI QA/QC are not permitted:*

1. *Section D2 (Quality Assurance).*
2. *Section D3 (Coordinated Inspection).*
3. *Quality assurance application of:*
	1. *Section E (Nonconforming Material and Workmanship).*
	2. *Appendix 1 (Tables of inspection or Execution Tasks).*

*Additionally, the applicable portions in Table 1705A.2.1 of the California Building Code shall apply.*

…

***1705A.2.4.1 ~~1705A.2.3.1~~*** ***Steel joist and joist girder inspection.*** *Special inspection …*

…

***1705A.2.5.1 ~~1705A.2.4.1~~*** ***Light-framed steel truss inspection and testing.*** *Regardless of truss span, the manufacture of cold-formed light framed steel trusses shall be continuously inspected by an approved agency. The approved agency shall verify conformance of materials and manufacture with approved construction documents ~~plans and specifications~~. The approved agency shall place a distinguishing mark, and/or tag with this distinguishing mark, on each inspected truss. This mark or tag shall remain on the truss throughout the job site receiving and erection process. Refer to Section 2206A.1.3.3 ~~2211A.1.3.3~~ for requirements applicable to manufactured trusses specified therein.*

***1705A.2.7 ~~1705A.2.5~~*** ***Special inspection ~~Inspection~~ and tests of structural welding.*** *Special inspection ~~Inspection~~ and testing (including non-destructive testing) of all shop and field welding operations shall be in accordance with this section, and Sections 1705A.2.1, 1705A.2.2, 1705A.13.1, 1705A.14.1, as applicable* (Relocate table reference to DSA-SS, DSA-SS/CC bannered amendment below) *~~Table 1705A.2.1~~. Special inspections ~~Inspections~~ shall be ~~made~~ performed by an approved ~~qualified~~ welding inspector ~~approved by the enforcement agency~~.* *The minimum requirements for a qualified welding inspector shall be as those for an AWS Certified Welding Inspector (CWI), as defined in the provisions of the AWS QC1 or AWS B5.1.*

*The welding inspector shall make a systematic daily record of all welds. In addition to other records, this record shall include:*

1. *Identification marks of welders.*
2. *List of defective welds.*
3. *Manner of correction of defects.*

*The welding inspector shall check the material, details of construction and procedure, as well as workmanship of the welds. The special inspector shall verify that the installation and testing of end-welded stud shear connectors is in accordance with the requirements of ~~2213A.2~~ 2216A.2 (****[DSA-SS/CC]*** *~~2212.6.2~~ 22115.6.2) and the approved construction documents ~~plans and specifications~~. The approved agency shall furnish the architect, structural engineer, and the enforcement agency with a verified report that the welding has been done in conformance with AWS D1.1, D1.3, D1.4, D1.6, D1.8, as applicable and the approved construction documents.*

(Relocated paragraph from mid-section to bottom of section.) ***[DSA-SS, DSA-SS/CC]*** *Welding inspector approval by the enforcement agency shall occur when specified in the California Administrative Code. Nondestructive testing shall be performed by qualified NDT Level II personnel employed by the approved agency. Additionally, the applicable portions in* (Relocated table reference from above) *Table 1705A.2.1 of the California Building Code shall apply.*

***1705A.2.8 ~~1705A.2.6~~ Special inspection and tests of high-strength fastener assemblies.*** *Special inspections and tests for high-strength fasteners shall be in accordance with this section~~,~~ and Section 1705A.2.1~~, and~~* (Relocate table reference to DSA-SS, DSA-SS/CC bannered amendment below) *~~Table 1705A.2.1~~. High-strength bolts, nuts, and washers shall be sampled and tested by an approved agency for conformance with the requirements of applicable ASTM standards.* [Reserved for OSHPD]

***[DSA-SS, DSA-SS/CC]*** *The minimum requirements for a qualified high-strength bolting special inspector shall be an International Code Council certified Structural Steel and Bolting Special Inspector (S1).* (No changes to existing California amendment except renumbering.) *Additionally, the requirements in* Relocated table reference from above)*Table 1705A.2.1 of the California Building Code shall apply.*

***1705A.2.9 Special inspection and tests of cold-formed steel light-frame construction.******[DSA-SS, DSA-SS/CC]*** *Special inspections and tests for cold-formed steel light-frame construction shall be in accordance with quality assurance requirements of AISI S240 and this code. Additionally, the applicable portions in Table 1705A.2.1 of the California Building Code shall apply.*

*Quality assurance application of the following provisions of AISI S240, Chapter D are not permitted:*

* 1. *D6.4 (Quality Assurance Inspection Tasks).*
	2. *D6.5 (Coordinated Inspection).*
	3. *D6.7 (Inspection of Welding).*
	4. *D6.8 (Inspection of Mechanical Fastening).*
	5. *D6.9 (Inspection of Cold-Formed Steel Light-Frame Construction).*
	6. *D6.10 (Additional Requirements for Lateral Force-Resisting Systems).*
	7. *D7 (Nonconforming Material and Workmanship).*

*Basic frame inspection provisions of AISI S240, Chapter D are not permitted and inspector of record inspections shall be in accordance with the California Administrative Code.*

…

**TABLE 1705*A*.3**

**REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION**

| **TYPE** | **CONTINUOUS SPECIAL INSPECTION** | **PERIODIC SPECIAL INSPECTION** | **REFERENCED****STANDARD**a | **~~IBC~~*CBC* REFERENCE** |
| --- | --- | --- | --- | --- |
| 1. Inspect *and test* reinforcement, including prestressing tendons, and verify placement: ~~.~~
	1. *Reinforcement in special moment frames, boundary elements of special structural wall, and coupling beams.*
	2. *All other reinforcement.*
 | *X*─ | ─X | ACI 318: Ch. 20, 25.2, 25.3, *25.5.1,* 26.6.1- 26.6.3, *26.13.1, 26.13.3.1, 26.13.3.2, 26.13.3.3* | *1705A.3.9, 1908A.1,* *1910A.2, 1910A.3;* *[DSA-SS/CC] 1909.2.~~4~~3, 1909.2.~~5~~4, 1909.4~~.1~~* |
| 1. Reinforcing bar welding:
	1. Verify weldability of reinforcing bars other than ASTM A706.
	2. Inspect welding of reinforcement for (Relocate former item d. to item b. and modify as shown.) *~~d. Reinforcing steel resisting flexural and axial forces in~~ intermediate and ~~special moment frames, and boundary elements and coupling beams of special structural~~**~~walls of concrete.~~* special moment frames, boundary elements of special structural walls and coupling beams *and shear reinforcement*.
	3. Inspect welded reinforcement splices.
	4. Inspect welding of primary tension reinforcement in corbels.
	5. Inspect single pass fillet welds, maximum 5/16”~~;~~, *not defined in 2.b~~d or 2.e~~.*
	6. Inspect all other welds.

*~~e. Shear reinforcement.~~* | ─X*~~X~~*XX*─*~~─~~ *X*~~X~~ | X─ *~~─~~*──X~~X~~ *─*~~─~~ | AWS D1.4ACI 318: *18.2.8, 25.5.7,* 26.13.1.4,26.13.3, *26.13.3.2,* 26.13.3.3 | *1705A.3.1, 1903A.8* |
| 1. Inspect anchors cast in concrete.
 | ─ | X | ACI 318: *26.7.2, 26.8.2, 26.13.1,* 26.13.3.3 *~~26.13.3.3~~*  | ─ |
| 1. Inspect *and test* anchors post-installed in hardened concrete members.b, c
	1. Adhesive anchors installed horizontally or upwardly inclined orientations to resist sustained tension loads.
	2. Mechanical anchors and adhesive anchors not defined in 4.a.
 | X─ | ─X | ACI 318: *26.7.2, 26.13.1,* 26.13.3.2*, ~~26.13.3.2~~*ACI 318: *26.7.2, 26.13.1,* 26.13.3 *~~26.13.3.3~~* | *1705A.3.8, 1910A.5,**[DSA-SS/CC] 1909.2.~~7~~6**1705A.3.8, 1910A.5,**[DSA-SS/CC] 1909.2.~~7~~6* |
| 1. Verify use of required design mix.
 | *X* | ─ | ACI 318: Ch.19, *26.4,* ~~26.4.3, 26.4.4~~ *26.13.3.2* | *1903A.4~~1903A.5, 1903A.6, 1903A.7~~,* 1904*A*.1, 1904*A*.2, *1910A.1,[DSA-SS/CC] 1909.2.1, 1909.2.2~~, 1909.2.3~~* |
| 1. Prior to *and during* concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.
 | X | ─ | ASTM C31ASTM C172ACI 318: *26.4,* 26.5, 26.12 | *1705A.3.5, 1705A.3.6, 1705A.3.9, ~~1905A.1.17~~1909A.16, [DSA-SS/CC] 1909.3.~~9~~10* |
| 1. Inspect concrete and shotcrete for proper application techniques.
 | X | ─ | ACI 318: 26.5*, 26.13**ACI 506: 3.4* | *1705A.3.9, ~~1905A.1.15~~1909A.13, ~~1905A.1.16~~1909A.14, [DSA-SS/CC] 1909.3.7, 1909.3.8* |
| 1. Verify maintenance of specific curing temperature and techniques.
 | ─ | X | ACI 318: 26.5.3–26.5.5, *26.13.3.3* | ─ |
| 1. Inspect prestressed concrete for:
	1. Application of prestressing forces; and
	2. Grouting of bonded prestressing tendons.
 | XX | ── | ACI 318: 26.10*.2, 26.13.1, 26.13.3.2* | *1705A.3.4* |
| 1. Inspect erection of precast concrete members.
 | ─ | X | ACI 318: 26.9*.2,26.13.1, 26.13.3.3* | ─ |
| 1. For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category ~~C,~~ (continued existing deletion) D, E or F, inspect such connections and reinforcement in the field for:
	1. Installation of the embedded parts.
	2. Completion of the continuity of reinforcement across joints.
	3. Completion of connections in the field.
 | XXX | ——— | ACI 318:26.13.1.3ACI 550.5 | — |
| 1. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.
 | — | X | ACI 318:26.13.1.3 | — |
| 1. 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.
 | ─ | X | ACI 318: *26.10.2,* 26.11.2, *26.13.3.3* |  |
| 1. Inspect formwork for shape, location and dimensions of the concrete member being formed
 | ─ | X | ACI 318: 26.11.1.2(b), *26.13.3.3* | *~~1908A.3~~ 1909A.15, [DSA-SS/CC] 1909.~~4.~~3.9* |

…

**1705*A*.3.1 Welding of reinforcing bars.** Special inspections of welding and qualifications of special inspectors for reinforcing bars shall be in accordance with *~~1705A.2.5~~ Section 1705A.2.7,* the requirements of AWS D1.4 for special inspection and of AWS D1.4 for special inspector qualification.

…

***1705A.3.3 Batch plant inspection.*** *Except as provided under this section, the quality and quantity of materials used in transit-mixed concrete and in batched aggregates shall be continuously inspected by an approved agency at the location where materials are measured.*

***[DSA-SS, DSA-SS/CC]*** *The minimum requirements for a qualified batch plant inspector shall be possession of either:*

1. *Both of the following:*
	1. *A valid certification from ACI as a Concrete Field or Lab Testing Technician.*
	2. *Approved agency documented training records of batch plant inspection and California Administrative Code requirements.*
2. *A valid California Civil Engineering license.*

***1705A.3.3.1 Waiver of continuous batch plant inspection.*** *Continuous batch plant inspection may be waived by the registered design professional, subject to approval by the enforcement agency under either of the following conditions:*

* + 1. *~~1.~~ The concrete plant complies fully with the requirements of ASTM C94, Sections 9 and 10, and has a current certificate from the National Ready Mixed Concrete Association or another agency acceptable to the enforcement agency. The certification shall indicate that the plant has automatic batching and recording capabilities.*
		2. *~~2.~~ For single-story light-framed construction (without basement or retaining walls higher than 6 feet in height measured from bottom of footing to top of wall) and isolated foundations supporting equipment only, where deep foundation elements are not used.*

*When continuous batch plant inspection is waived, the following requirements shall apply and shall be described in the construction documents:*

1. *An approved agency shall check the first batch at the start of the day to verify materials and proportions conform to the approved mix design.*
2. *A licensed weighmaster shall positively identify quantity of materials and certify each load by a batch ticket.*
3. *Batch tickets, including material quantities and weights shall accompany the load, shall be transmitted to the inspector of record by the truck driver with load identified thereon. The load shall not be placed without a batch ticket identifying the mix. The inspector of record shall keep a daily record of placements, identifying each truck, its load, and time of receipt at the jobsite, and approximate location of deposit in the structure and shall maintain a copy of the daily record as required by the enforcement agency.*

***1705A.3.3.2 Batch plant inspection not required****. [****DSA-SS, DSA-SS/CC****] Batch plant inspection is not required for any of the following conditions, provided they are identified on the approved construction documents and ~~the licensed weighmaster and batch ticket requirements~~ items #2 and 3 of Section 1705A.3.3.1 are implemented:*

1. *Site flatwork*
2. *Unenclosed site structures, including but not limited to lunch or car shelters, bleachers, solar structures, flag or light poles, or retaining walls.*
3. *Controlled low-strength material backfill.*
4. *Single-story relocatable buildings less than 2,160 square feet.*
5. *Isolated exterior foundations supporting equipment having a component importance factor Ip = 1.0, where deep foundations are not used.*

…

**1705*A*.4 Masonry construction.** Special inspectionsand tests of masonry construction shall be performed in accordance with the quality assurance program requirements of TMS 402 and TMS 602*, as set forth in Tables 3 and 4, Level 3 requirements and Chapter 21A. Testing shall be performed in accordance with Section 2105A ([DSA-SS/CC] 2115.8). Special inspection and testing of post-installed anchors in masonry shall be required in accordance with Chapter 17A and 19A*. *Batch plant inspection of grout materials shall be in accordance with Section 1705A.3.3.*

**~~Exception:~~** ~~…~~ (Continued existing deletion of exception.)

**1705*A*.4.1 Glass unit masonry and masonry veneer in Risk Category *II, III or* IV.** Special inspectionsand tests for glass unit masonry or masonry veneerdesigned in accordance with Section 2110*A* or Chapter 14, respectively, where they are part of a structureclassified as Risk Category *II, III or* IV shall be performed in accordance with TMS 602 *Tables 3 and 4,* Level 2.

***1705A.4.1.1 TMS 602 Section 1.6 Quality Assurance.*** *Replace footnote (d) in TMS 602 Table 4 as follows:*

(d) Periodic s*pecial* inspection ~~of veneers is required when the height of the veneer exceeds 60 ft (18.3 M) above grade plane~~ *is required for all veneer.*

…

**1705A.5.1 High-load diaphragms.** High-load diaphragms designed in accordance with Section 2306*~~A~~*.2 *or 2307.1* shall be installed with special inspections as indicated in Section 1704*A*.2. The special inspector shall inspect the wood structural panel sheathing to ascertain whether it is of the grade and thickness shown on the approved construction documents. 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 construction documents.

…

**TABLE 1705*A*.5.3**

**REQUIRED SPECIAL INSPECTIONS OF MASS TIMBER CONSTRUCTION**

| **TYPE** | **CONTINUOUS SPECIAL INSPECTION** | **PERIODIC SPECIAL INSPECTION** |
| --- | --- | --- |
|  | … |  |  |
| **3.** | Inspection of connections where installation methods are required to meet design loads. |  |  |
|  | … | — | — |
| *3.5.* Concealed connections. *(****[DSA-SS, DSA-SS/CC]*** *See Sec. 110.3.5 for wood covered connections.)* | — | X |

…

***1705A.5.5 Structural glued laminated and cross-laminated timber.*** *Manufacture of all structural glued laminated and cross-laminated timber shall be continuously inspected by an approved agency.*

*The approved agency shall verify that proper quality control procedures and tests have been employed for all materials and the manufacturing process, and shall perform visual inspection of the finished product. Each inspected member shall be stamped by the approved agency with an identification mark.*

***Exception:*** *Special Inspection is not required for non-custom prismatic glued laminated members identified on drawings and sourced from stock or general inventory of 5 1/2-inch maximum width and 18-inch maximum depth, and with a maximum clear span of 32 feet, manufactured and marked in accordance with ANSI/APA A190.1 Section 1~~3~~4.1 for non-custom members.*

…

**1705*A*.6 Soils.** Special inspections and tests of existing site soil conditions, fill placement and load-bearing requirements shall be performed in accordance with this section and Table 1705*A*.6. The approved geotechnical report and the construction documents prepared by the registered design professionals shall be used to determine compliance.

**Exception:** Where Section 1803*A* does not require reporting of materials and procedures for fill placement, the special inspector shall verify that the in-place dry density of the compacted fill is not less than 90 percent of the maximum dry density at optimum moisture content determined in accordance with ASTM D1557.

***[DSA-SS, DSA-SS/CC]*** *Additional exceptions to soils special inspections and tests are permitted for the following cases when all the following occur: A) no geotechnical report is required; B) the design is permitted to be and is based on Section 1806A.2 and Table 1806A.2; C) cases are identified on the approved construction documents.*

1. *Deep foundations for the following structures:*
	1. *Free standing sign or scoreboard.*
	2. *Telecommunications towers and poles less than 35’-0” above lowest adjacent grade.*
	3. *Poles less than 35’-0” above lowest adjacent grade for lighting, flags, open mesh fences and similar structures.*
	4. *Single-story structure with dead load less than 5 psf.*
	5. *Covered walkway structure with an apex height less than 10’-0” above lowest adjacent grade.*
2. *Shallow foundations or excavations for:*
	1. *Buildings meeting exception Item #1 criteria in Section 1803A.2 supported by native soil (having any excavation depth) or fill soil (not exceeding 12” depth in accordance with Section 1804A.6).*
	2. *Soil scarification or recompaction not exceeding 12" depth.*
	3. *Native or fill soil supporting exterior non-structural flatwork including sidewalks, site concrete ramps, site stairs, parking lots, driveways, and similar cases.*
	4. *Unpaved landscaping and playground areas.*
	5. *Utility trench backfill not exceeding 12” depth.*

…

**1705*A*.12 Special inspections for wind resistance.** …

1705*A*.12.2 Cold-formed steel light-frame construction. Periodic special inspection is required for welding operations of elements of the main windforce-resisting system. Periodic special inspection is required for screw attachment, bolting, anchoring and other fastening of elements of the main windforce-resisting system, including shear walls, braces, diaphragms, collectors (drag struts) and hold-downs. *[DSA-SS, DSA-SS/CC] Requirements specified in 1705A.2.9 shall also apply.*

~~Exception: …~~ (Continued existing deletion of exception.)

…

1705*A*.13.1.1 Seismic force-resisting systems. Special inspections of structural steel in the seismic force-resisting systems in buildings and structures assigned to Seismic Design Category~~B, C,~~ (continued existing deletion) D, E or F shall be performed in accordance with the quality assurance requirements of AISC 341 *and this code* *~~as modified by Section 1705A.2.1 of this code~~*.

~~Exceptions: …~~ (Continued existing deletion of exceptions.)

***[DSA-SS, DSA-SS/CC]*** *Quality assurance application of the following provisions of AISC 341, Chapter J are not permitted:*

1. *J6 (Inspection Tasks).*
2. *J7 (Welding Inspection and Nondestructive Testing).*
3. *J10 (Inspection of Composite Structures).*
4. *J11 (Inspection of H-Piles).*

*Additionally, the applicable portions in Table 1705A.2.1 of the California Building Code shall apply.*

1705*A*.13.1.2 Structural steel elements. Special inspections of structural steel elements in the seismic force-resisting systems of buildings and structures assigned to Seismic Design Category ~~B, C,~~ (continued existing deletion) D, E or F other than those covered in Section 1705*A*.13.1.1, including struts, collectors, chords and foundation elements, shall be performed in accordance with the quality assurance requirements of AISC 341 *and this code* *~~as modified by Section 1705A.2.1 of this code~~*.

~~Exceptions: …~~ (Continued existing deletion of exceptions.)

***[DSA-SS, DSA-SS/CC]*** *Quality assurance application of the following provisions of AISC 341, Chapter J are not permitted:*

1. *J6 (Inspection Tasks).*
2. *J7 (Welding Inspection and Nondestructive Testing).*
3. *J10 (Inspection of Composite Structures).*
4. *J11 (Inspection of H-Piles).*

*Additionally, the applicable portions in Table 1705A.2.1 of the California Building Code shall apply.*

1705*A*.13.3 Cold-formed steel light-frame construction. For the seismic force-resisting systems of structures assigned to Seismic Design Category ~~C,~~ (continued existing deletion) D, E or F, periodic special inspection shall be required for both:

1. Welding operations of elements of the seismic force-resisting system.
2. Screw attachment, bolting, anchoring and other fastening of elements of the seismic force-resisting system, including shear walls, braces, diaphragms, collectors (drag struts) and hold-downs.

***[DSA-SS, DSA-SS/CC]*** *Requirements specified in 1705A.2.9 shall also apply.*

**~~Exceptions:~~** ~~…~~ (Continued existing deletion of exceptions.)

…

***1705A.13.5.2* *Structural sealant glazing.*** *Special inspection shall be in accordance with Section 2410.1.2 Item 9.*

…

**1705*A*.14 Testing for seismic resistance.** Testing for seismic resistance shall be required as specified in Sections 1705*A*.14.1 through 1705*A*.14.4, unless exempted from special inspectionsby the exception~~s~~ (continued existing deletion) of Section 1704*A*.2.

