



**COMMUNITY DEVELOPMENT DEPARTMENT
BUILDING DIVISION**

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2019 California Energy Code (CEC) Changes

SUMMARY

Many sections in the residential requirements have been updated in new and altered homes with minor changes, below lists all the significant changes. Joint Appendix 11 has many changes for the Photovoltaic system requirements. The most changes to the nonresidential requirements are in lighting. There are many minor changes and additions.

SIGNIFICANT CHANGES

NEW -CHANGE	CEC SECTION/TABLE NUMBER	COMMENTARY (RESIDENTIAL)
<input type="checkbox"/> <input checked="" type="checkbox"/>	110.5	<p>Natural Gas Central Furnaces, Cooking Equipment, and Pool Spa Heaters, and Fireplaces: Pilot Lights Prohibited. Indoor and outdoor fireplaces have been added to this list.</p> <p>Natural gas is available for new construction if gas service line can be connected to the site without a gas main extension. For additions, natural gas is available if a gas service line is connected to the existing building</p>
<input type="checkbox"/> <input checked="" type="checkbox"/>	110.10(b)	<p>Interconnection Pathways. Drawings must indicate a location for future inverters/ metering equipment/pathway for conduit between solar zones and electrical service. Central water heating system drawings need to indicate a reserved pathway for plumbing between solar zones and water heater.</p>
<input type="checkbox"/> <input checked="" type="checkbox"/>	150.0(c)	<p>Wall Insulation. The following has changed.</p> <ul style="list-style-type: none"> • Wood-framed walls: 2 x 4 = U-factor 0.102 (R-13); 2 x 6 = U-factor 0.071 (R-20) • Non-framed walls: U-factor = 0.102 • Mass (masonry) walls: Above-grade: To meet the Prescriptive requirements of Table 150.1-A or Table 150.1-B as a Mandatory measure (this does not apply to below-grade mass walls for which there are no Mandatory requirements).

<input type="checkbox"/> <input checked="" type="checkbox"/>	150.0(e)	<p>Installation of fireplaces, decorative gas appliances and gas logs. Language has been added referring to section 110.5. and Title 24, Part 11, Section 4.503. exception allowing for continuous pilot lights in any situation removed.</p>
<input type="checkbox"/> <input checked="" type="checkbox"/>	150.0(m)12	<p>Air-Distribution and Ventilation System Ducts, Plenums and Fans. Changes were made to the air filtration requirements. Filters are required for heating/cooling and ventilation systems. List provided in section for when an air filter is required. Exception has been added, heat and energy recovery vent system filter location may be down stream of thermal conditioned system if ancillary filtration is located upstream.</p>
<input type="checkbox"/> <input checked="" type="checkbox"/>	150.0(c)	<p>Prescriptive Standards/Component Package.</p> <ul style="list-style-type: none"> • Table 150.1-B for multifamily buildings has been added. • Exterior framed, mass, and unframed walls must meet criteria found in Table 150.1-A or 150.1-B. • Climate Zones 1-5 and 8-16 are now 0.048 in single family dwelling units. • Doors must have a NFRC-rated U-factor ≤ 0.20. Except for swinging doors between the garage and house that need to be fire rated. • QII is now a prescriptive requirement for all single-family dwellings in all the climate zones, and multifamily buildings in all climate zones except for CZ7. • There are new requirements for heat pump water heaters in new construction, additions and alterations. • Photovoltaic system (PV) must meet the requirements per JA11.
<input type="checkbox"/> <input checked="" type="checkbox"/>	110.6, NA6	<p>Fenestration Products & Exterior doors. U-factor, SHGC and VT Exception 1 has dropped the maximum square footage for the Reference Nonresidential Appendix NA6 COG formula to 200 square feet.</p>
<input checked="" type="checkbox"/> <input type="checkbox"/>	120.1(b)	<p>High -rise residential buildings. New ventilation requirements for high-rise residential dwelling units. Must be balanced system or a continuously operated supply or exhaust system. HERS blower door testing required for continuously operating ventilation systems.</p>
<input checked="" type="checkbox"/> <input type="checkbox"/>	120.1(b)1	<p>High-rise residential buildings. Air Filtration has been added with requirements for mechanical systems, system design and installation, air filter efficiency, air filter pressure drop, and air filter product labeling. There is also a section on Attached Dwelling Units. This must meet the requirements of ASHRAE standard 62.2 with the criteria from this section met.</p>

<input checked="" type="checkbox"/> <input type="checkbox"/>	120.1(c)	Non -Residential and hotel/motel buildings. Naturally ventilated spaces must also use mechanical ventilation unless ventilation openings are permanently open or controlled to stay open during times the space is occupied. Mechanical ventilation must comply with Table 120.1A. Exhaust ventilation shall comply with Table 120.1 D.
<input type="checkbox"/> <input checked="" type="checkbox"/>	120.1	Requirements for Ventilation and Indoor Air Quality. Table 120.1-A has been updated to include minimum ventilation rate for more spaces. Table 120.1B added to list minimum exhaust rate for certain spaces.
<input type="checkbox"/> <input checked="" type="checkbox"/>	120.2(i)	Required Controls or Space Conditioning Systems. All cooling systems over 54,000 Btuh with an air economizer shall include a stand-alone or integrated FDD system in accordance with this section.
<input type="checkbox"/> <input checked="" type="checkbox"/>	120.6	Condensers. Section 120.6(a)4c through 120.6(a)4g, have been added to this section. This provides requirements for saturated condensing temperature, all condenser fans, minimum condensing setpoint, condensing temperature reset, and condenser efficiency. New efficacy and system control requirements for adiabatic condensers serving refrigerated warehouses and supermarkets.
<input type="checkbox"/> <input checked="" type="checkbox"/>	130.0(c)	Lighting systems and equipment, and electrical power distribution systems. Revised luminaire classification and wattage requirements. Updated sections 130.0(c) numbers 2 through 5. 130.0(c)6, an exception has been added, for power-over-Ethernet lighting systems, power provided to installed non-lighting devices may be subtracted from the total power rating of the power-over-Ethernet system.
<input type="checkbox"/> <input checked="" type="checkbox"/>	130.1	Mandatory indoor lighting controls. Manual area controls, multi-level lighting controls, and automatic daylighting control requirements updated. New occupancy sensor requirements for bathrooms. New requirements about accessibility of sensors. A new section for indoor lighting control interactions.
<input type="checkbox"/> <input checked="" type="checkbox"/>	130.2(c)	Controls for outdoor lighting. Controls for outdoor lighting has been updated. Automatic scheduling controls, you must be able to reduce outdoor lighting power 50%90%, turn the lighting off during times it is not occupied and have at least two scheduling options for each luminaire with a 2-hour override function. Motion sensing must be able to reduce outdoor lighting power 50%-90% and turn the lighting off when unoccupied.
<input type="checkbox"/> <input checked="" type="checkbox"/>	140.3(d) & 140.6(a)2L	Daylighting Design Power Adjustment Factors (PAFs) New prescriptive requirements and power adjustment factors (PAF) for daylighting devices including horizontal slats, light shelves and clerestory fenestrations.