# APPROVED BY THE CALIFORNIA BUILDING STANDARDS COMMISSION

# AUGUST 13, 2020

# FINAL EXPRESS TERMS FOR PROPOSED BUILDING STANDARDS OF THE CALIFORNIA BUILDING STANDARDS COMMISSION REGARDING THE 2019 CALIFORNIA BUILDING CODE,

# CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2

# (BSC 02/19)

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 and ellipsis.

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

* Model Code language appears upright
* Existing California amendments appear in *italic*
* Amended model code or new California amendments appear *underlined & italic*
* Repealed model code language appears ~~upright and in strikeout~~
* Repealed California amendments appear in *~~italic and strikeout~~*
* Ellipsis (...) indicate existing text remains unchanged

# FINAL EXPRESS TERMS

# Item: BSC 02/19-1

**Chapter:** **1 (Division II) SCOPE AND ADMINISTRATION**

**Section:** **110.3.12 Type IV-A. IV-B. and IV-C connection protection Inspection.**

**Express Terms:**

***110.3.12 Type IV-A. IV-B. and IV-C connection protection Inspection.*** *In buildings of Type IV-A, IV-B and IV-C Construction, where connection fire resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.1 inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.*

***…***

**Notation:**

Authority: Health and Safety Code Sections 18928.1 and 18934.5

References: Health and Safety Code Sections 18928.1 and 18934.5

# Item: BSC 02/19-2

**Chapter:** **2 DEFINITIONS**

**Section:** **202 Definitions.**

**Express Terms:**

**…**

***MASS TIMBER.*** *Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.*

**…**

**WALL, LOAD-BEARING.** Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.

2. Any masonry or concrete *or mass timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

**…**

**Notation:**

Authority: Health and Safety Code Sections 18928.1 and 18934.5

References: Health and Safety Code Sections 18928.1 and 18934.5

# Item: BSC 02/19-3

**Chapter:** **17 SPECIAL INSPECTIONS AND TESTS**

**Sections:** **1705.5.7, 1705.11.1, 1705.11.2, 1705.12.2, 1705.12.3, 1705.20**

**Express Terms:**

***1705.5.7 Mass timber construction.*** *Special inspections of Mass Timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1705.5.3.*

***…***

***TABLE 1705.5.7***

***REQUIRED SPECIAL INSPECTIONS OF MASS TIMBER CONSTRUCTION***

| ***Type*** | ***Continuous Special Inspection*** | ***Periodic Special Inspection*** |
| --- | --- | --- |
| *Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.* |  | *X* |
| 1. *Inspect erection of mass timber construction* |  | *X* |
| 1. *Inspection of connections where installation methods are required to meet design loads* |  |  |
| *3.1 Threaded fasteners* |  |  |
| *3.1.1 Verify use of proper installation equipment* |  | *X* |
| *3.1.2 Verify use of pre-drilled holes where required* |  | *X* |
| *3.1.3 Inspect screws, including diameter, length, head type, spacing, installation angle, and depth* |  | *X* |
| *3.2 Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads* | *X* |  |
| *3.3 Adhesive anchors not defined in 3.2* |  | *X* |
| *3.4 Bolted connections* |  | *X* |
| *3.5 Concealed connections* |  | *X* |

**…**

**1705.11.1 Structural wood.** Continuous special inspection is required during field gluing operations of elements of the main wind force-resisting system. Periodic special inspection is required for nailing, bolting, anchoring and other fastening of elements of the main wind force-resisting system, including wood shear walls, wood diaphragms, drag struts, braces and hold-downs.

**Exception:** Special inspections are not required for wood shear walls, shear panels and diaphragms, including nailing, bolting, anchoring and other fastening to other elements of the main wind force-resisting system, where the *lateral resistance is provided by the structural sheathing and the* specified fastener spacing at panel edges is more than 4 inches (102 mm) on center.

**1705.11.2 Cold-formed steel light-frame construction.** Periodic special inspection is required for welding operationsof elements of the main wind force-resisting system.Periodic special inspection is required for screw attachment,bolting, anchoring and other fastening of elementsof the main wind force-resisting system, including shear

walls, braces, diaphragms, collectors (drag struts) and hold-downs.

**Exception:** Special inspections are not required for cold-formed steel light-frame shear walls and diaphragms, including screwing, bolting, anchoring and other fastening to components of the wind force resisting system, where either of the following applies:

1. The sheathing is gypsum board or fiberboard.

2. The sheathing is wood structural panel or steel sheets on only one side of the shear wall, shear panel or diaphragm assembly and the *specified* fastener spacing ~~of~~ *at* the ~~sheathing~~ *panel or sheet edges* is more than 4 inches (102 mm) on center (o.c.).