**1705*A*.14.1 Structural steel.** Nondestructive testing for seismic resistance shall be in accordance with Section 1705*A*.14.1.1 or 1705*A*.14.1.2, as applicable.

**1705*A*.14.1.1 Seismic force-resisting systems.** Nondestructive testing of structural steel in the seismic force-resisting systems in buildings and structures assigned to Seismic Design Category ~~B, C,~~ (continued existing deletion) D, E or F shall be performed in accordance with the quality assurance requirements of AISC 341 *and this code* *~~as modified by Section 1705A.2.1 of this code~~*.

**~~Exceptions:~~** ~~…~~ (Continued existing deletion of exceptions.)

***[DSA-SS, DSA-SS/CC]*** *Quality assurance application of the following provisions of AISC 341, Chapter J are not permitted:*

1. *J7 (Welding Inspection and Nondestructive Testing).*

*Additionally, the applicable portions in Table 1705A.2.1 of the California Building Code shall apply.*

**1705*A*.14.1.2 Structural steel elements.** Nondestructive testing of structural steel elements in the seismic force-resisting systems of buildings and structures assigned to Seismic Design Category~~B, C,~~ (continued existing deletion) D, E or F other than those covered in Section 1705*A*.14.1.1, including struts, collectors, chords and foundation elements, shall be performed in accordance with the quality assurance requirements of AISC 341 *and this code* *~~as modified by Section 1705A.2.1 of this code~~*.

**~~Exceptions:~~** ~~…~~ (Continued existing deletion of exceptions)

***[DSA-SS, DSA-SS/CC]*** *Quality assurance application of the following provisions of AISC 341, Chapter J are not permitted:*

1. *J7 (Welding Inspection and Nondestructive Testing).*

*Additionally, the applicable portions in Table 1705A.2.1 of the California Building Code shall apply.*

**1705*A*.14.2 Nonstructural Components.** For structures assigned to Seismic design Category ~~B, C,~~ (continued existing deletion) D, E or F, where requirements of Section 13.2.1 of ASCE 7 for non-structural components, supports, or attachments are met by *manufacturer’s certification* ~~seismic qualification~~ (continued existing deletion) as specified in Item 2 therein, the registered design professional shall specify on the approved construction documents the requirements for seismic *certification* ~~qualification~~ (continued existing deletion) by analysis~~,~~ (continued existing deletion) *or* testing. ~~or experience data.~~ (continued existing deletion) ~~Certificates of compliance for the seismic qualification~~ *~~manufacturer’s certification~~* ~~shall be submitted to the building official as specified in Section 1704~~*~~A~~*~~.5.~~

*Seismic sway bracing components satisfying requirements of ANSI/FM 1950, ANSI/ASHRAE 171, or using an alternative testing protocol approved by the building officialshall be deemed to satisfy the requirements of this section.*

…

[New proposed Section 1710A reserved for OSHPD.]

…

**Notation for [DSA-SS]:**

**Authority:** Education Code sections 17310, 81142, and Health and Safety Code section 16022.

**Reference(s):** Education Code sections 17280 through 17317, 81130 through 81149, and Health and Safety Code sections 16000 through 16023.

**Notation for [DSA-SS/CC]:**

**Authority:** Education Code sections 81053.

**Reference(s):** Education Code sections 81052, 81053, and 81130 through 81149.

### ITEM 9Chapter 18A SOILS AND FOUNDATIONS

**CHAPTER 18*A***

**SOILS AND FOUNDATIONS**

Adopt Chapter 18 of the 2024 IBC as Chapter 18A of the 2025 CBC as amended below. All existing California amendments that are not revised below shall continue without change.

…

…

***1803A.6 Geohazard reports.*** *Geohazard reports shall be required for all proposed construction.*

***Exceptions:***

1. *Reports are not required for one-story, wood-frame and light-steel-frame buildings of Type II or Type V construction and 4,000 square feet (371 m2) or less in floor area, not located within Earthquake Fault Zones or Seismic Hazard Zones as shown in the most recently published maps from the California Geological Survey (CGS) or in seismic hazard zones as defined in the Safety Element of the local General Plan~~; nonstructural, associated structural or voluntary structural alterations, and incidental structural additions or alterations, and structural repairs for other than earthquake damage~~.*
2. *Reports are not required for the following scopes of work in existing buildings: nonstructural alterations, voluntary structural alterations without foundation work, or structural repairs for damage not caused by an earthquake.*
3. *~~2.~~A previous report for a specific site may be resubmitted, provided that a reevaluation is made, and the report is found to be currently appropriate.*

*The purpose of the geohazard report shall be to identify geologic and seismic conditions that may require project mitigations. The reports shall contain data which provide an assessment of the nature of the site and potential for earthquake damage based on appropriate investigations of the regional and site geology, project foundation conditions and the potential seismic shaking at the site. The report shall be prepared by a California-certified engineering geologist in consultation with a California-registered geotechnical engineer.*

*The preparation of the geohazard report shall consider the most recent CGS Note 48: Checklist for the Review of Engineering Geology and Seismology Reports for California Public School, Hospitals, and Essential Services Buildings. In addition, the most recent version of CGS Special Publication 42:~~,~~ Earthquake Fault ~~Rupture Hazard~~ Zones, A Guide for Government Agencies, Property Owners / Developers, and Geoscience Practitioners for Assessing Fault Rupture Hazards in California, shall be considered for project sites proposed within an Alquist-Priolo Earthquake Fault Zone. The most recent version of CGS Special Publication 117A: Guidelines for Evaluating and Mitigating Seismic Hazards in California, shall be considered for project sites proposed within a Seismic Hazard Zone. All conclusions shall be supported by satisfactory data and analysis.*

*In addition to requirements in Sections 1803A.5.11 and 1803A.5.12, the report shall include, but ~~shall~~ need not be limited to, the following:*

1. *Site geology.*
2. *Evaluation of the known active and potentially active faults, both regional and local.*
3. *Ground-motion parameters, as required by Sections 1613A and 1617A, and ASCE 7.*

*~~The Next Generation Attenuation West 2 (NGA-West 2) relations used for the 2014 USGS seismic hazards maps for Western United States (WUS) shall be utilized to determine the site-specific ground motion. When supported by data and analysis, and approved by the enforcement agency, other attenuation relations that were not used for the 2014 USGS maps shall be per-mitted as additions or substitutions. No fewer than three NGA attenuation relations shall be utilized.~~*

…

**1807*A.*2 Retaining walls.** Retaining walls shall be designed in accordance with Sections 1807*A.*2.1 through 1807*A.*2.4. *~~Freestanding cantilever walls shall be designed in accordance with Section 1807A.2.5.~~*

…

***~~1807A.2.5 Freestanding cantilever walls.~~*** *~~Freestanding cantilever walls shall comply with Section 15.6.8 of ASCE 7.~~*

…

**1807*A.*3 Embedded posts and poles.** Designs to resist both axial and lateral loads employing posts or poles as columns embedded in earth or in concrete footings in earth shall be in accordance with Sections 1807*A.*3.1 through 1807*A.*3.3 or ASABE EP 486.3 *Chapter 8 using soil properties and acceptance criteria determined by the geotechnical engineer in accordance with Section 1803A.*

…

**1809*A.*1 General.** Shallow foundations shall be designed and constructed in accordance with Sections 1809*A.*2 through 1809*A.*~~13~~*15*.

…

***1809A.~~14~~15 Pipes and trenches.*** *Unless otherwise recommended by the soils report, open or backfilled trenches parallel with a footing shall not be below a plane having a downward slope of 1 unit vertical to 2 units horizontal (50 percent slope) from a line 9 inches (229 mm) above the bottom edge of the footing, and not closer than 18 inches (457 mm) from the face of such footing.*

*Where pipes cross under footings, the footings shall be specially designed. Pipe sleeves shall be provided where pipes cross through footings or footing walls and sleeve clearances shall provide for possible footing settlement, but not less than 1 inch (25 mm) all around pipe.*

***Exception:*** *Alternate trench locations and pipe clearances shall be permitted when approved by registered design professional ~~in responsible charge~~ and the enforcement agent.*

*…*

***~~1809A.15 Grade beams. [DSA-SS, DSA-SS/CC]~~*** *~~Where grade beams in shallow foundations are provided, they shall comply with Section 1810A.3.12.~~*

…

**1810*A.*3.3.1.2 Load tests.** Where design compressive loads are greater than those determined using the allowable stresses specified in Section 1810*A.*3.2.6, where the design load for any deep foundation element is in doubt, *where driven deep foundation elements are installed by means other than a pile hammer*, or where cast-in-place deep foundation elements have an enlarged base formed either by compacting concrete or by driving a precast base, control test elements shall be tested in accordance with ASTM D1143 *~~including Procedure G: Cyclic Loading Test~~* or ASTM D4945.…

…

**1810*A.*3.3.1.5 Uplift capacity of a single deep foundation element.** Where required by the design, the uplift capacity of a single deep foundation element shall be determined by an approved method of analysis based on a minimum factor of safety of three or by load tests conducted in accordance with ASTM D3689. The maximum allowable uplift load shall not exceed the ultimate load capacity as determined in Section 1810*A.*3.3.1.2, using the results of load tests conducted in accordance with ASTM D3689, *~~including the cyclic loading procedure,~~* divided by a factor of safety of two.

…

**1810*A.*3.3.2 Allowable lateral load.** Where required by the design, the lateral load capacity of a single deep foundation element or a group thereof shall be determined by an approved method of analysis or by lateral load tests *in accordance with ASTM D3966, ~~including the cyclic loading procedure,~~* to not less than twice the proposed design working load.…

…

**1810*A.*3.11.2 Seismic Design Categories D through F.** For structures assigned to Seismic Design Category D, E or F, deep foundation element resistance to uplift forces or rotational restraint shall be provided by anchorage into the pile cap, designed considering the combined effect of axial forces due to uplift and bending moments due to fixity to the pile cap. Anchorage shall develop not less than 25 percent of the strength of the element in tension. Anchorage into the pile cap shall comply with the following:

* 1. In the case of uplift, the anchorage shall be capable of developing the least of the following:
		1. The nominal tensile strength of the longitudinal reinforcement in a concrete element.
		2. The nominal tensile strength of a steel element.
		3. The frictional force developed between the element and the soil multiplied by 1.3. ***[DSA-SS, DSA-SS/CC]*** *Not permitted by DSA.*

**Exception:** The anchorage is permitted to be designed to resist the axial tension force resulting from the seismic load effects including overstrength factor in accordance with Section 2.3.6 or 2.4.5 of ASCE 7.

…

**1810*A.*3.12 Grade beams.** Grade beams shall comply with the provisions of ACI 318.

**Exception:** Grade beams not subject to differential settlement exceeding one-fourth of the thresholds specified in ASCE 7 Table 12.13-3 and designed to resist the seismic load effects including overstrength factor in accordance with Section 2.3.6 or 2.4.5 of ASCE 7 need not comply with ACI 318 Section 18.13.3.1 *~~need not comply with Section 18.13.3 of ACI 318~~*.

…

***1811A.4 Structural Requirements.***

1. *Tendons shall be …*

*…*

1. *Ultimate load shall be based upon Section 1617A.1.1~~6~~5 and shall not exceed 80 percent of the specified minimum tensile strength of the tendons.*

…

***1812A.2 Duration.*** *Shoring shall be…*

*All components of the shoring shall have corrosion protection or preservative treatment for their expected duration. Wood components of the temporary shoring that will not be removed shall be treated in accordance with AWPA U1 (Commodity Specification A, Use Category 4B and compatible species in accordance with Section 5~~.2~~), and shall be identified in accordance with Section 2303.1.9.1.*

…

***1812A.5 Construction.*** *The construction procedure shall address the following:*

1. *Holes drilled for piles/tie-back anchors…*

*…*

1. *The soldier piles shall be placed within specified tolerances in the drilled hole and braced against displacement during grouting. ~~Fill s~~Shafts shall be filled with concrete up to ~~top of footing~~ the elevation shown on the construction documents.~~,~~ The remainder ~~rest~~ of the shaft shall be permitted to ~~can generally~~ be filled with ~~lean concrete~~ controlled low-strength material (CLSM) when permitted by the construction documents. Excavation for lagging shall not be started until concrete has achieved sufficient strength for all anticipated loads as determined by the shoring design engineer.…*

*…*

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

…

### ITEM 10Chapter 19 CONCRETE

**CHAPTER 19**

**CONCRETE**

Adopt Chapter 19 of the 2024 IBC as amended below. All existing California amendments that are not revised below shall continue without change.

**SECTION 1901 – GENERAL**

**1901.1 Scope.** The provisions of this chapter …

…

***1901.1.2 Amendments in this chapter. [DSA-SS/CC]*** *DSA-SS/CC adopts this chapter ~~and all amendments~~ as amended.*

***~~Exception:~~*** *~~Amendments adopted by only one agency appear in this chapter preceded with the appropriate acronym of the adopting agency, as follows:~~*

(Relocate Item 1 below to 1901.1.3)

1. *~~Division of the State Architect - Structural Safety/Community Colleges:~~*

***~~[DSA-SS/CC]~~****~~- For applications listed in Section 1.9.2.2.~~*

1. (Reserved for OSHPD)

***1901.1.3 Identification of amendments. [DSA-SS/CC]***(Items below are relocated from existing 1901.1.2)

1. *Division of the State Architect - Structural Safety/Community Colleges amendments appear in this chapter preceded by the appropriate acronym, as follows:*

***[DSA-SS/CC]*** *- For applications listed in Section 1.9.2.2.*

1. (Reserved for OSHPD)

***1901.1.4*** ***~~1901.1.3~~*** ***Reference to other chapters.*** ***[DSA-SS/CC]*** *Where reference within this chapter is made to sections in Chapters 17 and 18, the provisions in Chapters 17A and 18A respectively shall apply instead.* (No changes to existing California amendment except renumbering)

***1901.1.5*** ***~~1901.1.4~~*** ***Additional amendments. ~~Amendments.~~ [DSA-SS/CC]***

*~~2.~~* ***~~[DSA-SS/CC]~~*** *See Section 1909 for additional requirements ~~applicable to community colleges~~.*

…

***~~1909.2.1 Aggregates.~~*** *~~- Modify ACI 318 Section 26.4.1.2.1(a).(1) as follows:~~*

*~~(1) Normal weight aggregate: Aggregate shall be non-reactive as determined by one of the methods in ASTM C33 Appendix XI Methods for Evaluating Potential for Deleterious Expansion Due to Alkali Reactivity of an Aggregate. Aggregates deemed to be deleterious or potentially deleterious may be used with the addition of a material that has been shown to prevent harmful expansion in accordance with Appendix XI of ASTM C33, when approved by the building official.~~*

(Remaining subsections in Section 1909.2 will be renumbered accordingly.)

…

***1909.2.~~7~~6 Proof ~~T~~tests for post-installed anchors in concrete.*** *When post-installed anchors are used in lieu of cast-in place bolts, the ~~installation verification~~ proof test loads, frequency and acceptance criteria shall be in accordance with this section.*

***Exceptions:*** *Proof tests are not required for the following:*

1. (Relocated from Section 1909.2.7.3, Exception 1) *Undercut anchors that allow visual confirmation of full set ~~shall not require testing~~.*
2. *Repetitively installed anchors (with 3 or more identical anchors) of diameter one-quarter (1/4)-in. or less used for distributed systems or architectural components.*
3. (Relocated from Section 1909.2.7.3, Exception 5) *~~Testing is not required for power~~ Power actuated fasteners used to attach tracks of interior nonstructural ~~-shear wall~~ partition walls, ~~for~~ resisting only shear loads ~~only, where~~ and with ~~there are~~ at least three ~~fasteners~~ anchors per segment of track.*
4. (Relocated from Section 1909.2.7.3, Exception 4) *~~Testing of shear~~ Shear dowels across cold joints in slabs on grade, where the slab is not structural per Section 1907A.1 ~~part of the lateral force-resisting system shall not be required~~.*

***1909.2.~~7~~6.1 General.*** *Test loads or torques, test frequencies and acceptance criteria shall be shown on the construction documents.*

*If any anchor fails testing, all untested anchors of the same type and installed by the same trade shall be tested~~, which are in-stalled by the same trade, not previously tested~~ until twenty (20) consecutive anchors pass, then resume the initial test frequency.*

(Relocated from Section 1909.2.7.3) *Anchors to be tested shall be selected at random by the special inspector~~/~~ or inspector of record (IOR), when 100 percent of the anchors are not tested. The testing of the post-installed anchors shall be done in the presence of the special inspector and a report of the test results shall be submitted to the enforcement agency.*

***1909.2.~~7~~6.2 Proof ~~T~~testing procedure.*** *~~The test procedure shall be as permitted by an approved evaluation report using criteria adopted in this code. All p~~Post-installed anchors shall be tension tested to verify proper installation in accordance with ASTM E3121 with test frequency and test loads in accordance with Section 1909.2.7.3 and 1909.2.7.4 respectively. Tension tests do not require displacement measurement.*

*Exception: Torque-controlled post-installed anchors and screw type anchors shall be permitted to be tested using torque based on an approved evaluation report using criteria adopted in this code.*

*~~Alternatively, the manufacturer’s recommendation for testing may be approved by the enforcement agency based on approved evaluation report using criteria adopted in this code.~~*

***1909.2.~~7~~6.3 Test frequency.*** *~~When post-installed anchors are used sill plate bolting applications, 10 percent of the anchors shall be tested.~~* (Relocated to Section 1909.2.7.3.1)

*~~When post-installed anchors are used for other structural applications, all such anchors shall be tested.~~* (Relocated to Section 1909.2.7.3.1)

*~~When post-installed anchors are used for nonstructural applications such as equipment anchorage, 50 percent or al-ternate bolts in a group, including at least one-half the anchors in each group, shall be tested.~~* (Relocated to Section 1909.2.7.3.2)

*~~The testing of the post-installed anchors shall be done in the presence of the special inspector and a report of the test results shall be submitted to the enforcement agency.~~* (Relocated to Section 1909.2.7.1)

***~~Exceptions:~~***

1. *~~Undercut anchors that allow visual confirmation of full set, shall not require testing.~~* (Relocated to Section 1909.2.7)
2. *~~Where the design tension on anchors is less than 100 pounds and those anchors are clearly noted on the ap-proved construction documents, only 10 percent of those anchors shall be tested.~~* (Relocated to Section 1909.2.7.3.2)
3. *~~Where adhesive anchor systems are used to install reinforcing dowel bars in hardened concrete, only 25 percent of the dowels shall be tested if all the following conditions are met:~~* (Relocated to Section 1909.2.7.3.1, including the following subitems)
	1. *~~The dowels are used exclusively to transmit shear forces across joints between existing and new concrete.~~*
	2. *~~The number of dowels in any one member equals or exceeds 12.~~*
	3. *~~The dowels are uniformly distributed across seismic force resisting members (such as shear walls, collectors and diaphragms).~~*

*~~Anchors to be tested shall be selected at random by the special inspector/inspector of record (IOR).~~* (Relocated to Section 1909.2.7.1)

1. *~~Testing of shear dowels across cold joints in slabs on grade, where the slab is not part of the lateral force-resisting system shall not be required.~~* (Relocated to Section 1909.2.7.1)
2. *~~Testing is not required for power actuated fasteners used to attach tracks of interior non-shear wall partitions, for shear only, where there are at least three fasteners per segment of track.~~* (Relocated to Section 1909.2.7.1)

***1909.2.6.3.1 Structural applications.***(Relocated and reworded from Section 1909.2.7.3) *100 percent of post-installed anchors used in structural applications shall be proof tested.*

***Exceptions:***

1. *Sill bolts.* (Relocated from Section 1909.2.7.3) *When post-installed anchors are used for sill plate or bottom track bolting applications, 10 percent of the anchors shall be tested.*
2. *Rebar Dowels.* (Relocated from Section 1909.2.7.3, Exception 3) *~~Where~~ When adhesive anchor systems are used to install reinforcing dowel bars in hardened concrete, ~~only~~ 25 percent of the dowels shall be tested if all of the following conditions are met:*
	1. *~~a~~. The dowels are used exclusively to transmit shear forces across joints between existing and new concrete.*
	2. *~~b~~. The number of dowels in any one member equals or exceeds 12.*
	3. *~~c~~. The dowels are uniformly distributed across seismic force resisting members (such as shear walls, col-lectors and diaphragms).*

***1909.2.6.3.2 Nonstructural applications.*** *50 percent of post-installed anchors used in nonstructural applications shall be proof tested. The percentage of tested anchors applies to each set of anchors of a common type (e.g. adhesive, wedge, or shell and sleeve for expansion bolts), size, and embedment depth and to each group of anchors. Four or more anchors connected to a common element shall be defined as a group.*

***Exceptions:***

1. *Repetitive anchors. When anchors are used repetitively (with 3 or more identical anchors) in distributed systems (such as pipe, duct or conduit supports) or architectural systems (such as suspended ceilings, cladding, and partitions) 20 percent of anchors, including at least one anchor in each group, shall be tested.*
2. *Anchors with low tension.* (Relocated from Section 1909.2.7.3, Exception 2) *~~Where~~ When the design tension on anchors is less than 100 lbs and those anchors are clearly noted on the approved construction documents, ~~only~~ 10 percent of ~~those~~ anchors shall be tested.*

