



2022 Code Changes and Updates

California Building Code Vol. 1 and 2

Tall Wood/Mass Timber provisions in various chapters of Part 2

Sections regarding construction elements of Tall Wood/Mass Timber and Heavy Timber were early adopted by various state agencies as amendments to the 2019 California Building Code (CBC) during the 2019 Intervening Code Adoption Cycle and issued as a supplement with a July 1, 2021, effective date. The amendments are repealed, as they are now included in the adopted 2021 International Building Code (IBC).

Part 2 Chapter	Sections
Chapter 1	110.3.5
Chapter 2	202
Chapter 5	508.4.4.1, 509.4.1.1
Chapter 6	602.4 through 602.4.4.2
Chapter 7	703.6, 703.7, 718.2.1, 722.7 through 722.7.2.2
Chapter 17 - Sections	1705.5.3, 1705.5.5, 1705.11.1, 1705.11.2, 1705.12.2, 1705.12.3, 1705.20, 1705A.4.1, 1705A.5.5, 1705A5.7
Chapter 17 - Tables	1705.5.3, 1705.5.7, 1705A.5.3
Chapter 23	2304.10.1.2, 2304.11.3, 2304.11.4
Chapter 31	3102.3, 3102.6.1.1
Chapter 35	ANSI/APA PRG 320-2019, ASTM D3498-03(2011)

Chapter 1 – Scope and Administration

Building Standards Commission

105.5.1 Permit Expiration

New section changed permit expiration from 180 days to 12 months. Includes a provision stipulating that every permit shall remain valid if the work on the site authorized by the permit is commenced within 12 months after its issuance.

Chapter 3 – Occupancy Classification and Use

310.3 Residential Group R-2

Amended the definition for Group R-2 to meet requirements of SB 234 (Chapter 244, Statutes of 2019): Small and large family child care in apartment houses can operate in R-2 occupancies when they comply with the regulations and with Health and Safety Code Section 1597.46.

Chapter 7A – Materials and Construction Methods

710A Accessory Buildings and Miscellaneous Structures

710A.1 General Clarifies that Group U Occupancy accessory buildings shall conform to this section.

710A.3 Where required Amendment and subsections that are organized by uniform categories of distances from applicable buildings, and mandate enforcement for buildings greater than 120 square feet and leave discretion to local Authority Having Jurisdiction (AHJ) for buildings less than 120 square feet.

710A.4 Roof construction Amendment that for an accessory building required to be constructed of noncombustible or ignition resistant materials, its roof must meet Class A fire rating.

Chapter 19 – Concrete

1905.1.7 ACI 318, Section 14.1.4

Amendment to ACI 318 has been revised to not permit plain concrete in place of required longitudinal reinforcing of footings in Seismic Design Categories D, E and F.

Chapter 31 – Special Construction

California Building Standards Commission

3109.2 California swimming pool safety act (statewide)

Amended to reflect Senate Bill 1078, Statutes of 2018.

Department of Housing and Community Development 3115

Intermodal Shipping Containers, Exception 5

Adopted IBC Section 3115 and added an amendment to clarify that the use of shipping containers constructed or converted off-site that qualify as Factory-built Housing pursuant to HSC Section 19971 or Commercial Modular(s) pursuant to HSC Section 18001.8, must be approved by HCD.

State Fire Marshal

3111.3.5 Elevated photovoltaic (PV) support structures and 3111.3.5.1 PV panels installed over open grid framing or non-combustible deck Amendment establishing appropriate fire testing and listing criteria for overhead photovoltaic (PV) support structures that could have people or vehicles in the space beneath them.

Appendix AX

Swimming Pool Safety Act

Amended the note under the title to reflect this law is mandatory, not optional for local adoption. To align with the CBC, Chapter 31, Appendix AX section numbers were reformatted to reflect the numbering used in HSC 115920 through 115929

California Residential Code– Part 2.5

R327 Aging-in-place design and fall prevention

Added new section that replaces IRC Section 327, Swimming Pools, Spas and Hot Tubs. Added to address specific aging-in-place design elements in new residential construction to facilitate access to operational features and to allow people to stay longer in their homes as they age.

