

Proposal Summary



2022 California Energy Code (Title 24, Part 6)

Multifamily High Performance Envelope – Improved Wall Assemblies

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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 by September 5, 2019.

Measure Description

Improved wall assemblies – Align wall assembly u-factor requirements to be categorized by construction type (e.g. wood framed vs metal framed, or in alignment with construction type labels used by the fire or structural codes), rather than number of stories, to harmonize multifamily requirements. Update wall framing factors and other requirements affecting wall U-factor calculations by construction assembly. Address potential conflicts with fire code for exterior wall insulation or dense wall insulations.

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 will be a new component package table within the multifamily chapter listing the Multifamily Standard Building Design criteria, similar to the current Table 150.1-B. In this table, wall assembly U-factor, will be displayed by construction type as per the mock-up example shown below. The specific construction type labels, the quantity of different labels, the maximum wall assembly U-factor limit, and any variation by type or climate zone is yet to be determined. The Statewide CASE Team anticipates that the new maximum u-factors will be similar to, or more stringent than current values used for multifamily buildings in the current codes (Tables 150.1-B & Table 140.3-C).



Draft Code Table Mock-up

TABLE 150.1-B COMPONENT PACKAGE - Multifamily Standard Building Design (continued)

Multifamily				Climate Zone																
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Building Envelope Insulation																				
Building Envelope Insulation	Roofs/Ceilings	Option B (meets §150.1(c)9A)	Below Roof Deck Insulation 1,2 (With Air Space)	NR	NR	NR	R19	NR	NR	NR	NR	R19	R19	R13	R19	R19	R19	R19	R13	
			Ceiling Insulation	R 38	R 38	R 30	R 38	R 30	R 30	R 30	R 38	R 38	R 38	R 38	R 38	R 38	R 38	R 38	R 38	R 38
			Radiant Barrier	NR	REQ	REQ	NR	REQ	REQ	REQ	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		Option C (meets §150.1(c)9B)	Ceiling Insulation	R38	R 30	R 30	R 30	R 30	R 30	R 30	R 30	R 30	R 30	R 38	R 38	R 38	R 38	R 38	R 38	R 38
			Radiant Barrier	NR	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ	REQ
Building Envelope Insulation	Walls	Above Grade	Construction Type X	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	
			Construction Type Y	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX
			Construction Type Z	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX	U 0.XXX
		Mass Wall Interior 4,5	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.059 R 17	
		Mass Wall Exterior 5	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.125 R 8.0	U 0.077 R 13
		Below Grade 6	Below Grade Interior	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.077 R 13	U 0.067 R 15
			Below Grade Exterior	U 0.200 R 5.0	U 0.200 R 5.0	U 0.200 R 5.0	U 0.200 R 5.0	U 0.200 R 5.0	U 0.200 R 5.0	U 0.200 R 5.0	U 0.200 R 5.0	U 0.200 R 5.0	U 0.200 R 5.0	U 0.200 R 5.0	U 0.200 R 5.0	U 0.200 R 5.0	U 0.200 R 5.0	U 0.100 R 10	U 0.100 R 10	U 0.053 R 19

Additionally, a version of the current Section 150.1(c).1.B will be newly created in the multifamily chapter and will apply to all multifamily buildings. This section is likely to follow the same language as currently used, but also properly cross reference the new multifamily chapter section numbers. It may, based on CASE Team research, include new exceptions.

Reference Appendices

No draft language is available at this time. This measure will require changes to Reference Appendix JA4, and in particular section JA4.3.1 regarding wall u-factor default calculations and the assumptions and methods used to determine default U-factor tables by wall-type.