…

***1909.2.~~7~~6.5 Test acceptance criteria.*** *~~Acceptance criteria for post-installed anchors shall be based on an approved test report using criteria adopted in this code. Field~~ Proof tests shall satisfy the following minimum requirements.*

1. *~~Hydraulic ram method~~ Tension test: Anchors shall be tested in the unconfined condition in accordance with ASTM E3121 except that the minimum distance to the test frame shall be 1.5 times the anchor’s embedment depth. ~~with a hydraulic jack or spring loaded apparatus shall maintain the t~~Test load shall be maintained for a minimum of 15 seconds and shall exhibit no discernible movement during the tension test, e.g., as evidenced by loosening of the washer under the nut or an abrupt decrease in the gauge pressure.*

(Relocated to the first sentence above) *~~The testing apparatus support locations shall not be within 1.5 times the anchor’s embedment depth to avoid restricting the concrete shear cone type failure mechanism from occurring.~~*

***Exception:*** *~~When denoted accordingly on the approved construction documents, adhesive anchors complying with ACI 318 Equation 17.8.2a and for which concrete breakout does not control the design tensile strength may be tested with apparatus support locations closer than 1.5 times the anchor embedment depth.~~ Adhesive anchors shall be permitted to be tested in confined conditions in accordance ASTM E3121 when the approved construction documents shows that concrete breakout does not control the design tensile strength.*

1. *Torque ~~wrench method~~ test: Torque-controlled post-installed anchors tested with a calibrated torque wrench shall attain the specified torque within 1/2 turn of the nut; or one-quarter (1/4) turn of the nut for a 3/8-inch sleeve anchor only. Screw-type anchors tested with a calibrated torque wrench shall attain the specified torque within one-quarter (1/4) turn of the screw after initial seating of the screw head.*

…

***1909.3.9 ACI 318, Section 26.11.1.2.*** *Modify ACI 318, Section 26.11.1.2 by adding item (e) as follows:* (Continued amendment relocated from Section 1909.4.3)

*(e) Forms for shotcrete shall be substantial and rigid. Forms shall be built and placed so as to permit the escape of air and rebound. Adequate ground wires, which are to be used as screeds, shall be placed to establish the thickness, surface planes and form of the shotcrete work. All surfaces shall be rodded to these wires.*

***1909.3.~~9~~10 ACI 318, Section 26.12.2.1~~(a)~~.*** *~~Replace~~ Modify ACI 318, Section 26.12.2.1~~(a)~~ by ~~the following~~ replacing item (a) as follows:*

*~~26.12.2.1~~(a) - Samples for strength tests…*

…

***1909.4 Shotcrete.***

***~~1909.4.1 General.~~*** *Shotcrete shall also conform to the provisions of ACI 506.2 and ACI 506R. The specified compressive strength of shotcrete shall not be less than 4,000 psi (27.6 MPa). Preconstruction tests of one or more shotcrete mockup panels prepared in accordance with Section 1705A.3.9.2 are required. In addition to testing requirements in ACI 318, special inspection and testing shall be in accordance with Section 1705A.3.9. ~~The use of a shotcrete mockup panel to qualify bar clearance dimensions in accordance with ACI 318 Section 25.2.7.1 or contact lap splices in accordance with ACI 318 Section 25.5.1.7 is subject to the approval of the building official.~~* (Proposed coordination with CBC Section 1908A.1 and adoption of continued OSHPD amendment) *The evaluation of the shotcrete mockup panel to qualify bar clearance dimensions in accordance with ACI 318 Section 25.2.7 or contact lap splices in accordance with ACI 318 Section 25.5.1.7 shall be in accordance with the requirements of ACI 506.4R with a core quality category of Very Good given in ACI 506.6T. Tolerances for shotcrete construction shall be defined by the construction documents.*

(Relocated to parent section above) ***~~1909.4.2 Tests and inspections.~~*** *~~Preconstruction tests of one or more shotcrete mockup panels prepared in accordance with Section 1705A.3.9.2 are required. In addition to testing requirements in ACI 318, special inspection and testing shall be in accordance with Section 1705A.3.9.~~*

(Relocated to Section 1909.3.9) ***~~1909.4.3 Forms and ground wires for shotcrete.~~*** *~~Forms for shotcrete shall be substantial and rigid. Forms shall be built and placed so as to permit the escape of air and rebound.~~*

*~~Adequate ground wires, which are to be used as screeds, shall be placed to establish the thickness, surface planes and form of the shotcrete work. All surfaces shall be rodded to these wires.~~*

…

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

*…*

### ITEM 11Chapter 19A CONCRETE

**CHAPTER 19A**

**CONCRETE**

Adopt Chapter 19 of the 2024 IBC as Chapter 19A of the 2025 CBC as amended below. All existing California amendments that are not revised below shall continue without change.

…

**1901*A*.2 *R*einforced concrete.** Structural concrete shall be designed and constructed in accordance with the requirements of this chapter and ACI 318 as supplemented in Section 1905*A* of this code*, except that plain concrete is not permitted*.

**~~1901.2.1 Structural concrete with GFRP reinforcement.~~** ~~Cast-in-place structural concrete internally reinforced with glass fiber reinforced polymer (GFRP) reinforcement conforming to ASTM D7957 and designed in accordance with ACI CODE 440.11 shall be permitted where fire-resistance ratings are not required and only for structures assigned to Seismic Design Category A.~~

…

**1901*A.*5 Construction documents.** The construction documents for structural concrete construction shall include:

1. The specified compressive strength …

…

1. Details and location of contraction or isolation joints ~~specified for plain concrete~~.

…

…

**~~1903~~*~~A.~~*~~2 Special inspections.~~** ~~Where required, special inspections and tests shall be in accordance with Chapter 17~~*~~A and Section 1910A.~~*

…

**1903*A*.3** **Flat wall insulating concrete form (ICF) systems.** Insulating concrete form material used for forming flat concrete walls shall conform to ASTM E2634. ***[DSA-SS]*** *ICF systems shall be considered…* (Continued amendment relocated from Section 1903A.4 of 2022 CBC)

…

***~~1903A.5 Aggregates~~*** *~~– Modify ACI 318 Section 26.4.1.2.1(a).(1) as follows:~~*

*~~(1) Normal weight aggregate: Aggregate shall be non-reactive as determined by one of the methods in ASTM C33 Appendix XI: Methods for Evaluating Potential for Deleterious Expansion Due to Alkali Reactivity of an Aggregate. Aggregates deemed to be deleterious or potentially deleterious may be used with the addition of a material that has been shown to prevent harmful expansion in accordance with Appendix XI of ASTM C33, when approved by the building official.~~*

…

***1903A.4 ~~1903A.7~~*** ***Steel fiber reinforcement*** *– Not permitted.*

***1903A.5 ~~1903A.8~~ Welding of reinforcing bars*** *- Modify ACI 318 Section 26.6.4.2(b) by adding the following:*

*Subject to prior approval…*

*…*

**SECTION 1905A**

**SEISMIC REQUIREMENTS**

…

**1905*A*.2 ACI 318 Section 2.3.** Modify existing definitions and add the following definitions to ACI 318 Section 2.3:

**CAST-IN-PLACE CONCRETE EQUIVALENT DIAPHRAGM.** A cast-in-place noncomposite topping slab diaphragm, as defined in Section18.12.5, or a diaphragm constructed with precast concrete components that uses closure strips be-tween precast components with detailing that meets the requirements of ACI 318 for the Seismic Design Category of the structure.

(Continued deletion of definitions formerly in IBC Section 1905.1.1)

**~~DETAILED PLAIN CONCRETE STRUCTURAL WALL.~~** ~~A wall complying with the requirements of Chapter 14, and Section 1905.5 of the International Building Code.~~

**~~ORDINARY PLAIN CONCRETE STRUCTURAL WALL.~~** ~~A wall complying with the requirements of Chapter 14, excluding 14.6.2.~~

**~~ORDINARY PRECAST STRUCTURAL WALL.~~** ~~A precast wall complying with the requirements of Chapters 1 through 13, 15, 16 and 19 through 26.~~

**~~ORDINARY REINFORCED CONCRETE STRUCTURAL WALL.~~** ~~A cast-in-place wall complying with the requirements of Chapters 1 through 13, 15, 16 and 19 through 26.~~

**PRECAST CONCRETE DIAPHRAGM.** A diaphragm constructed with precast concrete components, with or without a cast-in-place topping, that includes the use of discrete connectors or joint reinforcement to transmit diaphragm forces.

…

**1905*A*.3.1 Connections designed to yield.** Connections that are designed to yield shall be capable of maintaining 80 percent of their design strength at the deformation induced by the design displacement or shall use Type 2 mechanical splices. ***[DSA-SS]*** *Connections between wall panels and the foundation shall be designed per Section 1617A.1.15.* (Continued amendment relocated from Section 1905*A.*1.9 of 2022 CBC)

…

**1905*A.*5 Detailed plain concrete structural walls.** *Not permitted.* (Continued deletion of plain concrete provisions formerly in IBC Section 1905.1.6) ~~Detailed plain concrete structural walls are walls conforming to the requirements of ordinary plain concrete structural walls and Section 1905.5.1.~~

**~~1905.5.1 Reinforcement.~~** ~~Reinforcement shall be provided as follows:~~

1. ~~Vertical reinforcement of not less than 0.20 square inch (129 mm2) in cross-sectional area shall be provided continuously from support to support at each corner, at each side of each opening, and at the ends of walls. The continuous vertical bar required beside an opening is permitted to substitute for one of the two No. 5 bars required by Section 14.6.1 of ACI 318.~~
2. ~~Horizontal reinforcement of not less than 0.20 square inch (129 mm2) in cross-sectional area shall be provided:~~
	1. ~~Continuously at structurally connected roof and floor levels and at the top of walls.~~
	2. ~~At the bottom of load-bearing walls or in the top of foundations where doweled to the wall.~~
	3. ~~At a maximum spacing of 120 inches (3048 mm).~~

~~Reinforcement at the top and bottom of openings, where used in determining the maximum spacing specified in Item 2.3, shall be continuous in the wall.~~

**1905*A.*6 Structural plain concrete**. *Not permitted.* (Continued deletion of plain concrete provisions formerly in IBC Section 1905.1.7) ~~Structural plain concrete elements shall comply with this section in lieu of Section 14.1.4 of ACI 318.~~

**~~1905.6.1 Seismic Design Categories A and B.~~** ~~In structures assigned to Seismic Design Category A or B, detached one- and two-family dwellings three stories or less in height constructed with stud-bearing walls are permitted to have plain concrete footings without longitudinal reinforcement.~~

**~~1905.6.2 Seismic Design Categories C, D, E and F.~~** ~~Structures assigned to Seismic Design Category C, D, E or F shall not have elements of structural plain concrete, except as follows:~~

1. ~~Structural plain concrete basement, foundation or other walls below the base as defined in ASCE/SEI 7 are per-mitted in detached one- and two-family dwellings three stories or less in height constructed with stud-bearing walls. In dwellings assigned to Seismic Design Category D or E, the height of the wall shall not exceed 8 feet (2438 mm), the thickness shall be not less than 7½ inches (190mm), and the wall shall retain not more than 4 feet (1219 mm) of un-balanced fill. Walls shall have reinforcement in accordance with Section 14.6.1 of ACI 318.~~
2. ~~Isolated footings of plain concrete supporting pedestals or columns are permitted, provided that the projection of the footing beyond the face of the supported member does not exceed the footing thickness.~~

**~~Exception:~~** ~~In detached one- and two-family dwellings three stories or less in height, the projection of the footing beyond the face of the supported member is permitted to exceed the footing thickness.~~

1. ~~Plain concrete footings supporting walls are permitted, provided that the footings have not fewer than two con-tinuous longitudinal reinforcing bars. Bars shall not be smaller than No. 4 and shall have a total area of not less than 0.002 times the gross cross-sectional area of the footing. For footings that exceed 8 inches (203 mm) in thickness, not fewer than one bar shall be provided at the top and bottom of the footing. Continuity of reinforcement shall be pro-vided at corners and intersections.~~

**~~Exceptions:~~**

1. ~~Where assigned to Seismic Design Category C, detached one- and two-family dwellings three stories or less in height constructed with stud-bearing walls are permitted to have plain concrete footings without longitudinal reinforcement.~~
2. ~~For foundation systems consisting of a plain concrete footing and a plain concrete stemwall, not fewer than one bar shall be provided at the top of the stemwall and at the bottom of the footing.~~
3. ~~Footings cast monolithically with a slab-on-ground shall have not fewer than one No. 4 bar at the top and bottom of the footing or one No. 5 bar or two No. 4 bars in the middle third of the footing depth.~~

**1905*A*.7 Design requirements for anchors.** For the design requirements for anchors, Sections 1905*A*.7.1 and 1905*A*.7.2 provide exceptions that are permitted to ACI 318.

**1905*A*.7.1 Anchors in tension.** The following exception is permitted to ACI 318 Section 17.10.5.2:

**Exception:** Anchors designed to resist wall out-of-plane forces with design strengths equal to or greater than the force determined in accordance with ASCE/SEI 7 Equation 12.11-1 ~~or 12.14-1~~ *and Section 1604A.8.2* *of this code* shall be deemed to satisfy Section 17.10.5.3(d) of ACI 318. (Continued amendment relocated from Section 1905A.1.8 of 2022 CBC)

**1905*A*.7.2 Anchors in shear.** The following exceptions are permitted to ACI 318 Section 17.10.6.2:

**Exceptions:**

1. For the calculation of the in-plane shear strength of anchor bolts…
2. For the calculation of the in-plane shear strength of anchor bolts attaching cold-formed steel track of bearing or nonbearing walls of light-frame construction to foundations or foundation stemwalls, the in-plane shear strength in accordance with Sections 17.7.2 and 17.7.3 of ACI 318 need not be computed and *Section* 17.10.6.3 *of ACI 318* shall be deemed to be satisfied provided that all of the following are met:
3. In light-frame construction *of* bearing or nonbearing walls, shear strength of concrete anchors less than or equal to 1 inch (25 mm) in diameter attaching sill plate or track to foundation or foundation stemwalls need not satisfy Sections 17.10.6.3(a) through (c) *of ACI 318* when the design strength of the anchors is determined in accordance with Section 17.7.2.1(c) of ACI 318.

…

**SECTION 1906A**

**~~FOOTINGS FOR LIGHT-FRAME CONSTRUCTION~~**

***RESERVED***

*~~Not permitted by OSHPD and DSA-SS.~~*

**~~1906A.1 Plain concrete footings.~~**~~…~~ (Continued deletion of IBC Section 1906.1)

**…**

**SECTION 1908A**

**SHOTCRETE**

**1908*A*.1 General.** Shotcrete shall be in accordance with the requirements of ACI 318 and the provisions of ACI 506R. (Continued **amendment** relocated from Section 1908A.2) *Preconstruction tests of one or more shotcrete mockup panels prepared in accordance with Section 1705A.3.9.2 are required. In addition to testing requirements in ACI 318, special inspection and testing shall be in accordance with Section 1705A.3.9.* (Reserved for OSHPD) ***~~[DSA-SS]~~*** *~~The use of a shotcrete mockup panel to qualify bar clearance dimensions in accordance with ACI 318 Section 25.2.7.1 or contact lap splices in accordance with ACI 318 Section 25.5.1.7, is subject to the approval of the building official.~~*

*~~Exception: The reference to ACI 506R~~ Shotcrete construction shall be ~~to~~ in accordance with the requirements of ACI 506.2~~, unless otherwise approved by the enforcing agent~~.*

(Relocated to Section 1908A.1) ***~~1908A.2 Tests and inspections.~~*** *~~Preconstruction tests of one or more shotcrete mockup panels prepared in accordance with Section 1705A.3.9.2 are required. In addition to testing requirements in ACI 318, special inspection and testing shall be in accordance with Section 1705A.3.9.~~*

(Relocated to Section 1909A.15) ***~~1908A.3 Forms and ground wires for shotcrete.~~*** *~~Forms for shotcrete shall be substantial and rigid. Forms shall be built and placed so as to permit the escape of air and rebound.~~*

*~~Adequate ground wires, which are to be used as screeds, shall be placed to establish the thickness, surface planes and form of the shotcrete work. All surfaces shall be rodded to these wires.~~*

…

***SECTION 1909A***

***~~RESERVED~~***

***MODIFICATIONS TO ACI 318***

***1909A.1 ~~1905A.1.1~~ ACI 318, Section 4.12.2.2.*** *Modify ACI 318, Section 4.12.2.2 by adding the following: …* (Continued amendment relocated from Section 1905A.1.1 of 2022 CBC)

***1909A.2 ~~1905A.1.2~~ ACI 318, Section 4.12.2.3.*** *Modify ACI 318, Section 4.12.2.3 by adding the following: …* (Continued amendment relocated from Section 1905A.1.2 of 2022 CBC)

***1909A.3 ~~1905A.1.3~~ ACI 318, Section 9.6.1.3.*** *Modify ACI 318, Section 9.6.1.3by adding the following: …* (Continued amendment relocated from Section 1905A.1.3 of 2022 CBC)

***1909A.4 ~~1905A.1.4~~ ACI 318, Section 11.2.4.1.*** *Replace ACI 318, Section 11.2.4.1 as follows: …* (Continued amendment relocated from Section 1905A.1.4 of 2022 CBC)

***1909A.5 ~~1905A.1.5~~ ACI 318, Section 11.7.*** *Add Section 11.7.6 to ACI 318~~.1~~ as follows:* (Continued amendment relocated from Section 1905A.1.5 of 2022 CBC)

*11.7.6 –* ***Reinforcement.*** *…*

*Wall panels of shear wall buildings shall be connected to columns or to each other in such a manner as to develop at least 75 percent of the horizontal wall steel. No more than half of this continuous horizontal reinforcing shall be concentrated in bond or tie beams at the top and bottom of the walls and at points of intermediate lateral support. If possible, cast-in-place joints with reinforcing bars extending from the panels into the joint a sufficient distance to meet the splice requirements of ~~ACI 318,~~ Section 25.5.2, for Class A shall be used. The reinforcing bars.…*

***1909A.6 ~~1905A.1.6~~ ACI 318, Section 11.9.*** *Modify ACI 318 by adding Section 11.9 as follows:* (Continued amendment relocated from Section 1905A.1.6 of 2022 CBC)

*11.9 –* ***Foundation walls.*** *…*

*Where concrete foundation walls or curbs extend above the floor line and support wood-frame or light-steel exterior, bearing or shear walls, they shall be doweled to the foundation wall below with a minimum of No. 3 bars at 24 inches (610 mm) on center. Where the height of the wall above the floor line exceeds 18 inches (457 mm), the wall above and below the floor line shall meet the requirements of ~~ACI 318,~~ Section 11.6 and 11.7.*

***1909A.7 ~~1905A.1.7~~ ACI 318, Section 12.7.3.*** *Add Section 12.7.3.4 to ACI 318 as follows:* (Continued amendment relocated from Section 1905A.1.7 of 2022 CBC)

*12.7.3.4 – At least two No. 5 bars in diaphragms having two layers of reinforcement in ~~both~~ either direction~~s~~ and one No. 5 bar in diaphragms having a single layer of reinforcement in both directions shall be provided around openings ...*

***1909A.8 ~~1905A.1.10~~ ACI 318, Section 18.10.6.5.*** *Modify ACI 318, Section 18.10.6.5 by adding the following:* (Continued amendment relocated from Section 1905A.1.10 of 2022 CBC)

1. *Where boundary members are not required by ~~ACI 318~~ Section 18.10.6.2 or 18.10.6.3 minimum reinforcement parallel to the edges of all structural walls and the boundaries of all openings shall consist of twice the cross-sectional area of the minimum shear reinforcement required per lineal foot of wall. Horizontal extent of boundary element shall be in accordance with ~~ACI 318~~ Section 18.10.6.4 (a), (b) and (c).*

***1909A.9 ~~1905A.1.11~~ ACI 318, Section 18.12.6.*** *Add Section 18.12.6.2 to ACI 318 as follows: …* (Continued amendment relocated from Section 1905A.1.11 of 2022 CBC)

***1909A.10 ~~1905A.1.12~~ ACI 318, Section 19.2.1.1 and Table 19.2.1.1.*** *Modify ACI 318, Section 19.2.1.1 and Table 19.2.1.1 as follows: …* (Continued amendment relocated from Section 1905A.1.12 of 2022 CBC)

*…*

1. *Reinforced normal weight concrete with specified compressive strength higher than 8,000 psi (55 MPa) shall be considered as an alternative system. ~~require prior approval of structural design method and acceptance criteria by the enforcement agency.~~*

**Table 19.2.1.1—Limits for f’c**

| APPLICATION | MINIMUMfc’, psi |
| --- | --- |
| General | *3000* |
| Special moment framesSpecial structural walls with Grade 60 or 80 reinforcement | 3000 |
| Special structural walls with Grade 100 reinforcement | 5000 |
| Precast-nonprestressed driven pilesDrilled shafts | 4000 |
| Precast-prestressed driven piles | 5000 |
| *Shotcrete* | *4000* |