R324.8 Elevated photovoltaic (PV) support structures, R324.8.1 and R324.8.2 Added new sections to establish appropriate fire testing and listing criteria for overhead photovoltaic (PV) support structures that could have people or vehicles in the space beneath them.

Figure R328.8.1 ESS vehicle impact protection

Added to illustrate the zones in which a typical residential garage Energy Storage System (ESS) installation would trigger the need for impact protection.

R337.10.4 Roof construction

Revised language to clarify that when an accessory building is required to be constructed of noncombustible materials or of ignition-resistant materials, its roof must meet Class A fire rating. This for locations in the WUI areas

California Electrical Code

110.26 Spaces About Electrical Equipment. (C) Entrance to and Egress from Working Space. (3) Personnel Doors

Amendment to reference the CBC for additional exit door requirements for electrical equipment room rated 800-amperes or more.

California Fire Code

The bulk of amendments regarding Energy Storage Systems (ESS) occur in Chapters 1, 2, 9, 12 and Chapter 80, Referenced Standards. SFM repealed California ESS Intervening Code Adoption Cycle amendments and definitions that were early adopted ICC provisions in the 2019 Intervening Code Adoption Cycle, then adopted and replaced with unamended 2021 International Code Council (ICC) model code provisions in several chapters.

The bulk of amendments regarding Type IV construction—tall wood/mass timber and cross-laminated timber—occur in Chapter 7 Section 701.6, Chapter 9 Section 914.3.1.2, and Chapter 33 Section 3303.5, based on changes in model code. SFM repealed California tall wood/mass timber amendments that were early-adopted ICC provisions in the 2019 Intervening Code Cycle, then adopted and replaced with unamended 2021 ICC model code provisions.

Part 9 Chapter	Sections
Chapter 2	202 Definitions MASS TIMBER (CA amended defined term remains)
Chapter 7	Section 701 General 701.6 Owners responsibility (Updated model code references)
Chapter 9	Section 914 Fire Protection Based on Special Detailed Requirements of Use and Occupancy 914.3.1.2 Water supply to required fire pumps. (CA amendment remains)
Chapter 33	Section 3303 Owners Responsibility for Fire Protection. 3303.5 (Adopted model code section and repealed California Section 3308.9)

California Green Building Standards Code

4.106.4 and subsections. EV charging for new construction

Expanded EV charging requirements to installation of EV charging receptacles and EV chargers (EVSE). Modified Exception 1 to address situations in which there is no local utility power supply or when the local utility is unable to supply adequate power.

Repealed references to specific dollar amounts for exceptions due to variations in utility costs based upon locations.

Included an exception related to adverse impact to construction cost of a project, similar to the provision for nonresidential EV charging.

4.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities

New regulation to clarify that calculations for EV spaces are to be rounded up to the nearest whole number and EV spaces to be counted as parking spaces only for the purposes of meeting parking space requirements at the local level (Vehicle Code Section 22511.2).

4.106.4.2.1 Multifamily development projects with less than 20 dwelling units; and hotels and motels with less than 20 sleeping units or guest rooms

New regulation requiring that ten percent of the total number of parking spaces on a building site support future Level 2 EVSE, the installation of EV ready spaces for twenty-five percent (25%) of the total number of parking spaces equipped with low power Level 2 EV charging receptacles, and clarification that no more than one receptacle must be installed per dwelling unit.

4.106.4.2.2 Multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more sleeping units or guest rooms

New regulations requiring that ten percent (10%) of the total number of parking spaces on site support future Level 2 EVSE; the installation of EV-ready spaces for twenty-five percent (25%) of the total number of parking spaces equipped with low power Level 2 EV charging receptacles; and five percent (5%) of the total number of parking spaces shall be equipped with Level 2 EVSE. The use of an ALMS is allowed when low-power Level 2 EV charging receptacles or Level 2 EVSE are installed beyond the minimum required.

4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing multifamily buildings

Expanded EV charging infrastructure for additions and alterations triggered when new parking facilities are added, or electrical systems or lighting of existing parking facilities are added or altered, and the work requires a building permit. The new regulation requires that 10 percent (10%) of the total number of parking spaces being added or altered be EV capable to support future Level 2 EVSE.

