

# Proposal Summary



## 2022 California Energy Code (Title 24, Part 6)

### Multifamily High Performance Envelope - Quality Insulation Installation (QII)

Updated: Friday August 2, 2019

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#### Introduction

The document summarizes proposed revisions to the California Energy Code (Title 24, Part 6) that will be discussed during a utility-sponsored stakeholder meeting on August 22, 2019. The Statewide Utility Codes and Standards Enhancement (CASE) Team is seeking input and feedback. To provide your comments, email [info@title24stakeholders.com](mailto:info@title24stakeholders.com) by September 5, 2019.

#### Measure Description

Revise quality insulation installation (QII) requirements and inspection protocols for application to multifamily buildings of all types, dependent on construction assembly types. QII shall be a prescriptive requirement for all multifamily building types, including buildings currently defined as high-rise residential (having four or more habitable stories). An exception for Climate Zone 7, which currently exists for low-rise multifamily buildings, is likely to stay in place and apply to all multifamily buildings.

This measure will include requirements and verification protocols for QII categorized by construction type (e.g. wood framed vs. metal framed, or mapped to construction types used by the fire or structural codes), rather than number of stories, in order to harmonize multifamily requirements. This measure does not propose to change the QII protocol language as it currently applies to low-rise multifamily construction types.

#### Draft Code Language

The California Energy Commission (Energy Commission) plans to create a multifamily chapter for inclusion in 2022 Title 24, Part 6. The multifamily chapter will draw from the appropriate sections of the 2019 residential and nonresidential Standards. The Statewide CASE Team uses the language and section numbering from residential and nonresidential Standards and Reference Appendices to show the proposed changes below. Changes to the 2019 documents are marked with red underlining (new language) and ~~strikethroughs~~ (deletions). Expected sections or tables of the proposed code (but not specific changes at this time) are highlighted in **yellow**. These changes are specific to multifamily buildings and not indicative of changes that apply to residential or nonresidential buildings.



## Standards

There shall be a section within the multifamily chapter that describes field verification protocols applicable to multifamily buildings. This section shall include reference to QII similar to what is currently found in Section 150.1(b)3.B.ix of the Building Efficiency Standards:

**Section 150.1(b)3.B.ix.** Quality Insulation Installation (QII). When performance compliance requires field verification of QII, the building insulation system shall be field verified in accordance with the procedures in Reference Residential Appendix RA3.5

There shall be a new component package table within the multifamily chapter listing the Multifamily Standard Building Design criteria by climate zone, similar to the current Table 150.1-B. In this table, QII requirements may be shown to vary by construction type as per the mock-up example shown below. This mock-up table is for conceptual reference only. The specific construction type labels, and any variation by type or climate zone is yet to be determined.



## Reference Appendices

This measure will include updated code language in the reference appendices section RA3.5.1 similar to the following draft language.

### RA3.5.1 Purpose and Scope

RA3.5 is a procedure for verifying the quality of insulation installation and air leakage control used in low-rise all residential buildings, including both high-rise and low-rise multifamily buildings. This procedure is to be followed by the insulation installer and a qualified Home Energy Rating System (HERS) rater must verify its conformance for meeting the requirements of Sections 150.1(c), [insert multifamily section number], and 110.7 of the Standards

The procedure applies to wood and metal construction of framed and non-framed envelope assemblies. Framed assemblies include wall stud cavities, roof/ceiling assemblies, and floors typically insulated with: (1) batts of mineral fiber and mineral wool; (2) loose-fill materials of mineral fiber, mineral wool, and cellulose; (3) spray polyurethane foam; and, (4) rigid board sheathing materials. Non-framed assemblies include wall, roof/ceiling, and floors constructed of structural insulated panels and insulated concrete forms.

Note 1: For newly constructed buildings, this procedure applies to the entire thermal envelope of the building. In many instances, residential homes dwelling units will use several types of insulation material, even in the same framed assembly. Each insulation material and the integrity of air leakage control for the building's entire thermal envelope must be verified by the HERS rater for the home to comply with the Standards.

Note 2: Structural bracing, tie-downs, and framing of steel or specialized framing used to meet structural requirements of the California Building Code (CBC) are allowed. These areas shall be called out on the building plans with diagrams and/or specific design drawings indicating the R-value amount and fastening method to be used. All structural framing areas shall be insulated in a manner that resists thermal bridging from the outside to the inside of the assembly separating conditioned from unconditioned space. The insulation and air barrier integrity shall be verified by the HERS rater.

Further, this sub-measure may include code language edits to the definitions used in RA3.5.2 and the insulation-type specific QII inspection protocols contained within RA3.5.3 through RA3.5.8. These edits may include new exceptions, protocol descriptions, or special situations, where subject matter experts and Statewide CASE Team researchers determine the current QII protocols are inappropriate, non-applicable, or non-viable for certain construction types used in what is currently labeled as high-rise residential construction.