***1909A.11 ~~1905A.1.13~~ ACI 318, Table 21.2.2.******[DSA-SS]*** *~~Replace~~ Modify ACI 318, Table 21.2.2 as follows:* … (Continued amendment relocated from Section 1905A.1.13 of 2022 CBC)

***1909A.12 ~~1905A.1.14~~ ACI 318, Section 24.2.1.*** *Add Section 24.2.1.1 to ACI 318 as follows:* … (Continued amendment relocated from Section 1905A.1.14 of 2022 CBC)

***1909A.13 ~~1905A.1.15~~ ACI 318, Section 25.2.10.*** *Replace ACI 318, Section 25.2.10 by the following:* … (Continued amendment relocated from Section 1905A.1.15 of 2022 CBC)

***1909A.14 ~~1905A.1.16~~ ACI 318, Section 26.5.2.*** *Modify ACI 318, Section 26.5.2.1 by replacing items (l), (m) and (n) and adding item (q) as follows:* … (Continued amendment relocated from Section 1905A.1.16 of 2022 CBC)

***1909A.15 ACI 318, Section 26.11.1.*** *Modify ACI 318, Section 26.11.1.2 by adding item (e) as follows:* (Continued amendment relocated from Section 1908A.3 of 2022 CBC)

*(e) Forms for shotcrete shall be substantial and rigid. Forms shall be built and placed so as to permit the escape of air and rebound. Adequate ground wires, which are to be used as screeds, shall be placed to establish the thickness, surface planes and form of the shotcrete work. All surfaces shall be rodded to these wires.*

***1909A.16 ~~1905A.1.17~~ ACI 318, Section 26.12.2.1(a).*** *Replace ACI 318, Section 26.12.2.1(a) by the following:* … (Continued amendment relocated from Section 1905A.1.17 of 2022 CBC)

***SECTION 1910A - CONCRETE, REINFORCEMENT AND ANCHOR TESTING***

…

***1910A.5 Proof ~~T~~tests for post-installed anchors in concrete.*** *When post-installed anchors are used in lieu of cast-in place bolts, the ~~installation verification~~ proof test loads, frequency and acceptance criteria shall be in accordance with this section.*

***Exceptions:*** *Proof tests are not required for the following:*

1. (Relocated from Section 1910A.5.3, Exception 1) *Undercut anchors that allow visual confirmation of full set ~~shall not require testing~~.*
2. *Repetitively installed anchors (with 3 or more identical anchors) of diameter one-quarter (1/4)-in. or less used for distributed systems or architectural components.*
3. (Relocated from Section 1910A.5.3, Exception 5) *~~Testing is not required for power~~ Power actuated fasteners used to attach tracks of interior nonstructural ~~shear wall~~ partition~~s~~ walls, ~~for~~ resisting only shear loads ~~only, where~~ and with ~~there are~~ at least three ~~fasteners~~ anchors per segment of track.*
4. (Relocated from Section 1910A.5.3, Exception 4) *~~Testing of s~~Shear dowels across cold joints in slabs on grade, where the slab is not structural in accordance with Section 1907A.1 ~~part of the lateral force-resisting system shall not be required~~.*

***1910A.5.1 General.*** *Test loads or torques, test frequencies and acceptance criteria shall be shown on the construction documents.*

*If any anchor fails testing, all untested anchors of the same type and installed by the same trade shall be tested~~, which are installed by the same trade, not previously tested~~ until twenty (20) consecutive anchors pass, then resume the initial test frequency.*

(Relocated from Section 1910A.5.3) *Anchors to be tested shall be selected at random by the special inspector~~/~~ or inspector of record (IOR), when 100 percent of the anchors are not tested.*

*The testing of the post-installed anchors shall be done in the presence of the special inspector and a report of the test results shall be submitted to the enforcement agency.*

***1910A.5.2 Proof ~~T~~testing procedure.*** *~~The test procedure shall be as permitted by an approved evaluation report using criteria adopted in this code. All p~~Post-installed anchors shall be tension tested to verify proper installation in accordance with ASTM E3121 with test frequency and test loads in accordance with Section 1910A.5.3 and 1910A.5.4 respectively. Tension tests do not require displacement measurement unless specified on the approved construction documents.*

***Exception:*** *Torque-controlled post-installed anchors and screw type anchors shall be permitted to be tested using torque based on a~~n approved~~ valid evaluation report and ~~using~~ criteria adopted in this code.*

*~~Alternatively, manufacturer's recommendation for testing may be approved by the enforcement agency, based on an approved test report using criteria adopted in this code.~~*

***1910A.5.3 Test frequency.*** *~~When post-installed anchors are used for sill plate bolting applications, 10 percent of the anchors shall be tested.~~* (Relocated to Section 1910A.5.3.1)

*~~When post-installed anchors are used for other structural applications, all such anchors shall be tested.~~* (Relocated to Section 1910A.5.3.1)

*~~When post-installed anchors are used for nonstructural components, such as equipment anchorage, 50 percent or alternate bolts in a group, including at least one-half the anchors in each group, shall be tested.~~* (Relocated to Section 1910A.5.3.2)

*~~The testing of the post-installed anchors shall be done in the presence of the special inspector and a report of the test results shall be submitted to the enforcement agency.~~* (Relocated to Section 1910A.5.1)

***~~Exceptions:~~***

1. *~~Undercut anchors that allow visual confirmation of full set shall not require testing.~~* (Relocated to Section 1910A.5.3.2)
2. *~~Where the design tension on anchors is less than 100 lbs and those anchors are clearly noted on the approved construction documents, only 10 percent of those anchors shall be tested.~~* (Relocated to Section 1910A.5.3.2)
3. *~~Where adhesive anchor systems are used to install reinforcing dowel bars in hardened concrete, only 25 percent of the dowels shall be tested if all of the following conditions are met:~~* (Relocated to Section 1910A.5.3.1, including the following subitems)
	1. *~~The dowels are used exclusively to transmit shear forces across joints between existing and new concrete.~~*
	2. *~~The number of dowels in any one member equals or exceeds 12.~~*
	3. *~~The dowels are uniformly distributed across seismic force resisting members (such as shear walls, collectors and diaphragms).~~*

 *~~Anchors to be tested shall be selected at random by the special inspector/inspector of record (IOR).~~* (Relocated to Section 1910A.5.1)

1. *~~Testing of shear dowels across cold joints in slabs on grade, where the slab is not part of the lateral force-resisting system shall not be required.~~* (Relocated to Section 1910A.5.3.2)
2. *~~Testing is not required for power actuated fasteners used to attach tracks of interior non-shear wall partitions for shear only, where there are at least three fasteners per segment of track.~~* (Relocated to Section 1910A.5.3.2)
3. (Reserved for OSHPD)

***1910A.5.3.1 Structural applications.***(Relocated and reworded from Section 1910A.5.3) *100 percent of post-installed anchors used for structural applications shall be proof tested.*

***Exceptions:***

1. *Sill bolts.* (Relocated from Section 1910A.5.3) *When post-installed anchors are used for sill plate or bottom track bolting applications, 10 percent of the anchors shall be tested.*
2. *Rebar Dowels.* (Relocated from Section 1910A.5.3, Exception 3) *~~Where~~ When adhesive anchor systems are used to install reinforcing dowel bars in hardened concrete, ~~only~~ 25 percent of the dowels shall be tested if all of the following conditions are met:*
	1. *~~a~~. The dowels are used exclusively to transmit shear forces across joints between existing and new concrete.*
	2. *~~b~~.The number of dowels in any one member equals or exceeds 12.*
	3. *~~c~~. The dowels are uniformly distributed across seismic force resisting members (such as shear walls, collectors and diaphragms).*

***1910A.5.3.2 Nonstructural applications.*** *50 percent of post-installed anchors used in nonstructural applications shall be proof tested. The percentage of tested anchors applies to each set of anchors of a common type (e.g. adhesive, wedge, or shell and sleeve for expansion bolts), size, and embedment depth and to each group of anchors. Four or more anchors connected to a common element shall be defined as a group.*

***Exceptions:***

* 1. *Repetitive anchors. When anchors are used repetitively (with 3 or more identical anchors) in distributed systems (such as pipe, duct or conduit supports) or architectural systems (such as suspended ceilings, cladding, and partitions) 20 percent of anchors, including at least one anchor in each group, shall be tested.*
	2. *Anchors with low tension.* (Relocated from Section 1910A.5.3, Exception 2) *~~Where~~ When the design tension on anchors is less than 100 pounds and those anchors are clearly noted on the approved construction documents, ~~only~~ 10 percent of ~~those~~ anchors shall be tested.*
	3. (Reserved for OSHPD)

***1910A.5.4 Test loads.*** *Required test loads shall be determined by one of the…*

***1910A.5.5 Test acceptance criteria.*** *~~Acceptance criteria for post-installed anchors shall be based on an approved evaluation report using criteria adopted in this code. Field~~ Proof tests shall satisfy the following minimum requirements.*

1. *~~Hydraulic ram method~~ Tension test: Anchors shall be tested in the unconfined condition in accordance with ASTM E3121 except that the minimum distance to the test frame shall be 1.5 times the anchor’s embedment depth. ~~with a hydraulic jack or spring loaded apparatus shall maintain the t~~Test load shall be maintained for a minimum of 15 seconds and shall exhibit no discernible movement during the tension test, e.g., as evidenced by loosening of the washer under the nut or an abrupt decrease in the gauge pressure.*

(Relocated to the first sentence above) *~~The testing apparatus support locations shall not be within 1.5 times the anchor’s embedment depth to avoid restricting the concrete shear cone type failure mechanism from occurring.~~*

***Exception:*** *~~When denoted accordingly on the approved construction documents, adhesive anchors complying with ACI 318 Equation 17.8.2a and for which concrete breakout does not control the design tensile strength may be tested with apparatus support locations closer than 1.5 times the anchor embedment depth.~~* *Adhesive anchors shall be permitted to be tested in confined conditions in accordance ASTM E3121 when the approved construction documents indicate that concrete breakout does not control the design tensile strength.*

1. *Torque ~~wrench method~~ test: Torque-controlled post-installed anchors* *tested with a calibrated torque wrench shall attain the specified torque…*

…

***1911A.2 Crack repair by epoxy injection.*** *Crack repair of concrete and masonry member by epoxy injection, shall conform to all requirements of ACI ~~503.7~~ 548.15.*

…

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

*…*

### ITEM 12Chapter 20 ALUMINUM

**CHAPTER 20 ALUMINUM**

Adopt Chapter 20 of the 2024 IBC as Chapter 20 of the 2025 CBC as amended below. All existing California amendments that are not revised below shall continue without change.

**SECTION 2001 – GENERAL**

**2001.1 Scope.** This chapter shall govern…

…

***2001.1.2 Amendments in this chapter. [DSA-SS, DSA-SS/CC]*** *DSA-SS and DSA-SS/CC adopt this chapter ~~and all amendments~~ as amended.*

***~~Exception:~~*** *~~Amendments adopted by only one agency appear in this chapter preceded with the appropriate acronym of the adopting agency, as follows:~~*

1. (Reserved for OSHPD)
2. *Division of the State Architect - Structural Safety~~:~~ amendments appear in this chapter preceded by the appropriate acronym, as follows:*

***[DSA-SS]*** *- For applications listed in Section 1.9.2.1.*

***[DSA-SS/CC]*** *- For applications listed in Section 1.9.2.2*

*…*

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

*…*

### ITEM 13Chapter 21 MASONRY

**CHAPTER 21**

**MASONRY**

Adopt Chapter 21 of the 2024 IBC as amended below. All existing California amendments that are not revised below shall continue without change.

**SECTION 2101**

**GENERAL**

**2101.1 Scope.** The provisions of this chapter …

…

***2101.1.2 Amendments in this chapter. [DSA-SS/CC]*** *DSA-SS/CC adopts this chapter ~~and all amendments~~ as amended.*

***~~Exception:~~*** *~~Amendments adopted by only one agency appear in this chapter preceded with the appropriate acronym of the adopting agency, as follows:~~*

(Relocate Item 1 below to 2101.1.3)

1. ***~~[DSA-SS/CC]~~****~~- For applications listed in Section 1.9.2.2.~~*
2. (Reserved for OSHPD)

***2101.1.3 Identification of amendments. [DSA-SS/CC]***(Items below are relocated from existing 2101.1.2)

1. *Division of the State Architect - Structural Safety/Community Colleges amendments appear in this chapter preceded by the appropriate acronym, as follows:*

***[DSA-SS/CC]*** *- For applications listed in Section 1.9.2.2.*

1. (Reserved for OSHPD)

***2101.1.4*** ***~~2101.1.3~~*** ***Reference to other chapters.*** ***[DSA-SS/CC]*** *Where reference within this chapter is made to sections in Chapters 17 and 18, the provisions in Chapters 17A and 18A respectively shall apply instead.* (No changes to existing California amendment except renumbering)

***2101.1.5*** ***~~2101.1.4~~*** ***Additional amendments. ~~Amendments.~~ [DSA-SS/CC]*** *See Section 2115 for additional requirements.*

…

***SECTION 2115***

***ADDITIONAL REQUIREMENTS***

***FOR COMMUNITY COLLEGES [DSA-SS/CC]***

***2115.1 General.*** *In addition**…*

***2115.1.1 Prohibitions.*** *The following design, systems and materials in TMS 402/602 are not permitted by DSA:*

*…*

1. *Empirical design of masonry* (Relocate to Item 10 below) *~~and prescriptive design of masonry partition walls~~.*

*…*

1. *Adobe construction.*
2. *~~4.~~ Ordinary reinforced masonry shear walls.*
3. *~~5.~~ Intermediate reinforced masonry shear walls.*
4. *~~6.~~ Prestressed masonry shear walls.*
5. *~~7.~~ Direct design of masonry.*
6. *Design of masonry Infill.*
7. (Relocated from Item 3 above) *Prescriptive design of masonry partition walls.*
8. *Limit design method.*
9. *Glass Fiber Reinforced Polymer (GFRC) reinforced masonry.*

***2115.2 Masonry construction materials.***

***2115.2.1 ~~2115.2~~ Metal reinforcement and accessories.*** *The frequency of sampling for unidentifiable reinforcing bars may alternatively be in accordance with Section 1909.2.3 ~~1909.2.4~~.*

***2115.2.2 ~~2115.3~~ Air entrainment.*** *…*

***2115.2.3 Specified compressive strength of masonry and grout****. - Replace TMS 402 Table 4.3.1 with the following.*

**TABLE 4.3.1**

**SPECIFIED COMPRESSIVE STRENGTH REQUIREMENTS**

| **Type of Masonry** | **Specified compressive strength of masonry** | **Specified compressive strength of grout** |
| --- | --- | --- |
| Concrete masonry | *2,000 psi (13.79 MPa) ≤ f’m ≤ 3,000 psi (20.68 MPa)* | f’g ≥ f’m ≤ 5,000 psi (34.47 MPa) |
| Clay masonry | *1,500 psi (10.34 MPa) ≤ f’m ≤ 4,500 psi (31.02 MPa)*  | f’g ≤ 6,000 (41.37 MPa)  |

***2115.3 Construction.***

***2115.3.1 ~~2115.4~~ Masonry construction.*** *…*

***2115.3.2 ~~2115.5~~ Reinforced grouted masonry.*** *…*

***2115.3.2.1 ~~2115.5.1~~ TMS 602, Article 3.3 B Placing mortar and units.*** *…*

***2115.3.2.2 ~~2115.5.2~~ TMS 602, Article 3.4 B Reinforcement.*** *Modify TMS 602, Article 3.4 B.1 ~~and~~ through Article 3.4 B.3 as follows:*

1. Support reinforcement to prevent displacement caused by construction loads or by placement of grout or mortar~~, beyond the allowable tolerances~~. *Reinforcement and embedded items shall be clean, properly positioned and securely anchored against moving prior to grouting.*
2. Completely embed reinforcing bars and ~~deformed wires larger than one-half the mortar joint thickness~~ *embedded items* in grout in accordance with Article 3.5~~, except as permitted by Article 3.4.B.6~~.
3. Maintain *~~a~~* clear distance between reinforcing bars and the interior of masonry unit or formed surface of at least ~~¼ inch (6.4mm) for fine grout and~~ 1/2 inch (12.7 mm) ~~for coarse grout,~~ *~~and the space between masonry unit surfaces and reinforcement shall be~~ and a minimum of one bar diameter,* except where cross webs of hollow units are used as supports for horizontal reinforcement. *~~Reinforcement shall be solidly embedded in grout.~~*

***2115.3.2.3 ~~2115.5.3~~ TMS 602, Article ~~3.4 D~~ 3.4 E Anchor bolts.*** *Replace TMS 602, Article ~~3.4 D.3~~ 3.4 E.3* *and add Articles ~~3.4 D.5~~ 3.4 E.5* *and ~~3.4 D.6~~ 3.4 E.6* *as follows:*

…

1. *Bent bar anchor bolts shall not be allowed. The maximum size anchor shall be 1/2-inch (12.7 ~~13~~ mm) diameter for 6-inch (152 mm) nominal masonry, 3/4-inch (19.1 mm) diameter for 8-inch (203 mm) nominal masonry, 7/8-inch (22.2 mm) diameter for 10-inch (254 mm) nominal masonry, and 1-inch (25.4 mm) diameter for 12-inch (305 ~~304.8~~ mm) nominal masonry.* (No changes to existing California amendment except renumbering and SI unit clean-up.)

…

***2115.3.2.4 ~~2115.5.4~~ TMS 602, Article 3.5 A Placing Time.*** *…*

***~~2115.5.5~~***(Relocate existing 2115.5.5 to 2115.3.2.7.1) ***~~TMS 602, Article 3.5 B Confinement.~~*** *…*

***~~2115.5.6 TMS 602, Article 3.5 E Consolidation.~~*** *~~Modify TMS 602, Article 3.5 E.1.b as follows:~~*

1. *~~Consolidate pours exceeding 12 in. (305 mm) in height by mechanical vibration, and reconsolidate by mechanical vibration after initial water loss and settlement has occurred, but before plasticity is lost.~~*

***2115.3.2.5 ~~2115.5.7~~ TMS 602, Article 3.5 F.1 Grout Key.*** *Replace TMS 602, Article 3.5 F.1 as follows:*

1. *Between grout pours or where grouting has been stopped more than an hour, a horizontal construction joint shall be formed by terminating grout a minimum of 11/2 inches (38.1 mm) and a maximum of one-half the masonry unit height below a mortar joint, except at the top of the wall. Where bond beams occur, the grout pour shall be terminated a minimum of 1/2 inch (12.7 mm) below the mortar joint. Horizontal reinforcement shall be placed in bond beam units with a minimum grout cover of 1 inch (25.4 mm) above reinforcing steel for each grout pour.*

***2115.3.2.6 ~~2115.6~~ TMS 602, Article 3.5 Grout placement.*** *Add the following to TMS 602, Article 3.5:*

***3.5 I.*** *Additional grouting requirements:*

1. *Place grout ~~Grout shall be placed~~ by pumping or an approved alternate method prior to ~~before~~ initial set ~~of hardening occurs~~ and loss of plasticity.*
2. *Place grout ~~Grout shall be placed~~ so that all spaces to be grouted do not contain voids.*
3. *Grout shall not be handled nor pumped utilizing aluminum equipment unless it can be demonstrated with the materials and equipment to be used that there will be no deleterious effect on the strength of the grout.*

***2115.3.2.7 Reinforced hollow-unit masonry.***

***2115.3.2.7.1*** (Relocate from existing 2115.5.5) ***TMS 602, Article 3.5 B Confinement.*** *…*

***2115.4 Quality assurance.***

***~~2115.7 Compressive strength f′m.~~*** *~~The minimum specified compressive strength, f 'm, in the design shall be not less than 2,000 psi (13.79 MPa) for all structural concrete masonry construction and 1,500 psi (10.34 MPa) for all structural clay masonry construction using materials and details of construction required herein. The value of f'm used to determine nominal strength value in this chapter shall not exceed 3,000 psi (20.7 MPa) for concrete masonry and shall not exceed 4,500 psi (31.03 MPa) for clay masonry.~~*

***~~2115.8 Additional testing requirements.~~***

***2115.4.1 ~~2115.8.1~~ Mortar and grout tests. TMS 602, Article 1.4B Compressive Strength Determination.*** *Modify TMS 602, Article 1.4B as follows by adding:*

1. *Additional testing requirements:*
2. *At the beginning of all masonry work, at least one test sample of the mortar shall be taken on 3 successive working days and at least at 1-week intervals thereafter. Where mortar … laboratory tests. Mortar sampling and testing is not required for preblended mortars in conformance with ASTM C1714 ~~C270~~ and must be accompanied by corresponding certificates of compliance with current test reports,~~with a~~ material certificates, and delivery ticket. ~~valid evaluation report~~. Documents shall be provided to the project inspector, DSA certified masonry inspector, and laboratory of record.*

…

***2115.4.2 ~~2115.8.2~~ Masonry Core Testing.*** *~~Not less than two~~ Two cores shall**…*

*…*

*All cores shall be submitted to an approved agency for examination, ~~even~~ including ~~where the~~ core specimens where a face shell separates from the grout core ~~failed~~ during the ~~cutting~~ coring operation.**A value of zero shall be assigned at a separated face shell interface when calculating the required average shear stress of the affected core.*