California Energy Code New items/ Mandatory Changes

- Amended the definition section 100.1 to include (12) new definitions.
- New efficiencies on tables include:
 - 110.2-K DX-DOAS Units, Single Package and Remote Condenser
 - 110.2-N Heat Pump and Heat Recovery Chillers
- **150.0(t) Heat Pump Space Heater Ready**; If a natural or propane gas furnace is installed:
 - a. A dedicated, 240-volt branch circuit rated at 30 amps minimum must be installed within 3 ft of the installed furnace, accessible to the furnace with no obstructions and labeled “240V ready.”

- b. The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker that is permanently labeled “For Future 240V use.”
- **150.2(b)1L Mechanical Ventilation for Indoor Air Quality: Entirely New or Complete Replacement Ventilation Systems;** When installing a new system that includes new fans and entirely new ducting (defined as $\geq 75\%$ new duct material and existing duct material that is accessible and can be sealed), §150.0(o) (Requirements for Ventilation and Indoor Air Quality) must be met in its entirety.
- **150.2(b)1M Mechanical Ventilation for Indoor Air Quality: Altered Ventilation Systems;**
 - a. When replacing or altering whole-building ventilation systems, it must be determined if the requirements of §150.0(o) (Requirements for Ventilation and Indoor Air Quality) applied to any previously permitted work. If so, then all of the requirements under this 2022 Energy Code cycle apply, including the airflow and some requirements of ASHRAE 62.2 §7.1 and §7.2 AND the air filter requirements of §150.0(m)12. If not, then they do not apply.
 - b. If replacing or altering local exhaust bathroom and ventilation fans, then all applicable requirements of this 2022 code cycle apply.
 - c. When replacing or altering kitchen local exhaust, it must be determined if the requirements of 2019 Energy Code §150.0(o)1G airflow, some or certification requirements applied to previously permitted work. If so, then the new airflow or capture efficiency requirements of §150.0(o)1G also apply. Airflow for vented kitchen range or exhaust fans in which the previous building permit airflow requirements are met, or 100 CFM, whichever is greater, meets the requirements. If not and the changes were not subject to the 2019 Energy Code for previously applicable permitted work, then they do not apply.
- **150.2(b)2 Performance Approach;** When using the Performance Method, entirely new or replacement ventilation systems are subject to §150.2(b)1L, and altered ventilation is subject to §150.2(b)1M. Otherwise, there are no changes.
- **100.1(b) Junior Accessory Dwelling Unit Definition; Dwelling Unit, Junior Accessory (JADU)** is a dwelling unit that is no more than 500 square feet in size and contained entirely within an existing single-family building. A JADU includes a kitchen, a separate entrance from the main entrance to the building, and an interior entry to the main living area. A JADU may include separate sanitation facilities or may share sanitation facilities with the existing single-family building.
- **150.2(b)1J Ceiling- Single Family Dwellings;** In Climate Zones 1-4, 6 and 8-16: Overall weighted U-factor must be ≤ 0.20 ($\geq R-49$ at ceiling). There is an exception for Climate Zones 1, 3 and 6 with existing R-19 insulation.
 - 1. In Climate Zones 2, 4 and 8-16: Air sealing of the ceiling plane between attic and conditioned space is required per §110.7. There are exceptions for when $\geq R-19$ ceiling insulation exists or when atmospherically vented space heating or water-heating combustion appliances are located inside the pressure boundary of the dwelling unit.
 - 2. In Climate Zones 1-4 and 8-16: Recessed can lights must be covered with same depth of insulation as the rest of the ceiling. If they are not insulation contact (IC) rated, they must be replaced with IC-rated cans or retrofitted with fire-proof covers allowing for insulation coverage. There is an exception for Climate Zones 1-4 and 8-10 using R-19 at the ceiling.
 - 3. Attic ventilation must follow requirements of the California Building Code.
EXCEPTIONS:
 - a. There is existing $\geq R-38$ insulation at the ceiling.
 - b. The Alteration would directly disturb asbestos.
 - c. Knob and tube wiring is present in vented attic space.
 - d. There is not enough accessible space in the attic to accommodate the R-value, in which the entire accessible space will be utilized while not violating California Residential Code §806.3.
 - 4. When attic space is shared with other dwelling units, only the attic space above the altered dwelling unit is required to meet these requirements.

