

2019 Non-Residential Energy Efficiency Standards

Significant Changes

The most significant changes in the 2019 Building Energy Efficiency Standards for non-residential, hotel and motel, and high-rise residential buildings are in lighting design. These and other major changes include the following.

Lighting

Revised and streamlined luminaire classification and wattage requirements. (§130.0(c))

Clarified and streamlined manual area controls, multi-level lighting controls, and automatic daylighting controls requirements. Restrooms must comply with occupancy-sensing control requirements. Section added for indoor lighting control interactions. (§130.1)

Changed indoor and outdoor lighting power allowances based on light-emitting diode (LED) lighting technologies. Revised lighting power density (LPD) values in Table 140.6-B thru 140.6-G, and 140.7-B. (§140.6 and §140.7)

New prescriptive requirements and power adjustments factors (PAF) for daylighting devices including horizontal slats, light shelves and clerestory fenestrations. (§140.3(d) & §140.6(a)2L)

New lighting power adjustment for small aperture tunable-white and dim-to-warm LED luminaires. (§140.6(a)4B)

Revised and streamlined outdoor lighting control requirements. (§130.2(c))

Added separate lighting power allowance values for concrete-surfaced and asphalt-surfaced hard-scape outdoor lighting application in Table 140.7-A. (§140.7).

Envelope

Reduced the site-built fenestration requirement from 1,000 square feet to 200 square feet. (§110.6, NA6)

Mechanical

Minimum efficiency reporting value (MERV) 13, or equivalent, filters are required for heating/cooling systems. Filtration requirements extended to supply-only ventilation systems and the supply side of balanced ventilation systems. (§120.1(b) and (c))

New ventilation requirements for high-rise residential dwelling units (from ASHRAE 62.1 to 62.2). Must be a balanced system or a continuously-operating supply or exhaust system. HERS blower door testing required for continuously-operating ventilation systems. (§120.1(b))

Kitchen range hoods in high-rise residential dwelling units require HERS verification and acceptance testing to ensure HVI certification complies with ASHRAE 62.2 minimum airflow and sound rating requirements. (§ 120.1(b))

Covered Processes

Added fan efficiency and automatic sash closure requirements, including acceptance testing, for laboratory fume hoods. (§140.9(c)1 and 4)

County of Napa Building Division

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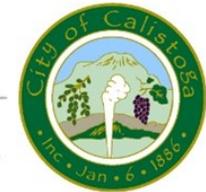
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CALIFORNIA ENERGY EFFICIENCY STANDARDS SIGNIFICANT CHANGES

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2019 Residential Energy Efficiency Standards Significant Changes

The most significant change in the 2019 Building Energy Efficiency Standards affecting low-rise residential buildings is the introduction of photovoltaic (PV) requirements in the prescriptive standards. There are also significant changes related to indoor air quality requirements. These and other major changes include the following.

Mandatory Measures

Walls with 2x6 framing require R-20 insulation (if wood-framed) or 0.071 maximum U-factor. (§150.0(c)(2))

Indoor air quality requirements of ASHRAE 62.2 modified for various building and dwelling unit configurations, such as horizontal attached buildings and central ventilation systems. Balanced or continuously-operating supply or exhaust ventilation system required. HERS verification required for kitchen range hoods. (§150.0(o))

Minimum efficiency reporting value (MERV) 13, or equivalent, filters are required for heating/cooling systems and ventilation systems. (§150.0(m)(12))

Fan efficiency requirements are 0.45 watts/cubic feet per minute (CFM) or less for gas furnace air-handling units or 0.58 watts/CFM or less for air-handling units that are not gas furnaces. New fan efficiency requirements for small-duct high-velocity forced-air systems. (§150.0(m)(13)B, C and D).

Prescriptive Compliance

Added prescriptive Table 150.1-B for multi-family buildings. (§150.1(c))

Removed the attic/roof Option-A with above-deck insulation. (§150.1(c)(1)A)

Required wall U-factors in climate zones 1-5 and 8-16 are changed from 0.51 to 0.48 in single-family buildings, climate zone 6-7 remain at 0.65. (§150.1(c)(1)B)

Added a U-factor requirement for doors. (§150.1(c)(5))

Quality insulation (QII) is now a prescriptive requirement for all single-family buildings in all climate zones, and multi-family buildings in all climate zones except for climate zone 7. (§150.1(c)(1)E)

Added prescriptive options for heat pump water heaters for newly-constructed buildings, additions, and alterations. (§150.1(c)(8), §150.2(a)1D, §150.2(b)(1)H)

New solar electric generation photovoltaic (PV) requirements. (§150.1(c)(14))

Performance Compliance

All compliance software programs approved by the Energy Commission must use the same compliance engine as the public domain software. Compliance is determined based on three components of an Energy Design Rating (EDR): (1) an efficiency EDR, (2) a PV and demand flexibility EDR, and (3) a total EDR. (§150.1(b)(1))

More information is available in the 2019 Residential ACM Reference Manual and Chapter 8 of the 2019 Residential Compliance Manual.

Additions and Alterations:

Changed the prescriptive requirements for continuous insulation on an existing wall with wood siding; if siding is not removed, only cavity insulation is required. (§150.2(a)(1))

The prescriptive requirement for quality insulation (QII) is not required for additions that are 700 square feet or less. (§150.2(a)(1)B)

Roof and ceiling insulation, and radiant barrier requirements for prescriptive additions with 700 square feet or less allow for R-38 in climate zones 1, 11-16; or R-30 in climate zones 2-10; and a radiant barrier in climate zones 2-15. (§150.2(a)(1)B)

Natural gas is considered to be available for newly-constructed buildings if a 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. (§110.1)

More information on additions and alterations is available in Chapter 9 of the 2019 Residential Compliance Manual.

If you have any questions or would like more information regarding the new and updated material, contact the Building Division at (707) 253-4417 or visit us at www.countyofnapa.org