*The approved agency shall report the location where each core was taken, the findings of their visual examination of each core, identify which cores were selected for shear testing, and the results of the shear tests. Additional cores shall be permitted to be taken at the direction of the registered design professional and with approval of the enforcement agency.*

***Exceptions:***

1. *Core sampling and testing is not required for nonbearing nonshear masonry walls, not exceeding a total wall height of 12 feet above top of foundation, built with single-wythe hollow unit concrete masonry that attaches opposite face shells using webs cast as single unit, when designed using an f*′*m not exceeding 2,000 psi (13.79 MPa).*
2. *An infrared thermographic survey or other nondestructive test procedures, shall be permitted to be approved as an alternative system to detect voids or delamination in grouted masonry ~~in-lieu~~ in lieu of core sampling and testing.*

***~~2115.9 Modifications to TMS 402.~~***

***2115.5 Seismic Design.***

***2115.5.1 ~~2115.9.1~~ TMS 402, ~~Sections 5.3.1.4(a) and 5.3.1.4(b)~~ Section 5.4.1.4.*** *Replace TMS 402, ~~Sections 5.3.1.4(a) and 5.3.1.4(b)~~ Section 5.4.1.4 Items (a), (b), (d) & (e) by the following:*

1. Vertical reinforcement shall be enclosed by lateral ties at least *3/8 in. (12.7 mm)* in diameter. *~~Ties shall be at least~~ ~~3~~~~/~~~~8~~ ~~inch (10 mm) in diameter and shall be embedded in grout.~~* (Relocate to Item e below) *~~Top tie shall be within 2 inches (51 mm) of the top of the column or of the bottom of the horizontal bar in the supported beam.~~*
2. Vertical spacing of lateral ties*, over the full height of the column,* shall not exceed ~~16~~ *8* longitudinal bar diameters, ~~48~~ *24* lateral tie bar ~~or wire~~ diameters, *8 inches (203 mm), or one-half the* least cross sectional dimension of the member. *~~The spacing of column ties shall be as follows: not greater than 8 bar diameters, 24 tie diameters, or one half the least dimension of the column, or 8 inches (203 mm) for the full column height.~~*
3. Lateral ties shall be embedded in grout*.* ~~When a lateral tie or combination of ties does not exceed the specified thickness of the mortar joint, the portion of the tie(s) that crosses a web or interior face shell shall be permitted to be embedded in mortar.~~
4. Lateral ties shall be located vertically not more than one-half lateral tie spacing above the top of the footing or slab in any story, and shall be spaced not more than one-half a lateral tie spacing nor 2 inches (50.8 mm) below the lowest horizontal reinforcement in beam, girder, slab, or drop panel above. (Relocated from Item a above) *The top tie shall be within 2 inches (51 mm) of the top of the column.*

***2115.5.2 TMS 402, Section 7.3.2.5 (i).*** *Replace first sentence of TMS 402, Section 7.3.2.5 (i) by the following:*

1. When the ratio of V/FvmAmv for masonry designed in accordance with Chapter 8 or when the ratio Vu/ΦVnm for masonry designed in accordance with Chapter 9~~, 10, or 11~~ exceeds ~~0.40~~ *0.15, or the hw/lw exceeds 0.5*, the termination of horizontal reinforcement embedded in grout shall meet one of the following:

***2115.5.3 ~~2115.9.2~~ TMS 402, Sections 7.4.4.1 and 7.4.5.1.*** *Replace TMS 402, Section 7.4.4.1 as follows and delete Section 7.4.5.1:*

***7.4.4.1 Minimum reinforcement requirements for masonry walls.*** *The total area of reinforcement in reinforced masonry walls shall not be less than 0.003 times the sectional area of the wall. Neither the horizontal nor the vertical reinforcement shall be less than one third of the total. Where other than running ~~stack~~ bond is used in reinforced hollow-unit masonry, the open-end type of unit shall be used with vertical reinforcement spaced a maximum of 16 inches (406 mm) on center.*

***Exception:*** *Reinforced hollow-unit masonry used for freestanding site walls or interior nonbearing nonshear wall partitions shall have horizontal reinforcing spaced not more than ~~4’-0”~~ 4 feet (1.2 m) on center, except for locations in Seismic Design Category F, and may be grouted only in cells containing vertical and horizontal reinforcement.~~.~~* (Delete extra period at end of sentence)

…

***2115.6 ~~2115.10~~ ~~Additional requirements for allowable~~ Allowable stress design.***

***2115.6.1 ~~2115.10.1~~ TMS 402. Section 8.3.4.4 Walls. Modify*** *TMS 402, Section 8.3.4.4 as follows by adding:*

*~~8.3.8 – Walls and piers.~~*

***Thickness of walls.*** *Stresses shall be …*

***Piers.*** *Every pier or wall section …*

(Relocate from existing Section 2115.11)

***TABLE 8.3.4.4***

***MINIMUM THICKNESS OF MASONRY WALLS1, 2***

*…*

***2115.7 ~~2115.11~~ Glass unit masonry construction.*** *…*

(Relocate existing Table 8.3.3.4 to 2115.6)

***~~TABLE 8.3.4.4~~***

***~~MINIMUM THICKNESS OF MASONRY WALLS~~~~1, 2~~***

*…*

*…*

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

*…*

### ITEM 14Chapter 21A MASONRY

**CHAPTER 21A**

**MASONRY**

Adopt Chapter 21 of the 2024 IBC as Chapter 21A of the 2025 CBC as amended below. All existing California amendments that are not revised below shall continue without change.

**SECTION 2101*A*- GENERAL**

**2101*A*.1 Scope.** This chapter shall govern the materials, design, construction and quality of masonry.

…

***2101A.1.3 Prohibition:*** *The following design methods systems and material in TMS 402/602 are not permitted by DSA-SS:*

*…*

1. *Empirical design of masonry* (Relocate to Item 10 below) *~~and prescriptive design of masonry partition walls~~.*

*…*

1. *Design of masonry infill.*
2. (Relocated from Item 3 above) *Prescriptive design of masonry partition walls.*
3. *Limit design method.*
4. *Glass Fiber Reinforced Polymer (GFRP) reinforced masonry.*

*…*

**SECTION 2103*A* - MASONRY CONSTRUCTION MATERIALS**

*…*

**2103*A*.3 Grout.** Grout shall comply with Article 2.2 of TMS 602.

***2103A.3.1 Aggregate.*** *Coarse grout shall be used in grout spaces between wythes of 2 inches (~~51~~ 50.8 mm) or more in width as determined in accordance with TMS 602 Table 7 ~~6~~, footnote 3, and in all grouted cells of hollow unit masonry construction.*

…

***2103A.6 Specified compressive strength of masonry and grout****. - Replace TMS 402 Table 4.3.1 with the following.*

**TABLE 4.3.1**

**SPECIFIED COMPRESSIVE STRENGTH REQUIREMENTS**

| **Type of Masonry** | **Specified compressive strength of masonry** | **Specified compressive strength of grout** |
| --- | --- | --- |
| Concrete masonry | *2,000 psi (13.79 MPa) ≤ f’m ≤ 3,000 psi (20.68 MPa)* | f’g ≥ f’m ≤ 5,000 psi (34.47 MPa) |
| Clay masonry | *1,500 psi (10.34 MPa) ≤ f’m ≤ 4,500 psi (31.02 MPa)*  | f’g ≤ 6,000 (41.37 MPa)  |

**SECTION 2104*A* —CONSTRUCTION**

**2104*A*.1 Masonry construction.** Masonry construction shall comply with the requirements of Sections 2104*A*.1.1 *through* 2104*A*.1.3 and with the requirements of either TMS 602 or TMS 604.

…

***2104A.1.3 Reinforced grouted masonry.***

***2104A.1.3.1 [DSA-SS] TMS 602, Article 3.2 F Cleanouts.*** *Replace TMS 602, Article 3.2 F with the following:*

**3.2 F. Cleanouts** - Provide cleanouts in the bottom course of masonry for each grout pour when the grout pour height exceeds *the height limits given in Section 2104A.1.3.5 Item 3*.

1. *Cleanout openings in hollow…*

…

***2104A.1.3.3 TMS 602, Article 3.4 B Reinforcement.*** *Modify TMS 602, Article 3.4 B.1 ~~and~~ through Article 3.4 B.3 as follows*:

1. Support reinforcement to prevent displacement caused by construction loads or by placement of grout or mortar~~, beyond the allowable tolerances~~. *Reinforcement and embedded items shall be clean, properly positioned and securely anchored against moving prior to grouting.*
2. Completely embed reinforcing bars and ~~deformed wires larger than one-half the mortar joint thickness~~ *embedded items* in grout in accordance with Article 3.5~~, except as permitted by Article 3.4.B.6~~.
3. Maintain *~~a~~* clear distance between reinforcing bars and the interior of masonry unit or formed surface of at least ~~¼ inch (6.4mm) for fine grout and~~ 1/2 inch (12.7 mm) ~~for coarse grout,~~ *~~and the space between masonry unit surfaces and reinforcement shall be~~ and a minimum of one bar diameter,* except where cross webs of hollow units are used as supports for horizontal reinforcement. *~~Reinforcement shall be solidly embedded in grout.~~*

***2104A.1.3.4*** ***TMS 602, Article ~~3.4 D~~ 3.4 E Anchor bolts.*** *Replace TMS 602, Article ~~3.4 D.3~~ 3.4 E.3* *and add Articles ~~3.4 D.5~~ 3.4 E.5* *and ~~3.4 D.6~~ 3.4 E.6* *as follows:*

 *…*

1. *Bent bar anchor bolts shall not be allowed. The maximum size anchor shall be 1/2-inch (12.7 ~~13~~ mm) diameter for 6-inch (152 mm) nominal masonry, 3/4-inch (19.1 mm) diameter for 8-inch (203 mm) nominal masonry, 7/8-inch (22.2 mm) diameter for 10-inch (254 mm) nominal masonry, and 1-inch (25.4 mm) diameter for 12-inch (305 ~~304.8~~ mm) nominal masonry.* (No changes to existing California amendment except renumbering and SI unit clean-up.)

*…*

***2104A.1.3.5 [DSA-SS] TMS 602, Article 3.5 C Grout pour height.*** *Replace ~~Add to~~ TMS 602, Article 3.5 C and Table 7 as follows: ~~the following:~~*

1. Do not exceed the grout pour height given in Table 7*.*
2. *~~For grout pours not greater than 4 feet (1219 mm) or 5 feet 4 inches (1651 mm) for 10-inch (254 mm) nominal or wider hollow unit masonry,~~* (Relocate to Item 2 below) *~~the top of grout pour shall be at the top of constructed masonry, or within 8 inches (200 mm) of the top of the constructed masonry~~. Grout pours not terminated ~~at~~ the top of constructed masonry shall comply with TMS 602, Articles 3.5 C.3.a through ~~3.5 C.3.e~~ 3.5 C.3.c.*
3. (Relocated from Item 1 above) *The top of the grout pour shall be in the top course of the constructed masonry. Grout pours not terminated within the top course of the constructed masonry shall comply with TMS 602, Articles 3.5 C.3.a through 3.5 C.3.c. ~~3.5 C.3.e~~.*
4. *~~Grout pours in excess of 4 feet (1219 mm) or 5 feet 4 inches (1651 mm) for 10-inch (254 mm) nominal or wider hollow unit masonry shall be subject to~~* (Relocate to Item 3 below) *~~approval of the enforcement agency~~.*
5. *Grout pours in excess of 4 feet (1219 mm), or 5 feet 4 inches (1651 mm) for 10-inch (254 mm) nominal or wider for hollow unit masonry, shall be subject to* (Relocated from Item 2 above) *approval of the enforcement agency and the following:*
	1. *Grouting shall be done in a continuous pour in lifts not exceeding ~~4 feet (1219 mm) or 5 feet 4 inches (1651 mm) for 10-inch (254 mm) nominal or wider hollow unit masonry.~~ the requirements of TMS 602, Article 3.5 D.*
6. *~~An approved admixture of a type that reduces early water loss and produces an expansive action shall be used~~.*
7. *~~c.~~ The grouting of any section of wall shall be completed in one day with no interruptions greater than one hour.*
8. *~~For multiple grout lifts within a grout pour, each grout lift height of wall, column, pier or beam shall be inspected before placement of additional units.~~*
9. *~~e.~~ Cleanout openings shall be provided at the bottom of each pour of grout.*

**Table 7**

**Grout Space Requirements**

| Grout Type1 | Maximum grout pour height, ft (m) | Minimum clear width of grout space,2,3 in. (mm) | Minimum clear grout space dimensions for grouting cells of hollow units,3 in. x in. (mm x mm) |
| --- | --- | --- | --- |
| Coarse | 1 (0.3) | *2* $^{1}/\_{2}$ *(63.5)* | *2* x 3 *(50.8* x 76.2) |
| Coarse | *44 (1.63)* | *2* $^{1}/\_{2}$ *(63.5)* | $2^{1}/\_{2} $x 3 (63.5 x 76.2) |
| Coarse  | 12.675 (3.86) | *3*$ ^{1}/\_{2}$ *(88.9)* | 3 x 35 (76.2 x 76.2) |

1. ~~Fine and coarse grouts are~~ Coarse grout is defined in ASTM C476.
2. For grouting between masonry wythes.
3. Minimum clear width of grout space and minimum clear grout space dimension are the net dimension of the space determined by subtracting masonry protrusions and the diameters of horizontal reinforcement from the as-built cross section of the grout space. ~~Select the grout type and maximum grout pour height based on the minimum clear space.~~
4. *Maximum pour height can be increased to 5.33 feet for 10-inch nominal or wider hollow unit masonry.*
5. *Maximum pour height can be increased to 16 feet for hollow unit masonry walls with a nominal thickness of 12 inches or more and minimum clear grout space dimensions of 3 in. x 4 in. (76.2 mm x 102 mm).*

*…*

***2104A.1.3.6 [DSA-SS] TMS 602, Article 3.5 D Grout lift height.*** *Modify TMS 602, Article 3.5 D as follows:*

1. *~~In no case shall lifts~~* *Grout lift height shall not* *exceed 4 feet (1219 mm) ~~in height~~.*

***Exception:*** *The 4 feet (1219 mm) maximum lift height may be increased to 5 feet 4 inches (~~1625.6 mm~~ 1.63 m) for 10-inch (254 mm) nominal and larger hollow-unit masonry.*

***2104A.1.3.7 Reserved ~~TMS 602, Article 3.5 E Consolidation.~~*** *~~Modify TMS 602, Article 3.5 E.1.b as follows:~~*

* 1. ~~Consolidate pours exceeding 12 inch (305 mm) in height by mechanical vibration, and reconsolidate by mechanical vibration after initial water loss and settlement has occurred~~*~~, but before plasticity is lost.~~*

***2104A.1.3.8 TMS 602, Article 3.5 F.1 Grout key.*** *Replace TMS 602, Article 3.5 F.1 as follows:*

1. *Between grout pours or where grouting has been stopped more than an hour, a horizontal construction joint shall be formed by terminating grout a minimum of 11/2 inches (38.1 mm) and a maximum of one-half the masonry unit height below a mortar joint, except at the top of the wall. Where bond beams occur, the grout pour shall be terminated a minimum of 1/2 inch (12.7 mm) below the mortar joint. Horizontal reinforcement shall be placed in bond beam units with a minimum grout cover of 1 inch (25.4 mm) above reinforcing steel for each grout pour.*

***2104A.1.3.9 TMS 602, Article 3.5 Grout placement.*** *Add the following to TMS 602, Article 3.5:*

***3.5 I.*** *Additional grouting requirements:*

1. *Place grout ~~Grout shall be placed~~ by pumping or an approved alternate method prior to ~~before~~ initial set ~~of hardening occurs~~ and loss of plasticity.*
2. *Place grout ~~Grout shall be placed~~ so that all spaces to be grouted do not contain voids.*
3. *Grout shall not be handled nor pumped utilizing aluminum equipment unless it can be demonstrated with the materials and equipment to be used that there will be no deleterious effect on the strength of the grout.*

***2104A.1.3.10 Reinforced grouted multi-wythe masonry.***

*…*

***2104A.1.3.10.2 TMS 402, Section 5.1.3.2 Composite Action.*** *Replace TMS 402, Section 5.1.3.2.1 by the following:* ***~~5.1.4.2.2 Masonry Headers~~*** *~~Replace TMS 402, Section 5.1.4.2.2 as follows~~:*

**~~5.1.4.2.2~~** *~~Masonry headers shall not project into the grout space and shall not be permitted to bond wythes of masonry.~~*

**5.1.3.2.1** Multiwythe masonry designed for composite action shall have wythes connected by ~~either masonry headers, or~~ collar joints and wall ties.

***2104A.1.3.10.3 TMS 602, Article 3.3 B.4 ~~B.5~~ Placing ~~masonry~~ mortar and units – Solid units.*** *Add the following to TMS 602, Article 3.3 B.4 ~~B.5~~: …* (No changes to existing California amendment except renumbering)

***2104A.1.3.10.4 TMS 602, Article 3.4 C.2 Wall ties.*** *Replace TMS 602, Article 3.4 C.2 as follows****:***

1. *The two wythes shall be bonded together with wall ties. Ties shall not be less than No. 9 (W1.7) wire in the form of rectangles 4 inches (102 mm) wide and 2 inches (50.8 ~~51~~ mm) in length less than the overall wall thickness. Kinks, water drips or deformations shall not be permitted in the ties. One wythe of the wall shall be built up not more than 16 inches (406 mm) ahead of the other wythe. Ties shall be laid not to exceed 24 inches (610 mm) on center horizontally and 16 inches (406 mm) on center vertically for running bond, and not more than 24 inches (610 mm) on center horizontally and 12 inches (305 mm) on center vertically for ~~stack~~ other than running bond.*

***2104A.1.3.10.5 TMS 602, Article 3.5 B Confinement.*** *Add the following to TMS 602, Article 3.5 B:*

1. *Construct vertical ~~Vertical~~ grout barriers or dams of solid masonry ~~shall be built~~ across the grout space the entire height of the wall to control ~~the flow of the grout horizontally~~ horizontal grout flow. Space grout ~~Grout~~ barriers ~~shall be spaced~~ not more than 30 feet (~~9144 mm~~ 9.14 m) apart.*

***~~2104A.1.3.10.6 TMS 602, Article 3.5 C Grout pour height.~~*** *~~Add the following to TMS 602, Article 3.5 C:~~*

1. *~~The minimum clear width of grout space for multi-wythe masonry for pours not exceeding 4 feet (1.2 m) shall be 2~~~~1~~~~/~~~~2~~ ~~inches (64 mm). The clear width of grout space for pours exceeding 4 feet (1.2 m) shall be a minimum of 3~~~~1~~~~/~~~~2~~ ~~inches (89 mm).~~*

***2104A.1.3.11 Reinforced hollow-unit masonry.***

***2104A.1.3.11.1 TMS 602, Article 2.3 A & 2.3 B Masonry unit materials.*** *Add the following to TMS 602, Articles 2.3 A and 2.3 B:*

1. *In reinforced hollow unit masonry, place horizontal reinforcement in bond beam units. The depth of the bond beam channel below the top of the unit ~~in reinforced hollow-unit masonry~~ shall be 11/2 inches (38.1 mm) minimum and the* *width shall be 3 inches (76.2 mm) minimum.*

[***2104A.1.3.11.2 TMS 602, Article 3.5 B Confinement***](https://up.codes/viewer/california/ca-building-code-2022/chapter/21A/masonry#2104A.1.3.11.2)*.**Add the following to TMS 602, Article 3.5 B:*

1. *~~1.~~ All cells shall be solidly filled with grout in reinforced hollow-unit masonry.*

***Exception:*** *Reinforced hollow-unit masonry laid in running bond for freestanding site walls or interior nonbearing non-shear wall partitions may be grouted only in cells containing vertical and horizontal reinforcement.*

1. *~~2.~~* ***[DSA-SS]*** *Vertical cells to be filled shall have vertical alignment sufficient to maintain a clear grout space dimension of not less than that given in Section ~~2103A.3.1~~ 2104A.1.3.5 Table 7.*

**SECTION 2105*A* - QUALITY ASSURANCE**

**2105*A*.1 General.** A quality assurance program shall be used to ensure that the constructed masonry is in compliance with the approved construction documents.