- **150.2(b)1N Exterior Solid Doors**; Alterations that increase exterior door area must meet U-factor 150.1(c)
- **100.1(b) Azimuth** is the degrees of clockwise rotation from true north.
- New Definitions are added to support new battery-ready requirements of §150.0(s).

Energy Storage System (ESS) is one or more devices, assembled together, that are capable of storing energy used for safely supplying electrical energy to selected loads at a future time.

ESS-Ready Interconnection Equipment is equipment, including but not limited to an ESS-ready panelboard, that can accommodate the connection of a distributed energy resource or an ESS capable of either automatic or manual isolation from the utility power source.

ESS-Ready Panelboard is a panelboard that can accommodate either automatic or manual switching between a utility power source to a distributed energy resource or an energy storage system, such as a split bus panelboard.

- **150.0(s) Energy Storage Systems (ESS) Ready**; Energy Storage Systems (ESS) Ready:

In all single-family residences that include one or two dwelling units, all electrical components must be installed in accordance with the California Electrical Code and must meet the following requirements:

At least one of the following must be provided:

- ESS-ready interconnection equipment with a minimum backed up capacity of 60 amps and a minimum of four ESS-supplied branch circuits OR
 - A dedicated raceway from the main service to a panelboard (subpanel) that supplies the branch circuits in §150.0(s)(2). All branch circuits are permitted to be supplied by the main service panel prior to the installation of an ESS. The trade size of the raceway must be not less than one inch. The panelboard that supplies the branch circuits (subpanel) must be labeled "Subpanel shall include all backed-up load circuits." **AND**
 - A minimum of four branch circuits must be identified and have their source of supply collocated at a single panelboard suitable to be supplied by the ESS. At least one circuit must supply the refrigerator, one must supply the lighting circuit near the primary egress, and at least one circuit must supply a sleeping room receptacle outlet; **AND**
 - The main panelboard must have a minimum busbar rating of 225 amp; **AND**
 - Sufficient space must be reserved to allow future installation of a system isolation equipment or transfer switch within 3 ft of the main panelboard. Raceways must be installed between the panelboard and the system isolation equipment or transfer switch location to allow the connection of backup power source.
- **150.0(t) Heat Pump Space Heater Ready**; If natural or propane gas furnaces are installed:
 - Dedicated, 240-volt branch circuit wiring must be installed within 3 ft from the furnace and accessible to the furnace with no obstructions. The branch circuit conductors must be rated at 30 amps minimum. The blank cover must be labeled "240V ready." All electrical components must be installed in accordance with the California Electrical Code; **AND**
 - The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker permanently labeled "For Future 240V use."
 - **150.0(u) Electric Cooktop Ready**; Systems using a gas or propane cooktop to serve individual dwelling units must include the following:
 - Dedicated, 240-volt branch circuit wiring must be installed within 3 ft from the cooktop and accessible to the cooktop with no obstructions. The branch circuit conductors must be rated at 50 amps minimum. The blank cover must be labeled "240V ready." All electrical components must be installed in accordance with the California Electrical Code; **AND**
 - The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future electric cooktop installation. The reserved space must be permanently labeled "For Future 240V use."

- **150.0(v) Electric Clothes Dryer Ready** Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include the following:
 - Dedicated, 240-volt branch circuit wiring must be installed within 3 ft from the clothes dryer location and accessible to the clothes dryer location with no obstructions. The branch circuit conductors must be rated at 30 amps minimum. The blank cover must be labeled “240V ready.” All electrical components must be installed in accordance with the California Electrical Code; **AND**
 - The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future electric clothes dryer installation. The reserved space must be permanently labeled “For Future 240V use.”

- **100.1(b) Tunable Lighting** are light sources with the ability to alter their luminous flux and/or spectral power distribution. Tunable lighting includes the following types:
 - **Dim-to-warm (also known as warm dim)** light source is capable of simultaneously decreasing its correlated color temperature as its light output decreases, typically resembling the change in color temperature of an incandescent lamp as it dims.
 - **Tunable white** light source is capable of adjusting its correlated color temperature while maintaining its relative light output and capable of adjusting its light output while maintaining its correlated color temperature.
 - **Color tunable** light source is capable of emitting highly saturated light of varying hues, as well as white light, for example by varying the relative intensity of individual emitters within the light source.