**…**

**1705.12.2 Structural wood.** For the seismic force-resisting systems of structures assigned to Seismic Design Category C, D, E or F:

1. Continuous special inspection shall be required during field gluing operations of elements of the seismic force-resisting system.

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

**Exception:** Special inspections are not required for wood shear walls, shear panels and diaphragms, including nailing, bolting, anchoring and other fastening to other elements of the seismic force-resisting system, where the *lateral resistance is provided by structural sheathing, and the specified* fastener spacing ~~of~~ *at* the ~~sheathing~~ *panel edges* is more than 4 inches (102 mm) on center.

**1705.12.3 Cold-formed steel light-frame construction.** For the seismic force-resisting systems of structuresassigned to Seismic Design Category C, D, E or F, periodicspecial 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.

**Exception:** Special inspections are not required for cold-formed steel light-frame shear walls and diaphragms, including screw installation, bolting, anchoring and other fastening to components of the seismic force-resisting system, where either of the following applies:

1. The sheathing is gypsum board or fiberboard.
2. The sheathing is wood structural panel or steel sheets on only one side of the shear wall, shear panel or diaphragm assembly and the *specified* fastener spacing ~~of~~ *at* the ~~sheathing~~ *panel or sheet edge* is more than 4 inches (102 mm) on center.

**...**

***1705.20 Sealing of mass timber.*** *Periodic*[Editorial correction made during August 13, 2020 meeting by the by the Commission and agreed to by the Agency.] *special inspections of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.9 is applied to mass timber building elements as designated in the approved construction documents.*

**…**

**Notation:**

Authority: Health and Safety Code Sections 18928.1 and 18934.5

References: Health and Safety Code Sections 18928.1 and 18934.5

# Item: BSC 02/19-4

**Chapter:** **23 WOOD**

**Sections:** **2304.10.1.2, 2304.11.3, 2304.11.4**

**Express Terms:**

**…**

***2304.10.1.2 Connection fire resistance rating.*** *Fire resistance ratings for connections in Type IV-A IV-B, or IV-C construction shall be determined by one of the following:*

1. *Testing in accordance with Section 703.2 where the connection is part of the fire resistance test.*
2. *Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of*

*250°F (139°C) and a maximum temperature rise of 325° F (181 °C) for a time corresponding to the required fire resistance rating of the structural element being connected. For the purposes of this analysis the connection includes connectors fasteners and portions of wood members included in the structural design of the connection.*

***…***

**2304.11.3 Floors.** Floors shall be without concealed spaces~~.~~ *or with concealed spaces complying with Section 602.4.4.4.* Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

**2304.11.4 Roof decks.** Roofs shall be without concealed spaces *or with concealed spaces complying with Section 602.4.4.4.* ~~and~~ *~~r~~Roof* decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent fire resistance and structural properties. Where supported by a wall, roof decks shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or approved hardware of sufficient strength to resist prescribed forces.

**…**

**Notation:**

Authority: Health and Safety Code Sections 18928.1 and 18934.5

References: Health and Safety Code Sections 18928.1 and 18934.5

# Item: BSC 02/19-5

**Chapter:** **31 SPECIAL CONSTRUCTION**

**Sections:** **3102.3, 3102.6.1.1, 3109.2**

**Express Terms:**

**...**

**3102.3 Type of construction.** Noncombustible membrane structures shall be classified as Type IIB construction. Noncombustible frame or cable-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IV*-HT* construction. Other membrane structures shall be classified as Type V construction.

Exception: Plastic less than 30 feet (9144 mm) above any floor used in greenhouses, where occupancy by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

**…**

**3102.6.1.1 Membrane.** A membrane meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a skylight on buildings of Type IIB, III, IV*-HT* and V construction, provided that the membrane is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

**…**

**3109.1 General.** The design…

***3109.2 California swimming pool safety act (statewide).***

*NOTE: These regulations are subject to local government modification. You should verify the applicable local government requirements at the time of application for a building permit.*

*The following text in this section contains…*

**…**

**Notation:**

Authority: Health and Safety Code Sections 18928.1 and 18934.5

References: Health and Safety Code Sections 18928.1 and 18934.5

# Item: BSC 02/19-6

**Chapter:** **35 REFERENCED STANDARDS**

**Sections:** **ASTM,** **APA**

**Express Terms:**

**APA**

**…**

***ANSI/APA PRG 320-18:*** *Standard for Performance-rated Cross Laminated Timber 2303.1.4*

**…**

**ASTM**

**…**

***D3498-03(2011):*** *Standard Specification for Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems*

**…**

**Notation:**

Authority: Health and Safety Code Sections 18928.1 and 18934.5

References: Health and Safety Code Sections 18928.1 and 18934.5