The quality assurance program shall comply with the inspection and testing requirements of Chapter 17*A* and TMS 602 *and Sections 2105A.2 through 2105A.4.*

***2105A.2 Compressive strength,*** *f’m. ~~The minimum specified compressive strength, f’~~~~m~~~~, in the design shall be 2,000 psi (13.79 MPa) for all structural concrete masonry construction and 1,500 psi (10.34 MPa) for all structural clay masonry construction using materials and details of construction required herein.~~ Testing of masonry shall be provided in accordance with TMS 602, Article 1.4 B.*

***Exception:*** *Where values of f* ′*m …*

***2105A.3 Mortar and grout tests. TMS 602, Article 1.4B Compressive Strength Determination.*** *Modify TMS 602, Article 1.4B as follows by adding:*

*5. Additional testing requirements:*

1. *At the beginning of all masonry work, at least one test sample of the mortar shall be taken on 3 successive working days and at least at 1-week intervals thereafter. Where mortar … laboratory tests.* ***[DSA-SS]*** *Mortar sampling and testing is not required for preblended mortars in conformance with ASTM C1714 ~~C270~~ and must be accompanied by corresponding certificates of compliance with current test reports, ~~with a~~ material certificates, and delivery ticket. ~~valid evaluation report~~. Documents shall be provided to the project inspector, DSA certified masonry inspector, and laboratory of record.*

*…*

***2105A.4 Masonry Core Testing.*** *~~Not less than two~~ Two cores shall be taken from each building for each 5,000 square feet (465 m2*) *of the masonry wall area or fraction thereof. The approved agency shall perform or observe the coring of the masonry walls and sample locations shall be subject to approval of the registered design professional.*

*Core samples shall comply with the following:*

* 1. *Cored no sooner than 7 days after grouting of the selected area;*
	2. *Be a minimum of 3 ¾ inches in nominal diameter; and*
	3. *Sampled in such a manner as to exclude any masonry unit webs, mortar joint, or reinforcing steel. If all cells contain reinforcement, alternate core locations or means to detect void or delamination shall be selected by the registered design professional and approved by the building official.*

*Visual examination of all cores shall be made by an approved agency and the condition of the cores reported as required by the California Administrative Code. Shear test both joints between the grout core and the outside wythes or face shell of the masonry 28 days after grouting of the sample area using a shear test apparatus acceptable to the enforcement agency. Core samples shall not be soaked before testing. Core samples to be tested shall be stored in sealed plastic bags or non-absorbent containers immediately after coring and for at least 5 days prior to testing. The average unit shear value for each pair of cores (4 shear tests) from each 5,000 square feet of wall area (or less) on the cross section of core shall not be less than 2.5* Ö*f* ′*m psi.*

*All cores shall be submitted to an approved agency for examination, ~~even~~ including ~~where the~~ core specimens where a face shell separates from the grout core ~~failed~~ during the ~~cutting~~ coring operation.* ***[DSA-SS]*** *A value of zero shall be assigned at a separated face shell interface when calculating the required average shear stress of the affected core.*

*The approved agency shall report the location where each core was taken, the findings of their visual examination of each core, identify which cores were selected for shear testing, and the results of the shear tests. Additional cores shall be permitted to be taken at the direction of the registered design professional and with approval of the enforcement agency.*

***Exceptions:***

1. *Core sampling and testing is not required for nonbearing nonshear masonry walls, not exceeding a total wall height of 12 feet above top of foundation, built with single-wythe hollow unit concrete masonry that attaches opposite face shells using webs cast as single unit, when designed using an f*′*m not exceeding 2,000 psi (13.79 MPa).*
2. *An infrared thermographic survey or other nondestructive test procedures, shall be permitted to be approved as an alternative system to detect voids or delamination in grouted masonry ~~in-lieu~~ in lieu of core sampling and testing.*

**SECTION 2106*A* - SEISMIC DESIGN**

**2106*A*.1 Seismic design requirements for masonry.** Masonry structures and components shall comply with the requirements in Chapter 7 of TMS 402 depending on the structure’s seismic design category.

***2106A.1.1 TMS 402, ~~Sections 5.3.1.4(a) and 5.3.1.4(b)~~ Section 5.4.1.4.*** *Replace TMS 402, ~~Sections 5.3.1.4(a) and 5.3.1.4(b)~~ Section 5.4.1.4 Items (a), (b), (d) & (e) by the following:*

1. Vertical reinforcement shall be enclosed by lateral ties at least *3/8 in. (12.7 mm)* in diameter. *~~Ties shall be at least~~ ~~3~~~~/~~~~8~~ ~~inch (10 mm) in diameter and shall be embedded in grout.~~* (Relocate to Item e below) *~~Top tie shall be within 2 inches (51 mm) of the top of the column or of the bottom of the horizontal bar in the supported beam.~~*
2. Vertical spacing of lateral ties*, over the full height of the column,* shall not exceed ~~16~~ *8* longitudinal bar diameters, ~~48~~ *24* lateral tie bar ~~or wire~~ diameters, *8 inches (203 mm), or one-half the* least cross sectional dimension of the member. *~~The spacing of column ties shall be as follows: not greater than 8 bar diameters, 24 tie diameters, or one half the least dimension of the column, or 8 inches (203 mm) for the full column height.~~*
3. Lateral ties shall be embedded in grout*.* ~~When a lateral tie or combination of ties does not exceed the specified thickness of the mortar joint, the portion of the tie(s) that crosses a web or interior face shell shall be permitted to be embedded in mortar.~~
4. Lateral ties shall be located vertically not more than one-half lateral tie spacing above the top of the footing or slab in any story, and shall be spaced not more than one-half a lateral tie spacing nor 2 inches (50.8 mm) below the lowest horizontal reinforcement in beam, girder, slab, or drop panel above. (Relocated from Item a above) *The top tie shall be within 2 inches (51 mm) of the top of the column.*

***2106A.1.2 TMS 402, Chapter 5.*** *Add TMS 402, Section ~~5.6~~ 5.7 as follows:*

***5.7 ~~5.6~~ – Lateral Support of Members***

*5.7.1 ~~5.6.1~~ – Lateral support of masonry may be provided by cross walls, columns, pilasters, counterforts or buttresses where spanning horizontally, or by floors, beams, girts or roofs where spanning vertically. Where walls are supported laterally by vertical elements, the stiffness of each vertical element shall exceed that of the tributary area of the wall.* (No changes to existing California amendment except renumbering)

***2106A.1.3 TMS 402, Section 7.3.2.5 (i).*** *Replace first sentence of TMS 402, Section 7.**3.2.5 (i) by the following:*

1. When the ratio of V/FvmAmv for masonry designed in accordance with Chapter 8 or when the ratio Vu/ΦVnm for masonry designed in accordance with Chapter 9~~, 10, or 11~~ exceeds ~~0.40~~ *0.15, or the hw/lw exceeds 0.5*, the termination of horizontal reinforcement embedded in grout shall meet one of the following:

***2106A.1.4 ~~2106A.1.3~~ TMS 402, Sections 7.4.4.1 and 7.4.5.1.*** *Replace TMS 402, Section 7.4.4.1 as follows and delete Section 7.4.5.1:*

***7.4.4.1 Minimum reinforcement requirements for masonry walls.*** *The total area of reinforcement in reinforced masonry walls shall not be less than 0.003 times the sectional area of the wall. Neither the horizontal nor the vertical reinforcement shall be less than one third of the total. Where other than running ~~stack~~ bond is used in reinforced hollow-unit masonry, the open-end type of unit shall be used with vertical reinforcement spaced a maximum of 16 inches (406 mm) on center.*

***Exception:*** *Reinforced hollow-unit masonry used for freestanding site walls or interior nonbearing nonshear wall partitions shall have horizontal reinforcing spaced not more than ~~4’-0”~~ 4 feet (1.2 m) on center, except for locations in Seismic Design Category F, and may be grouted only in cells containing vertical and horizontal reinforcement.~~.~~* (Delete extra period at end of sentence)

…

**SECTION 2107*A* - ALLOWABLE STRESS DESIGN**

**2107*A*.1 General.** The design of masonry structures using allowable stress design shall comply with Section 2106*A* and the requirements of Chapters 1 through 8 of TMS 402 except as modified by Sections 2107*A*.2 through *2107A.4 ~~2107A.6~~*.

…

***~~2107A.6 Masonry Compressive Strength.~~*** *~~The value of f’m used to determine nominal strength value in this chapter shall not exceed 3,000 psi (20.7MPa) for concrete masonry and shall not exceed 4,500 psi (31.03 MPa) for clay masonry.~~*

**SECTION 2108*A* - STRENGTH DESIGN OF MASONRY**

**2108*A*.1 General.** The design of masonry structures using strength design shall comply with…

***~~2108A.4 TMS 402, Section 9.1.9.1.1.~~*** *~~Modify TMS 402, Section 9.1.9.1.1 as follows:~~*

**~~9.1.9.1.1 Masonry compressive strength.~~** *~~The value of f’~~~~m~~ ~~used to determine nominal strength value in this chapter shall not exceed 3,000 psi (20.7 MPa) for concrete masonry and shall not exceed 4,500 psi (31.03 MPa) for clay masonry.~~*

…

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

*…*

### ITEM 15Chapter 22 STEEL

**CHAPTER 22**

**STEEL**

Adopt Chapter 22 of the 2024 IBC as amended below. All existing California amendments that are not revised below shall continue without change.

**SECTION 2201 – GENERAL**

**2201.1 Scope.** The provisions of this chapter …

…

***2201.1.2 Amendments in this chapter. [DSA-SS/CC]*** *~~DSA-SS,~~ DSA-SS/CC adopts this chapter ~~and all amendments~~ as amended.*

***~~Exception:~~*** *~~Amendments adopted by only one agency appear in this chapter preceded with the appropriate acronym of the adopting agency, as follows:~~*

(Relocate Item 1 below to 2201.1.3)

1. ***~~[DSA-SS/CC]~~****~~- For applications listed in Section 1.9.2.2.~~*
2. (Reserved for OSHPD)

***2201.1.3 Identification of amendments. [DSA-SS/CC]***(Items below are relocated from existing 2201.1.2)

1. *Division of the State Architect - Structural Safety/Community Colleges amendments appear in this chapter preceded by the appropriate acronym, as follows:*

***[DSA-SS/CC]*** *- For applications listed in Section 1.9.2.2.*

1. (Reserved for OSHPD)

***2201.1.4*** ***~~2201.1.3~~*** ***Reference to other chapters.*** ***[DSA-SS/CC]*** *Where reference within this chapter is made to sections in Chapters 17 and 18, the provisions in Chapters 17A and 18A respectively shall apply instead.* (No changes to existing California amendment except renumbering)

***2201.1.5*** ***~~2201.1.4~~*** ***Additional amendments. ~~Amendments.~~ [DSA-SS/CC]*** *See Section 2215 ~~2212~~ for additional requirements.*

...

***SECTION 2215 ~~2212~~ – ADDITIONAL REQUIREMENTS FOR COMMUNITY COLLEGES [DSA-SS/CC]***

(All numbered subsections within this section are renumbered from 221~~2~~ to 2215)

***2215.1 ~~2212.1~~ General. ~~Connections.~~***

***2215.1.1 ~~2212.1.1~~*** ***Shear transfer at column******~~Column~~ base plate.*** *~~When shear and/or tensile forces are intended to be transferred between column base plates and anchor bolts, provisions shall be made in the design to eliminate the effects of oversized holes permitted in base plates by AISC 360 by use of shear lugs into the reinforced concrete foundation element and/or welded shear transfer plates or other means acceptable to the enforcement agency, when the oversized holes are larger than the anchor bolt by more than 1/8 inch (3.2 mm). When welded shear transfer plates and shear lugs or other means acceptable to the enforcement agency are not used, the anchor bolts shall be checked for the induced bending stresses in combination with the shear stresses.~~ Where the holes in column base plates are more than 1/8 inch (3mm) larger than the anchor rods, as permitted by AISC 360, the anchor rods shall be designed for the induced bending stresses in combination with axial and shear stresses. Alternatively, shear lugs designed in accordance with ACI 318 Section 17.11 shall be permitted to transfer shear forces between column base plates and the supporting structure.*

***2215.2* *~~2212.2~~* *Modifications to AISC 341*.**

***2215.2.1 ~~2212.2.1~~*** *Modify exception of Section B5.2(a) ~~B5.2(a)~~ as follows:*

**Exception:** The forces specified in this section need not be applied to ~~the diagonal members of the~~ truss diaphragms designed as a part of a three-dimensional system in which the seismic force-resisting system types consist of ordinary moment frames, ordinary concentrically braced frames, ordinary cantilever column systems, special cantilever column systems, or combinations thereof, and where *each diagonal bracing member resists no more than 30 percent of the diaphragm shear at each line of resistance and where* the truss diagonal members conform to Sections F1.4b and F1.5 and the connections conform to Section F1.6. ~~the requirements of Sections F2.4a, F2.5a, F2.5b and F2.6c. Braces in K- or V- configurations and braces supporting gravity loads other than self-weight are not permitted under this exception.~~ (No changes to existing California amendment except renumbering)

***2215.2.2*** ***~~2212.2.2~~*** ***Section D2.*** *Modify Section D2.6c(b)(2) as follows:*

(2) The moment calculated using the *load combinations of the applicable building code, including the amplified seismic load,* provided *the connection or other mechanism within the column base is designed to have the ductility necessary to accommodate the column base rotation resulting from the design story drift.* (No changes to existing California amendment except renumbering)

***2215.3 ~~2212.3~~ Seismic requirements for composite structural steel and concrete construction.*** *In addition to the requirements of Section 2202.2.1 ~~2206.2~~, steel and concrete ConXtech ConXL composite special moment frame with the approved moment connections in accordance with AISC 358 Chapter 10 shall be permitted provided:*

1. *Beams are provided with reduced beam sections (RBS);*
2. *Web extension to beam web two-sided fillet weld welds are sized to develop expected strength of the beam web and shall not be less than a 1/4 inch fillet weld; and*
3. *The built-up box column wall thickness shall not be less than 1.25 inches and the HSS column wall thickness shall not be less than 1/2 inch.*

***2215.4* *~~2212.5~~* *Cold-formed steel light-frame construction*.** (No changes to this section and its sub-sections except renumbering)

…

***2215.5 ~~2212.4~~ Steel joists.*** (No changes to this section and its sub-sections except renumbering)

...

***2215.6* *~~2212.6~~* *Testing*.**

***2215.6.1* *~~2212.6.1~~* *Tests of high-strength bolts, nuts, and washers.*** *High-strength bolts, nuts, and washers shall be sampled and**tested in accordance with Section 1705A.2.8 ~~1705A.2.6~~.*

***2215.6.2 ~~2212.6.2~~ Tests of end-welded studs.*** …

...

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

*…*

### ITEM 16Chapter 22A STEEL

**CHAPTER 22*A***

**STEEL**

Adopt Chapter 22 of the 2024 IBC as Chapter 22A of the 2025 CBC as amended below. All existing California amendments that are not revised below shall continue without change.

**SECTION 2201*A* – GENERAL**

…

**2201*A*.2 Identification.** Identification of steel members shall be in accordance with the applicable referenced standards within this chapter. Other steel furnished for structural load-carrying purposes shall be identified for conformity to the ordered grade in accordance with the specified ASTM standard or other specification and the provisions of this chapter. Where the steel grade is not readily identifiable from marking and test records, the steel shall be tested to verify conformity to such standards. ***[DSA-SS]*** *All material identification and testing shall be in accordance with Chapter 17A.*

…

**2201*A*.5 Anchor rods.** Anchor rods shall be set in accordance with the approved construction documents. The protrusion of the threaded ends through the connected material shall fully engage the threads of the nuts, but shall not be greater than the length of the threaded portion of the bolts.

***2201A.5.1 ~~2204A.4~~******Shear transfer at column******~~Column~~ base plate.*** *~~When shear and/or tensile forces are intended to be transferred between column base plates and anchor bolts, provisions shall be made in the design to eliminate the effects of oversized holes permitted in base plates by AISC 360 by use of shear lugs into the reinforced concrete foundation element and/or welded shear transfer plates or other means acceptable to the enforcement agency, when the oversized holes are larger than the anchor bolt by more than 1/8 inch (3.2 mm). When welded shear transfer plates and shear lugs or other means acceptable to the enforcement agency are not used, the anchor bolts shall be checked for the induced bending stresses in combination with the shear stresses.~~ Where the holes in column base plates are more than 1/8 inch (3mm) larger than the anchor rods, as permitted by AISC 360, the anchor rods shall be designed for the induced bending stresses in combination with axial and shear stresses. Alternatively, shear lugs designed in accordance with ACI 318 Section 17.11 shall be permitted to transfer shear forces between column base plates and the supporting structure.*

**SECTION 2202*A* - STRUCTURAL STEEL AND COMPOSITE STRUCTURAL STEEL AND CONCRETE**

…

**2202*A*.2 Seismic Design**. Where required, the seismic design…

**2202*A*.2.1** **Structural steel seismic force-resisting systems and composite structural steel and concrete seismic force-resisting systems.** The design, detailing, fabrication and erection of structural steel seismic force-resisting systems and composite structural steel and concrete seismic force-resisting systems shall be in accordance with the provisions of Section 2202*A*.2.1.1 or 2202*A*.2.1.2, as applicable. (Relocated from existing Section 2206A.2.1) *Seismic force-resisting systems of structural steel acting compositely with reinforced concrete shall be considered as an alternative system, except as permitted by* ***[DSA-SS]*** *Section 2202A.6.1.*

**2202*A*.2.1.1Seismic Design Category B or C.** *Not permitted by DSA-SS.* (Relocated from existing Section 2205A.2.1.1)

**2202*A*.2.1.2 Seismic Design Category D, E or F.** Structures assigned to Seismic Design CategoryD, E or F shall be designed and detailed in accordance with AISC 341. ~~, except as permitted in ASCE 7, Table 15.4-1.~~ Beam-to-column moment connections in structural steel special moment frames and intermediate moment frames shall be prequalified in accordance with AISC 341, Section K1, qualified by testing in accordance with AISC 341, Section K2, or shall be prequalified in accordance with AISC 358. (Relocated from existing Section 2205*A*.2.1.2)

**2202*A*.2.2 Structural steel elements.** The design, detailing, fabrication and erection of structural steel elements in seismic force-resisting system ~~other than those covered in Section 2202~~*~~A~~*~~.2.1~~, including struts, collectors, chords and foundation elements, shall be in accordance with AISC 341.~~, where either of the following applies:~~ (Relocated from existing Section 2205A.2.2)

1. ~~The structure is assigned to seismic design category D, E or F, except as permitted in ASCE 7, Table 15.4-1.~~ (No changes to existing California amendment)
2. ~~A response modification coefficient, R, greater than 3 in accordance with ASCE 7, Table 12.2-1, is used for the design of structure assigned to seismic design category B or C.~~ (No changes to existing California amendment)

…

***2202A.5*** ***~~2205A.3~~*** ***Modifications to AISC 341. [DSA-SS]***

***2202A.5.1*** ***~~2205A.3.1~~*** ***Section B5.*** *Modify exception of Section B5.2(a) ~~B5.2(a)~~ as follows:*

**Exception:** The forces specified in this section need not be applied to ~~the diagonal members of the~~ truss diaphragms designed as a part of a three-dimensional system in which the seismic force-resisting system types consist of ordinary moment frames, ordinary concentrically braced frames, ordinary cantilever column systems, special cantilever column systems, or combinations thereof, and where *each diagonal bracing member resists no more than 30 percent of the diaphragm shear at each line of resistance and where* the truss diagonal members conform to Sections F1.4b and F1.5 and the connections conform to Section F1.6. ~~the requirements of Sections F2.4a, F2.5a, F2.5b and F2.6c. Braces in K- or V- configurations and braces supporting gravity loads other than self-weight are not permitted under this exception.~~ (No changes to existing California amendment except renumbering)

***2202A.5.2*** ***~~2205A.3.2~~*** ***Section D2.*** *Modify Section D2.6c(b)(2) as follows:*

(2) The moment calculated using the *load combinations of the applicable building code, including the amplified seismic load,* provided *the connection or other mechanism within the column base is designed to have the ductility necessary to accommodate the column base rotation resulting from the design story drift.* (No changes to existing California amendment except renumbering)

***2202A.6*** ***Modifications to AISC 358. [DSA-SS]***

***2202A.6.1 Modifications to AISC 358 Chapter 10.***(Relocated from existing Section 2206A.2.1) *Steel and concrete ConXtech ConXL composite special moment frame ~~with the approved moment~~ connections ~~in accordance with AISC 358 Chapter 10~~ shall be permitted, provided:*

1. *Beams are provided with reduced beam sections (RBS);*
2. *Web extension to beam web two-sided fillet weld welds are sized to develop expected strength of the beam web and shall not be less than a 1/4 inch fillet weld; and*
3. *The built-up box column wall thickness shall not be less than 1.25 inches and the HSS column wall thickness shall not be less than 1/2 inch.*

…

**SECTION 2204*A* - COLD-FORMED STEEL**

**2204*A*.1 General.** The design of cold-formed carbon and low-alloy steel structural members not covered in Sections 2206*A* through 2209*A* shall be in accordance with AISI S100. The design of cold-formed steel diaphragms shall be in accordance with additional provisions of AISI S310 as applicable. ~~Where required, the seismic design of cold-formed steel~~ *~~structures~~* ~~shall be in accordance with the additional provisions of Section 2204.2.~~ (Continued deletion in existing Section 2210A.1)

(Delete the following amendment from existing Section 2210A.1) *~~Modify AISI S100 Chapter J (Connections and Joints, Section J7.2) by the following: Power-actuated fastener available strength shall not exceed those strengths determined in accordance with Section 1617A.1.20 of this code.~~*

**~~2204.2 Seismic design.~~** ~~The design and detailing of cold-formed steel seismic force-resisting systems shall be in accordance with Sections 2204.2.1 and 2204.2.2, as applicable.~~

**~~2204.2.1 CFS special bolted moment frames.~~** ~~Where a response modification coefficient,~~ *~~R~~*~~, in accordance with ASCE 7, Table 12.2-1, is used for the design of cold-formed steel special bolted moment frames, the~~ *~~structures~~* ~~shall be designed and detailed in accordance with the requirements of AISI S400.~~

**~~2204.2.2 Cold-formed steel seismic force-resisting systems.~~** ~~The response modification coefficient,~~ *~~R~~*~~, designated in ASCE 7 Table 12.2-1 for “Steel systems not specifically detailed for seismic resistance, excluding cantilever column systems" shall be permitted for systems designed and detailed in accordance with AISI S100. Such systems need not be designed and detailed in accordance with AISI S400.~~

…

**SECTION 2206*A* - COLD-FORMED STEEL LIGHT-FRAME CONSTRUCTION**

…

**2206*A*.1.1 Seismic requirements for cold-formed steel structural systems.** The design of cold-formed steel light-frame construction to resist seismic forces shall be in accordance with the provisions of Section 2206*A*.1.1.1 or 2206*A*.1.1.2, as applicable.

**2206*A*.1.1.1 Seismic Design Categories B and C.** *Not permitted by DSA-SS.* (Relocated from existing Section 2211A.1.1.1)

**2206*A*.1.1.2 Seismic Design Categories D through F.** In cold-formed steel light-frame construction assigned to Seismic Design Category D, E or F, the seismic force-resisting system shall be designed and detailed in accordance with AISI S400. (Relocated from existing Section 2211A.1.1.2) *The following additional requirements apply:*

*1.* *Cold-formed steel stud foundation plates or sills shall be bolted or fastened to the foundation or foundation wall in accordance with Section 2304.3.4, Item 2.*

*2.* *Shear wall assemblies in accordance with Sections E5, E6 and E7 of AISI 400 are not permitted within the seismic force-resisting system of buildings.*

**2206*A*.1.2 Prescriptive framing.** *Not permitted by DSA-SS.* (Relocated from existing Section 2211A.1.2)

**2206*A*.1.3** **Truss design.** Cold-formed steel trusses shall comply with the additional provisions of Sections 2206*A*.1.3.1 through 2206*A*.1.3.3.

(Relocated from existing Section 2211A.1.3) *Complete engineering analysis and truss design drawings shall accompany the construction documents submitted to the enforcement agency for approval. When load testing is required, the test report shall be submitted with the truss design drawings and engineering analysis to the enforcement agency.*

**2206*A*.1.3.1 Truss design drawings.** The truss design drawings … to provide restraint/bracing. (Relocated from existing Section 2211A.1.3.1) ***[DSA-SS]*** *Deferred submittal per Section I1.4.2 of AISI S202 is not permitted by DSA-SS*.

…

**2206*A*.2 Nonstructural members.** For cold-formed steel … in accordance with AISI S220 (Relocated from existing Section 2211A.2) *for noncomposite assembly design. Where nonstructural members do not qualify for design under AISI S220, the design and installation of nonstructural members and connections shall be in accordance with AISI S240 or S100*.

...

**~~2206A.2.1 Seismic requirements for composite structural steel and concrete construction.~~** ~~Where a response modification coefficient, R, in accordance with ASCE 7, Table 12.2-1, is used for the design of~~(Relocate amendment in existing 2206A.2.1 to 2202A.2.1) ~~systems of structural steel acting compositely with reinforced concrete, the structures shall be designed and detailed in accordance with the requirements of AISC 341 and shall be considered as an alternative system.~~

***~~Exception:~~***(Relocate amendments in existing 2206A.2.1 to 2202A.6.1) *~~Steel and concrete composite special moment frame~~…*

…

**SECTION 2208*A* - STEEL DECK**

**2208*A*.1 Steel decks.** The design and construction of cold-formed steel floor and roof decks and composite slabs of concrete and steel deck shall be in accordance with SDI SD. The design of cold-formed steel diaphragms shall be in accordance with additional provisions of AISI S310, as applicable. (Relocated from existing Section 2210A.1.1.2) *The base material thickness of steel deck shall not be less than 0.0359 inch (0.9 mm) (20 gage).*

***Exception:*** (Relocated from existing 2210A.1.1.2) ***[DSA-SS]*** *For single-story open structures, the minimum deck thickness may be waived if the steel roof deck need not be used as the diaphragm and there are no suspended hangers or bracing for nonstructural components attached to the deck.*

…

(Relocate amendments in existing 2210A.1.1.2 to 2208A.1) **~~2210A.1.1.2 Steel roof deck.~~** ~~Steel roof decks shall be permitted to be designed and constructed in accordance with ANSI/SDI-RD1.0.~~ *~~The base material thickness of steel deck shall not be less than 0.0359 inch (0.9 mm) (20 gage).~~*

***~~Exception: [DSA-SS]~~*** *~~For single-story open structures, the minimum deck thickness may be waived if the steel roof deck need not be used as the diaphragm and there are no suspended hangers or bracing for nonstructural components attached to the deck.~~*

…

**SECTION 2214*A* - STEEL CABLE STRUCTURES**

**2214*A*.1 General.** The design, fabrication and erection including related connections, and protective coatings of steel cables for buildings shall be in accordance with ASCE 19. (Relocated from existing Section 2208A.1) *Steel cables with glass or polymer fabric material acting as a tensile membrane structure is an alternative system.*

***SECTION 2215A ~~2212A~~* —*LIGHT MODULAR STEEL MOMENT FRAMES FOR PUBLIC ELEMENTARY AND SECONDARY SCHOOLS, AND COMMUNITY COLLEGES [DSA-SS]***

(All numbered subsections within this section are renumbered from 221~~2~~A to 2215A)

***2215A.1 ~~2212A.1~~*** ***General.***

***2215A.1.1 ~~2212A.1.1~~ Configuration.*** *Light modular steel …in accordance with the criteria of Section ~~2212A.2~~ 2215A.2. Modules may be stacked …in the stacked condition. See Section ~~2212A.2.5~~ 2215A.2.5 of this code.*

***2215A.1.2 ~~2212A.1.2~~*** ***Design, fabrication and erection.*** *The design…*

***2215A.2 ~~2212A.2~~*** ***Seismic requirements.*** *In addition to…*

***2215A.2.1*** ***~~2212A.2.1~~*** ***Base materials.*** *Beams, columns and connection materials shall be limited to those materials permitted under the AISC Specification for Structural Members (ANSI/AISC 360) and the AISI North American Specification for the Design of Cold-Formed Steel Structural Members (AISI S100). All columns shall conform with standard AISC 360 shapes.*

***2215A.2.2 ~~2212A.2.2~~*** ***Beam-to-column strength ratio.*** *At each moment-resisting connection…*

***2215A.2.3 ~~2212A.2.3~~*** ***Welding.*** *Weld filler metals…*

***2215A.2.4 ~~2212A.2.4~~*** ***Connection design.*** *Connections of beams…*

***2215A.2.5 ~~2212A.2.5~~*** ***Multistory assemblies.*** *Analysis of multistory assemblies**…*

***SECTION 2216A ~~2213A~~* —*TESTING AND FIELD VERIFICATION***

***2216A.1 ~~2213A.1~~* *Tests of high-strength bolts, nuts, and washers.*** *High-strength bolts, nuts, and washers shall be sampled and**tested in accordance with Section 1705A.2.8 ~~1705A.2.6~~.* (Reserved for OSHPD)

***2216A.2 ~~2213A.2~~ Tests of end-welded studs.*** *End-welded studs shall be tested in accordance with the requirements of the AWS D1.1, ~~Sections 7.7 and 7.8~~ Clauses 9.7 and 9.8.*

***Exception:*** *Fillet welded studs exempted by AWS D1.1 Clause 9.5.*

*…*

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

*…*

### ITEM 17Chapter 23 WOOD

**CHAPTER 23**

**WOOD**

Adopt Chapter 23 of the 2024 IBC as Chapter 23 of the 2025 CBC as amended below. All existing California amendments that are not revised below shall continue without change.

**SECTION 2301 – GENERAL**

**2301.1 Scope.** The provisions of this chapter …

…

***2301.1.2 Amendments in this chapter. [DSA-SS, DSA-SS/CC]*** *DSA-SS and DSA-SS/CC adopt this chapter ~~and all amendments~~* *as amended.*

***~~Exception:~~*** *~~Amendments adopted by only one agency appear in this chapter preceded with the appropriate acronym of the adopting agency, as follows:~~*

(Relocate Item 1 below to 2301.1.3)

1. *~~Division of the State Architect - Structural Safety:~~*

***~~[DSA-SS]~~****~~- For applications listed in Section 1.9.2.1.~~*

***~~[DSA-SS/CC]~~****~~- For applications listed in Section 1.9.2.2~~*

1. (Reserved for OSHPD)

***2301.1.3 Identification of amendments.******[DSA-SS, DSA-SS/CC]*** (Items below are relocated from existing 2301.1.2)

1. *Division of the State Architect - Structural Safety amendments appear in this chapter preceded by the appropriate acronym, as follows:*

***[DSA-SS]*** *- For applications listed in Section 1.9.2.1.*

***[DSA-SS/CC]*** *- For applications listed in Section 1.9.2.2.*

1. (Reserved for OSHPD)

***2301.1.4*** ***~~2301.1.3~~*** ***Reference to other chapters. [DSA-SS, DSA-SS/CC]***

***~~2301.1.3.1~~ 2301.1.4.1*** ***[DSA-SS]*** *Where reference within this chapter is made to sections in Chapters 16, 17, 18, 19, 21 and 22, the provisions in Chapters 16A, 17A, 18A, 19A, 21A and 22A, respectively shall apply instead.* (No changes to existing California amendment except renumbering)

***~~2301.1.3.2~~ 2301.1.4.2*** ***[DSA-SS/CC]*** *Where reference within this chapter is made to sections in Chapters 17 and 18, the provisions in Chapters 17A and 18A respectively shall apply instead.* (No changes to existing California amendment except renumbering)

***2301.1.5*** ***~~2301.1.4~~* *[DSA-SS ~~&~~ , DSA-SS/CC] Prohibition.*** *The following design methods, systems and materials are not permitted by DSA:*

…

1. *Cross-laminated timber used as part of the seismic force-resisting system, unless approved as an alternative system in accordance with Section 104.11.* ***[DSA-SS, DSA-SS/CC]*** *Not adopted by DSA.*
2. ***~~[DSA-SS, DSA-SS/CC]~~*** *~~Cross laminated timber used as part of the vertical seismic force-resisting system, unless approved as an alternative system in accordance with Section 104.11.~~*

…

**SECTION 2303 - MINIMUM STANDARDS AND QUALITY**

…

**2303.1.4 Cross-laminated timber.** Cross-laminated timbers shall be manufactured and identified in accordance with ANSI/APA PRG 320.

***2303.1.4.1 Additional requirements.*** ***[DSA-SS ~~&~~ , DSA-SS/CC]*** *Requirements in Section 2303.1.3.1 shall apply to ~~glued~~ cross-laminated timber.*

…

**SECTION 2305 - GENERAL DESIGN REQUIREMENTS FOR LATERAL FORCE-RESISTING SYSTEMS**

…

***2305.1.3* *~~2305.1.2~~* *Additional requirements. [DSA-SS, DSA-SS/CC]*** *See Section ~~2301.1.4~~ 2301.1.5 for modifications to AWC SDPWS.* (No changes to existing California amendment except renumbering)

…

**SECTION 2308 - CONVENTIONAL LIGHT-FRAME CONSTRUCTION**

…

**2308.2 Limitations.** Buildings are permitted to be constructed in accordance with the provisions of conventional light-frame construction, subject to the limitations in Sections 2308.2.1 through 2308.2.7 ***[DSA-SS, DSA-SS/CC]*** *2308.2.8*.

…

***2308.2.8*** ***~~2308.2.7~~*** ***Additional requirements [DSA-SS ~~&~~ , DSA-SS/CC]*** *The use of conventional light-frame construction provisions in this section is permitted, subject to the following conditions:*

* + - 1. *The design and construction shall also comply with Section 2304 and Section 2305.*
			2. *In conjunction with the use of provisions in Section ~~2308.6~~ 2308.10 (Wall bracing), engineering analysis shall be furnished that demonstrates compliance of lateral- force-resisting systems with Section 2305.*
			3. *In addition to the use of provisions in Section ~~2308.4~~ 2308.8 (Floor framing), engineering analysis shall be furnished that demonstrates compliance of floor framing elements and connections with Section 2302.1, Item 1 or 2.*
			4. *In addition to the use of provisions in Section ~~2308.5~~ 2308.9 (Wall construction), engineering analysis shall be furnished that demonstrates compliance of wall framing elements and connections with Section 2302.1, Item 1 or 2.*
			5. *In addition to the use of provisions in Section ~~2308.7~~ 2308.11 (Roof and Ceiling Framing), engineering analysis shall be furnished demonstrating compliance of roof and ceiling framing elements and connections with Section 2302.1, Item 1 or 2.*

(No changes to existing California amendment except renumbering)

…

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

*…*

### ITEM 18Chapter 24 GLASS AND GLAZING

**CHAPTER 24 GLASS AND GLAZING**

Adopt Chapter 24 of the 2024 IBC as Chapter 24 of the 2025 CBC as amended below. All existing California amendments that are not revised below shall continue without change.

**SECTION 2401 – GENERAL**

**2401.1 Scope.** The provisions of this chapter …

…

***2401.1.2 Amendments in this chapter. [DSA-SS, DSA-SS/CC]*** *DSA-SS and DSA-SS/CC adopt this chapter ~~and all amendments~~ as amended.*

***~~Exception:~~*** *~~Amendments adopted by only one agency appear in this chapter preceded with the appropriate acronym of the adopting agency, as follows:~~*

1. (Reserved for OSHPD)
2. *Division of the State Architect - Structural Safety~~:~~ amendments appear in this chapter preceded by the appropriate acronym, as follows:*

***[DSA-SS]*** *- For applications listed in Section 1.9.2.1.*

***[DSA-SS/CC]*** *- For applications listed in Section 1.9.2.2*

…

***SECTION 2410 - [DSA-SS, DSA-SS/CC] STRUCTURAL SEALANT GLAZING (SSG)***

***2410.1 General.*** *The requirements of this section …*

*…*

***2410.1.3 Monitoring.*** *Short- and long-term periodic performance monitoring shall be provided in accordance with ASTM C1401, C1392 and C1394~~. Inspection~~ at frequencies recommended in ASTM C1394 ~~shall be followed~~.*

…

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

*…*

### ITEM 19Chapter 25 GYPSUM PANEL PRODUCTS AND PLASTER

**CHAPTER 25 GYPSUM PANEL PRODUCTS AND PLASTER**

Adopt Chapter 25 of the 2024 IBC as Chapter 25 of the 2025 CBC as amended below. All existing California amendments that are not revised below shall continue without change.

**SECTION 2501 – GENERAL**

**2501.1 Scope.** Provisions of this chapter …

…

***2501.1.2 Amendments in this chapter. [DSA-SS, DSA-SS/CC]*** *DSA-SS and DSA-SS/CC adopt this chapter ~~and all amendments~~ as amended.*

***~~Exception:~~*** *~~Amendments adopted by only one agency appear in this chapter preceded with the appropriate acronym of the adopting agency, as follows:~~*

1. (Reserved for OSHPD)
2. *Division of the State Architect - Structural Safety~~:~~ amendments appear in this chapter preceded by the appropriate acronym, as follows:*

***[DSA-SS]*** *- For applications listed in Section 1.9.2.1.*

***[DSA-SS/CC]*** *- For applications listed in Section 1.9.2.2*

…

**SECTION 2503 – INSPECTION**

**2503.1 Inspection.** Lath and gypsum panel productsshall be inspected in accordance with Section 110.3.6.

***2503.2 Additional requirements for inspection and testing. [DSA-SS, DSA-SS/CC]***

*…*

1. *The enforcement agency ~~may~~ shall be permitted to require tests in accordance with Table 2506.2 to determine compliance with the provisions of this code.*

…

**SECTION 2507 - LATHING AND PLASTERING**

**2507.1 General.** Lathing and plastering materials and accessories shall be marked by the manufacturer’s designation to indicate compliance with the appropriate standards referenced in this section and stored in such a manner to protect them from the weather.

*…*

***2507.3 Lath attachment to horizontal wood supports. [DSA-SS, DSA-SS/CC]*** *Where interior or exterior lath is attached to horizontal wood supports, either of the following attachments shall be used in addition to the methods of attachment described in referenced standards listed in Table 2507.2.*

1. *Secure lath to alternate supports with ties consisting of a double strand of No. 18 W & M gage galvanized annealed wire at one edge of each sheet of lath. Wire ties shall be installed not less than 3 inches (76 mm) back from the edge of each sheet and shall be looped around stripping, or attached to an 8d common wire nail driven into each side of the joist 2 inches (51 mm) above the bottom of the joist or to each end of a 16d common wire nail driven horizontally through the joist 2 inches (51 mm) above the bottom of the joist and the ends of the wire secured together with three twists of the wire.*
2. *Secure lath to each support with 1-inch wide (12.7mm), 1 ½ inch long (38mm) No. 9 W & M gage, ring shank, hook staple placed around a 10d common nail laid flat under the surface of the lath not more than 3 inches (76 mm) from edge of each sheet. Such staples may be placed over ribs of 3/8-inch (9.5 mm) rib lath or over back wire of welded wire fabric or other approved lath, omitting the 10d nails. No. 9 W & M gage minimum x 1 ½” long screws shall be permitted to be used in lieu of the staples if they include a minimum 1-inch diameter head or are installed with a 1-inch diameter washer.*

*…*

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

*…*

### ITEM 20Chapter 26 PLASTIC

**CHAPTER 26 PLASTIC**

Adopt Chapter 26 of the 2024 IBC as Chapter 26 of the 2025 CBC as amended below. All existing California amendments that are not revised below shall continue without change.

**SECTION 2601 – GENERAL**

**2601.1 Scope.** These provisions shall govern …

***~~2601.1.1 Application. [DSA-SS, DSA-SS/CC]~~*** *~~The scope of application of Chapter 26 is as follows:~~*

1. (Reserved for OSHPD)
2. *~~Structures regulated by the Division of the State Architect—Structural Safety, which include those applications listed in Section 1.9.2.1 (DSA-SS) and 1.9.2.2 (DSA-SS/CC). These applications include public elementary and secondary schools, community colleges and state-owned or state-leased essential services buildings~~*

***~~2601.1.2 Amendments in this chapter. [DSA-SS, DSA-SS/CC]~~*** *~~DSA-SS and DSA-SS/CC~~**~~adopt this chapter and all amendments.~~*

***~~Exception:~~*** *~~Amendments adopted by only one agency appear in this chapter preceded with the appropriate acronym of the adopting agency, as follows:~~*

* 1. (Reserved for OSHPD)
	2. *~~Division of the State Architect - Structural Safety:~~*

***~~[DSA-SS]~~*** *~~- For applications listed in Section 1.9.2.1.~~*

***~~[DSA-SS/CC]~~*** *~~- For applications listed in Section 1.9.2.2.~~*

…

**SECTION 2603 – FOAM PLASTIC INSULATION**

**2603.1 General.** The provisions of this section shall govern the requirements and uses of foam plastic insulation in buildings and structures.

…

(discontinue amendment in new location 1404.5.1.1) ***~~2603.11.1 Additional requirements. [DSA-SS. DSA-SS/CC]~~*** *~~In addition to the requirements~~**~~of Section 2603.11, cladding and foam sheathing supports and attachments shall be designed and submitted~~**~~to the enforcement agency for approval.~~*

…

(discontinue amendment in new location 1404.5.2.3) ***~~2603.12.3 Additional requirements. [DSA-SS. DSA-SS/CC]]~~*** *~~In addition to the requirements of~~**~~Section 2603.12, 2603.12.1 and 2603.12.2, cladding and~~**~~foam sheathing supports and attachments shall be designed~~**~~and submitted to the enforcement agency for approval.~~*

…

(discontinue amendment in new location 1404.5.3.3) ***~~2603.13.3 Additional requirements. [DSA-SS. DSA-SS/CC]~~*** *~~In addition to the~~**~~requirements of Section 2603.13, 2603.13.1 and~~**~~2603.13.2, cladding and foam sheathing supports and attachments shall be designed and submitted to the enforcement agency for approval.~~*

…

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

…

### ITEM 21Chapter 30 ELEVATORS AND CONVEYING SYSTEMS

**CHAPTER 30**

**ELEVATORS AND CONVEYING SYSTEMS**

Adopt Chapter 30 of the 2024 IBC without amendment.

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

### ITEM 22Chapter 31 SPECIAL CONSTRUCTION

**CHAPTER 31 SPECIAL CONSTRUCTION**

Adopt Chapter 31 of the 2024 IBC as Chapter 31 of the 2025 CBC as amended below. All existing California amendments that are not revised below shall continue without change

…

**SECTION 3103 TEMPORARY STRUCTURES**

**3103.1 General.** The provisions of Sections 3103.1 through 3103.8 shall apply to structures erected for a period of less than 180 days. Temporary special event structures, tents, umbrella structures and other membrane structures erected for a period of less than 180 days shall also comply with the International Fire Code. Temporary structures erected for a longer period of time and public-occupancy temporary structures shall comply with applicable sections of this code. ***[DSA-SS, DSA-SS/CC]*** *School buildings as defined in Section 4-314 of the California Administrative Code are not permitted to be classified as public-occupancy temporary structures.*

…

**SECTION 3111 SOLAR ENERGY SYSTEMS**

3111.1 General. Solar energy systems shall comply with the requirements of this section.

**3111.1.1 Wind resistance.** Rooftop-mounted photovoltaic (PV) panel systems and solar thermal collectors shall be designed in accordance with Section 1609.

***Exception: [DSA-SS, DSA-SS/CC]*** *Rooftop-mounted photovoltaic (PV) panel systems and solar thermal collectors shall be designed in accordance with Section ~~1511.9~~ 1511.10 of this code.*

…

**SECTION 3114 INTERMODAL SHIPPING CONTAINERS**

(All numbered subsections within this section are renumbered from 311~~5~~ to 3114)

…

**3114.1** **Exceptions:** ***[DSA-SS and DSA-SS/CC]*** *Not permitted by DSA.* (Relocated from existing Section 3115.1)

…

**3114.6** **Roof Assemblies**. Intermodal shipping container roof assemblies shall comply with the applicable requirements of Chapter 15.

**Exception:** Single-unit, stand-alone intermodal shipping containers not attached to, or stacked vertically over, other intermodal shipping contains, buildings or structures. ***[DSA-SS & DSA-SS/CC]*** *Not permitted by DSA.* (Relocated from existing Section 3115.6)

*…*

**3114.8.2 Welds.** The strength of new welds and connections shall be of not less than the strength provided by the original connections. All new welds and connections shall be designed and constructed in accordance with Chapters 16, 17 and 22.

***~~[DSA-SS & DSA-SS/CC]~~*** *~~The strength of new welds and connections shall be no less than the strength provided by the original connection. All new welds and connections shall be designed and constructed in accordance with Chapter 16, 17 and 22~~.* (Relocated from existing Section 3115.8.2)

…

**3114.8.4 Detailed design procedure.** A structural analysis meeting the requirements of this section shall be provided to the building official to demonstrate the structural adequacy of the intermodal shipping containers. (Relocated from existing Section 3115.8.4)

**3114.8.4.1 Material properties.** Structural material properties for existing intermodal shipping container steel components shall be established by Section 2202. ***~~[DSA-SS & DSA-SS/CC]~~*** *~~Not permitted by DSA.~~* (Relocated from existing Section 3115.8.4.1)

**3114.8.4.2** **Seismic design parameters.** The seismic force-resisting systemshall be designed and detailed in accordance with ASCE 7 and ***~~[DSA-SS & DSA-SS/CC]~~*** *~~ASCE 7 and~~* one of the following: (Relocated from existing Section 3115.8.4.2)

1. Where all or portions of the profiled steel panel elements are considered to be the seismic force-resisting system, design and detailing shall be in accordance with the **AISI S100** and **ASCE 7**, Table 12.2-1 requirements for steel systems not specifically detailed for seismic resistance, excluding cantilever column systems. ***[DSA-SS & DSA-SS/CC]*** *Not permitted by DSA*. (Relocated from existing Section 3115.8.4.2)
2. Where all or portions of the profiled steel panel elements are not considered to be part of the seismic force-resisting system, an independent seismic force-resisting systemshall be selected and detailed in accordance with ASCE 7, Table 12.2-1.
3. Where all or portions of the profiled steel panel elements are retained and integrated into a seismic force-resisting systemother than as permitted by Item 1, seismic design parameters shall be developed from testing and analysis in accordance with Section 104.2.3 and ASCE 7, Section 12.2.1.1 or 12.2.1.2.

…

**3114.8.5 Simplified structural design procedure of single-unit containers.** Single-unit intermodal shipping containersconforming to the limitations of Section 3114.8.5.1 shall be permitted to be designed in accordance with Sections 3114.8.5.2 and 3114.8.5.3. ***[DSA-SS and DSA-SS/CC]*** *Not permitted by DSA.* (Relocated from existing Section 3115.8.5)

***3114.9******~~3115.9~~******Additional Requirements. [DSA-SS and DSA-SS/CC]***

***3114.9.1 ~~3115.9.1~~ General.*** *…*

***3114.9.2*** ***~~3115.9.2~~*** ***Structural integrity verification***. …

***3114.9.3 ~~3115.9.3~~ Seismic design requirements***. …

*…*

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

### ITEM 23Chapters 31D, 32-33

**\*CHAPTER 31D**

**FOOD ESTABLISHMENTS**

Adopt entire Chapter 31D for DSA-SS and DSA-SS/CC.

**CHAPTER 32**

**ENCROACHMENTS INTO THE PUBLIC RIGHT-OF-WAY**

Adopt Chapter 32 of the 2024 IBC without amendment.

**CHAPTER 33**

**SAFEGUARDS DURING CONSTRUCTION**

Adopt Chapter 33 of the 2024 IBC without amendment.

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

### ITEM 24Chapter 35 REFERENCED STANDARDS

**CHAPTER 35 REFERENCED STANDARDS**

Adopt Chapter 35 of the 2024 IBC as Chapter 35 of the 2025 CBC as amended below. All existing California amendments that are not revised below shall continue without change

**AAMA** American Architectural Manufacturers Association1900 E Golf Road, Suite 1250Schaumburg, IL 6017

…

**AAMA/WDMA/CSA101/I.S.2/A440—22: North American Fenestration Standard/Specification for Windows, Doors, and Skylights**

1709.5.1, 2405.5, *1709A.5.1*

**…**

**ACI** *American Concrete Institute, 38800 Country Club Drive, Farmington Hills, MI 48331-3439*

…

**318—19: Building Code Requirements for Structural Concrete**

722.2.4.3, 1604.3.2, 1616.2.1, 1616.3.1, 1704.5, Table 1705.3, 1705.3.2, *~~Table 1705A.2.1,~~ 1705A.3.9,* 1808.8.2, Table 1808.8.2, 1808.8.5, 1808.8.6, 1810.1.3, 1810.2.4.1, 1810.3.2.1.1, 1810.3.2.1.2, 1810.3.8, 1810.3.9.4.2.1, 1810.3.9.4.2.2, 1810.3.10.1, *1810A.3.10.4,* 1810.3.11, 1810.3.11.1, 1810.3.12,1810.3.13, 1901.2,1901.3, *1901.3.4.4,* 1902.1, *1903A,* 1903.1, *1904A,* 1904.1, 1904.2, *1905A*, 1905.1, 1905.1.1, 1905.1.2, 1905.1.3, 1905.1.4, 1905.1.5, 1905.1.6, 1905.1.7,1905.1.8, 1908.1, *~~1909.2~~, 1909.2.6.4,* *1909.3, 1909.4, 1910.3, 1901A.3, 1902A.1, 1902A.2.1.2, 1910A.5.4,* 2108.3, 2206.1

***355.2—22 ~~19~~: Qualification of Post-Installed Mechanical Anchors in Concrete and Commentary***

*1617A.1.19, 1901.3.2*

*…*

***355.4—19 (21): Qualification of Post-Installed Adhesive Anchors in Concrete and Commentary***

*1617A.1.19, 1901.3.3*

*…*

***440.2R-~~08~~ 17: Guide for the Design and Construction of Externally Bonded FRP Systems for Strengthening Concrete Structures***

*1911.3, 1911A.3*

…

***~~503.7—07: Specification for Crack Repair by Epoxy Injection~~***

*~~1911.2, 1911A.2~~*

*…*

***506.2-13 (18): Specification for Shotcrete***

*1705A.3.9, 1908A.1, ~~1908A.9,~~ 1909.4*

***506.4R –19: Guide for the Evaluation of Shotcrete***

*1909.4*

***506.6T—17: Visual Shotcrete Core Quality Evaluation***

*1909.4*

*…*

***548.15-20: Specification for Crack Repair by Epoxy Injection***

*1911A.2*

…

**AISC** *American Institute of Steel, 130 East Randolph Street, Suite 2000, Chicago, IL 60601-6219*

**ANSI/AISC 341—22: Seismic Provisions for Structural Steel Buildings**

1705.13.1.1, 1705.13.1.2, 1705.14.1.1, 1705.14.1.2, *Table 1705A.2.1, ~~1705A.2.5,~~*1810.3.5.3.1, 2202.2.1.1, 2202.2.1.2, 2202.2.2, *2202A.5, 2205.3, ~~2206A,~~* ~~2206.2.1~~, *~~2212.2,~~ 2215.2,*

**ANSI/AISC 358—22: Prequalified Connections for Special and Intermediate Steel Moment Frames for Seismic Applications**

*Table* 1705A.2.1, 2202.2.1, 2202.2.1.2,*1705A.13.1.1, 1705A.14.1.1, ~~2205A~~, 2202A, ~~2206A.2,~~ 2202A.6, 2215.3*

**ANSI/AISC 360—22: Specification for Structural Steel Buildings**

722.5.2.2.1, 1604.3.3, 1705.2.1, 2202.1, 2202.2.1.1, *1705A.2.1, Table 1705A.2.1, 1705A.2.5, 2204.4, 2204A.4, ~~2212.1.1~~ 2215.1.1, 2201A.5.1, ~~2212A.1.2~~, 2215A.1.2 ~~2212A.2.1,~~ 2215A.2.1*

**ANSI/AISC 370—21: Specification for Structural Stainless Steel Buildings**

1705.2.2, 2203.1*, Table 1705A.2.1, 1705A.2.2*

…

**AISI** *American Iron and Steel Institute, 25 Massachusetts Avenue, NW Suite 800, Washington, DC 20001*

**AISI S100—16(2020) w/S2—20: North American Specification for the Design of Cold-Formed Steel Structural Members, 2016 Edition (Reaffirmed 2020), with Supplement 2, 2020 Edition**

1604.3.3, 1905.7.2, 2204, 2204.2.2, *~~2211A.2,~~ 2204A.1*

**AISI S240—20: North American Standard for Cold-Formed Steel Structural Framing, 2020 Edition**

Table 1404.5.2.1, Table 1404.5.2.2, 2206.1, 2206.1.1.1, 2206.1.3.3, 2206.3, 2212.1, Table 2506.2, Table 2507.2, *Table 1705A.2.1, 1709A.2.9, 2206A.2*

…

**AISI S400—20: North American Standard for Seismic Design of Cold-formed Steel Structural Systems, 2020 Edition**

2204.2.1, 2204.2.2, 2206.1.1.1, 2206.1.1.2, *2215A.4.3*

…

**ASCE/SEI** *American Society of Civil Engineers Structural Engineering Institute, 1801 Alexander Bell Drive, Reston, VA 20191*

**7 - 22: Minimum Design Loads and Associated Criteria for Buildings and Other Structures *with Supplement 1***

…

***41 - 23:*** ***[DSA-SS, DSA-SS/CC] Seismic Evaluation and Retrofit of Existing Buildings***

*1603A.2*

…

**ASHRAE *ASHRAE, 180 Technology Parkway, Peachtree Corners, GA 30092***

…

***171-2017: Method Of Testing for Rating Seismic and Wind Restraints***

*1705A.14.2*

…

**ASTM** *ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428*

…

**A615/A615M – ~~20~~ *22*: Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement**

1704.5, 1810.3.10.2

…

**A706/A706M- ~~2016~~ *22a*: Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement**

1704.5, Table 1705.3, 2107.3, 2108.3

**A722/A722M - 2018: Specification for High-Strength Steel Bars for Prestressed Concrete**

1810.3.10.2, *1811.4, 1811A.4, 1812.4.2, 1812A.4.2*

…

***A1064 - ~~17~~ 22: Standard Specification for Carbon-steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete***

*1903.8, 1903A.8*

…

**C150/C150M—21: Specification for Portland Cement**

*~~1909.2.3~~1909.2.2,1910A.1, 1910.2.1,* Table 2507.2

…

**C270—19ae1: Specification for Mortar for Unit Masonry**

*…2105.3, 2105A.3, 2115.4.1*

**…**

***~~C482 – 20: Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement Paste~~***

*~~1413.2.1~~*

…

**C595/C595M—21: Specification for Blended Hydraulic Cements**

*1909.2.2, ~~1909.2.3,~~ 1910A.1*

…

***C618 – ~~19~~ 23e1: ~~[DSA-SS, DSA-SS/CC]~~ Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete***

*1909.2.2 ~~1909.2.3~~, 1910A.1*

…

**C635/C635M – ~~2017~~ *22*: *Standard* Specification for ~~the~~ Manufacture, Performance*,* and Testing of Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings**

2506.2.1, *1617A.1.21*

…

**~~C636/C636M—~~*~~17~~*~~:~~ *~~[DSA-SS, DSA-SS/CC]~~* ~~Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels~~**

~~808.1.1.1,~~ *~~1617.10.16, 1617A.1.21~~*

…

**C636/C636M—19: Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels**

808.1.1*,1617.11.16, 1617A.1.21*

…

***C989—22~~18a~~: ~~[DSA-SS, DSA-SS/CC]~~ Standard Specification for Slag Cement for Use in Concrete and Mortars***

*1909.2.2,~~1909.2.3,~~ 1910A.1*

…

***C1019 – ~~16~~ 20: Test Method for Sampling and Testing Grout***

*2105A.3, 2105.3, 2115.4.1 ~~2115.8.1~~*

…

**C1157/C1157M—20a: Standard Performance Specification for Hydraulic Cement**

*1909.2.2~~1909.2.3~~,* 1910.2.1, *1910A.1,* Table 2507.2

**…**

***C1249—18 (2023): Standard Guide for Secondary Seal for Sealed Insulated Glass Units for Structural Sealant Glazing Applications***

*2410.1.1*

…

***C1401 - ~~14~~ 23: Standard Guide for Structural Sealant Glazing***

*2410.1*

…

***C1586 - ~~05(2011)~~ 20: Standard Guide for Quality Assurance of Mortars***

*2105.3, 2105A.3*

…

***C1714/C1714M-23: Standard Specification for Preblended Dry Mortar Mix for Unit Masonry***

*2105A.3, 2115.4.1*

…

***C1823/C1823M – 20: Standard Test Method for Shear Bond Strength of Adhered Dimension Stone***

*1413.2.1*

…

***D1586 – ~~20~~ 18e1: Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils***

…

***D3966 - ~~07(2013)~~ 22: Standard Test Method for Deep Foundations Under Lateral Loads***

*1810A.3.3.2*

…

***E580/E580M – ~~17~~ 22: Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions***

*1617.12.13,~~1617.11.16,~~ 1617A.1.21*

…

***E3121-17:*** [***Standard Test Methods for Field Testing of Anchors in Concrete or Masonry***](https://compass.astm.org/document/?contentcode=ASTM%7CE3121_E3121M-17%7Cen-US)

*1901.3.4.3, 1910A.5.2, 1909.2.6.2, 1909.2.6.5, 1910A.5.5*

…

**AWC** *American Wood Council, 222 Catoctin Circle SE, Suite 201, Leesburg, VA 20175*

**ANSI/AWC NDS—2024: National Design Specification (NDS) for Wood Construction—with ~~2018~~ *2024* NDS Supplement**

…

**AWS** *American Welding Society, 8669 NW 36 Street, #130, Miami, FL 33166-6672*

*…*

***B5.1 - 2013-AMD1: Specification for the Qualification of Welding Inspectors***

*1705A.2.7*

***D1.1/D1.1M – ~~15~~ 20: Structural Welding Code - Steel***

*Table 1705A.2.1, ~~1705A.2.5~~, 1705A.2.7,**2204.1.1, 2204A.1.1~~, 2212.6.2,~~ 2213.2, ~~2213A.2~~, 2215.6.2, 2216A.2*

***D1.3/D1.3M - ~~08~~ 2018: Structural Welding Code - Sheet Steel***

*Table 1705A.2.1, ~~1705A.2.5~~, 1705A.2.7*

**D1.4/D1.4M—2018-AMD1: Structural Welding Code—Steel Reinforcing Bars**

1704.5, *1704A.5, Table 1705A.2.1, ~~1705A.2.5~~, 1705A.2.7,* Table 1705.3, 1705.3.1, *1705A.3.1, 1903.8, ~~1903A.8~~, 1903A.5,* 2107.3

***D1.6D1.6M-2017: Structural Welding Code-Stainless Steel***

*Table 1705A.2.1, 1705A.2.7*

***D1.8/D1.8M - ~~2016~~ 2021: Structural Welding Code - Seismic Supplement***

*Table 1705A.2.1, 1705.2.5, ~~1705A.2.5,~~ 1705A.2.7*

***QC1 - 2016: Specification for AWS Certification of Welding Inspectors***

*~~1705.2.5, 1705A.2.5,~~ 1705A.2.7*

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**FM** *FM Approvals, Headquarters Office 1151 Boston-Providence Turnpike P.O. Box 9102, Norwood, MA 02062*

***FM 1950 – ~~2016~~ 2022: American National Standard for Seismic Sway Braces for Pipe, Tubing and Conduit***

*1705.14.2, 1705A.14.2*

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**ICC** *International Code Council, Inc., 200 Massachusetts Avenue, NW, Suite 250, Washington, DC 20001*

**ICC 300—~~2017~~ *23*: ICC Standard on Bleachers, Folding and Telescopic Seating and Grandstands**

1030.1.1, 1030.7, 1607.18, *1605A.3, 1605A.3.1, 1607A.18*

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***ICC-ES AC 01 - ~~21~~ 24\*: Acceptance Criteria for Expansion Anchors in Masonry Elements***

*1617A.1.19*

***ICC-ES AC 58 - ~~21~~ 24\*: Acceptance Criteria for Adhesive Anchors in Masonry Elements***

*1617A.1.19*

***ICC-ES AC 70 - ~~21~~ 24\*: Acceptance Criteria for Fasteners Power-Driven into Concrete, Steel and Masonry Elements***

*1617A.1.20*

…

***ICC-ES AC 106 - ~~21~~ 24\*: Acceptance Criteria for Predrilled Fasteners (Screw Anchors) in Masonry***

*1617A.1.19*

***ICC-ES AC 125 - ~~21~~ 24\*: Acceptance Criteria for Concrete and Reinforced and Unreinforced Masonry Strengthening***

***Using Externally Bonded Fiber-Reinforced Polymer (FRP) Composite Systems***

*1911A.3, 1911.3*

***ICC-ES AC 156 - ~~21~~ 24\*: Acceptance Criteria for Seismic Certification by Shake-Table Testing of Nonstructural Components***

*1705A.14.3*

***ICC-ES AC 178 - ~~21~~ 24\*: Acceptance Criteria for Inspection and Verification of Concrete, and Reinforced and Unreinforced Masonry***

***Strengthening Using Fiber-Reinforced Polymer (FRP) Composite Systems***

*1911A.3, 1911.3*

***ICC-ES AC 193 - ~~21~~ 24\*: Acceptance Criteria for Mechanical Anchors in Concrete Elements***

*1617A.1.19, 1901.3.2*

***ICC-ES AC 232 - ~~21~~ 24\*: Acceptance Criteria for Anchor Channels in Concrete Elements***

*1617A.1.19, 1901.3.2*

***ICC-ES AC 308 - ~~21~~ 24\*: Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements***

*1617A.1.19, 1901.3.3*

…

***ICC-ES AC 358 - ~~21~~ 24\*: Acceptance Criteria for Helical Foundation Systems and Devices***

*1810A.3.1.5.1, 1810.3.1.5.1*

***ICC-ES AC 446*** ***- ~~21~~ 24\*: Acceptance Criteria for Headed Cast-in Specialty Inserts in Concrete***

*1617A.1.19, 1901.3.2*

*\* Refers to International Building Code, ~~2021~~2024 as a reference standard.*

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**PCI** Precast Prestressed Concrete Institute, 8770 West Bryn Mawr, Suite 1150,Chicago, IL 60631-3517

…

***MNL-120-17: PCI Design Handbook, 8th Edition***

*~~1905A.1.1, 1905A.1.2,~~1909A.1, 1909A.2*

*…*

**TMS** *The Masonry Society, 105 South Sunset Street, Suite Q, Longmont, CO 80501-6172*

**402—2022: Building Code Requirements for Masonry Structures**

1404.7, 1404.11, *1413.2.2,*1604.3.4, 1705.4, 1807.1.6.3.2, 1808.9, 2101.2, *2101.2.2, 2101A.1.3, 2104A.1.3,* 2103.2.4, *2103A.6, 2104A.1.3.10.2,*  2106.1, *2106A,* 2107.1, 2107.2, 2107.3, *2107.4, 2107A~~.4~~, 2107.5, ~~2107A.5,~~ 2107.6,* 2108.1, 2108.2, 2108.3, *2108.4, ~~2108A.4,~~*2110.1, 2114.1, 2114.4, *2115.1.~~1~~, 2115.2, 2115.5, 2115.6*

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**602—2022: Specification for Masonry Structures**

1404.7.1, 1705.4, 1705.4.1, 1807.1.6.3, *2101.2.2, 2101A.1.3,* 2103.1, 2103.2.1, 2103.3, *2103A.3.1,* 2103.4, 2104.1, *2104.2, 2104A~~.1~~,* 2105.1, *2105A.1, 2105.2, 2105A.2, 2105.3, 2105A.3, 2106.6, ~~2115.1.1, 2115.8,~~ 2115.3, 2115.4*

**Notation** **for [DSA-SS]:**

Authority: Education Code Section 17310 and 81142, and Health and Safety Code Section 16022

Reference: Education Code Sections 17280 through 17317, and 81130 through 81149, and Health and Safety Code Sections 16000 through 16023

**Notation** **for [DSA-SS/CC]:**

Authority: Education Code Section 81053

Reference: Education Code Sections 81052, 81053, and 81130 through 81149

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