



City of Santa Clara
 Building Division
 1500 Warburton Ave.
 Santa Clara, CA 95050
 www.santaclaraca.gov

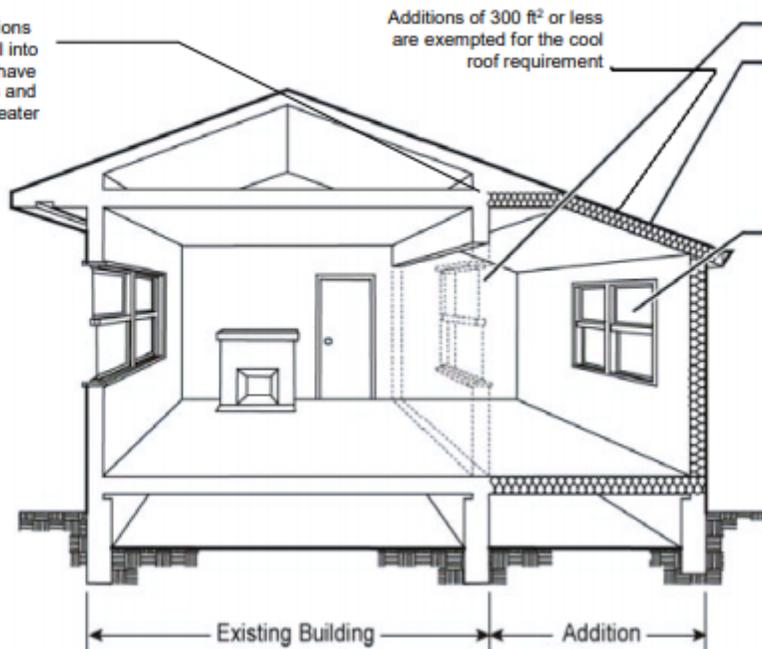
Building Division: 408-615-2440
 Email: Building@santaclaraca.gov
 Permit Center: 408-615-2420
 Email: PermitCenter@santaclaraca.gov
 Automated Inspection Scheduling System: 408-615-2400

2019 CALIFORNIA ENERGY CODE RESIDENTIAL PRESCRIPTIVE REQUIREMENTS FOR ADDITIONS & ALTERATIONS

❖ Prescriptive Requirements for Additions < 1000 ft²

Figure 9-3: Prescriptive Addition Envelope Requirements

To provide consistency with existing wall alignment, extensions of the existing wall into the addition shall have R-15 for 2x4 walls and R-21 for 2x6 or greater walls.



Removed wall and window not included in the calculation.
 Insulation requirements from Prescriptive table; unless addition is 700 ft² or less, then meet mandatory minimum roof/ceiling insulation

Fenestration area is limited based on the size of the addition:

- For additions ≤ 400 ft²: 75 ft² or 30% of CFA – whichever is greater -- for total glazing area; and 60 ft² for west-facing glazing.
- For additions > 400 ft² and ≤ 700 ft²: 120 ft² or 25% of CFA – whichever is greater -- for total glazing area; and 60 ft² for west-facing glazing.
- For additions > 700 ft²: 175 ft² or 20% of CFA – whichever is greater -- for total glazing area; and 70 ft² or 5% of CFA – whichever is greater - for west-facing glazing.

A ≤ 400 ft²

Package A exceptions allow:

- 75 ft² fenestration OR 30% of addition's CFA*
- Max west-facing fenestration 60 ft²

400 ft² < A ≤ 700 ft²

Package A exceptions allow:

- 120 ft² fenestration OR 25% of addition's CFA*
- Max west-facing fenestration 60 ft²

700 ft² < A < 1000 ft²

Package A exceptions allow:

- 175 ft² fenestration OR 20% of addition's CFA*
- Max west-facing fenestration 70 ft² OR 5%*

* Whichever is greater

A ≤ 700 ft²		
Component	Standard	Comment
Ceiling Insulation	R-30 min	Mandatory Requirements
Rafter Roof Insulations	R-22 min	150.2(a)1
Insulation in (N) Wall - Extension of (E) Wall	R-15 (2x4) R-21 (2x6)	150.2(a)1B
(N) Wall Insulation	U = 0.048 or Less (R21+R5 or R19+R6)	Table 150.1-A

700 ft² < A < 1000 ft²	
Standard	Comment
R-30 min	Mandatory Requirements
R-30 min	150.2(a)1
R-15 (2x4) R-21 (2x6)	150.2(a)1B
U = 0.048 or Less (R21+R5 or R19+R6)	Table 150.1-A

Floor Insulation	Package A min (R-19 for Raised Floor)		Table 150.1-A
Fenestration	U-factor 0.30	Max SHGC 0.23	Table 150.1-A
Maximum Glazing Area	See Table above		150.2(a)1B
Radiant Barrier	Required		Table 150.1-A
Quality Insulation Installation (QII)	Not Required		150.2(a)1B.v

Package A min (R-19 for Raised Floor)		Table 150.1-A
U-factor 0.30	Max SHGC 0.23	Table 150.1-A
See Table above		150.2(a)1B
Required, or Option B		Table 150.1-A
Required (Except when converting existing unconditioned space, only applies to window/door header and air sealing)		150.2(a)1A.iv

❖ Roof and Ceiling Requirements for Prescriptive Additions ($700 \text{ ft}^2 < A < 1000 \text{ ft}^2$)

	Option B	Option C
Roof Deck Insulations ^{1,2}	R19 with air space, no radiant barrier required.	Non Required (NOTE: This attic requires ducts in conditioned space)
Ceiling Insulation	R38	R30
Duct Location	Attic, with 5% duct leakage	Conditioned Space, with 5% duct leakage, HERS required
Duct Insulation	R8	R6

1. Roof deck insulation should be installed flush with the roof deck. Above deck insulation is applied as continuous insulation. Below deck insulation is installed in the cavities between trusses.

2. A designed air space may exist between the roof deck and the finishing roof material (such as roof tiles), triggering lower required insulation values.

❖ Prescriptive Fenestration Requirements for Alterations

(Area of whole window, including frame)

<p>Replace Existing Only* (No Increase in Fenestration Area)</p> <ul style="list-style-type: none"> ❖ Vertical fen. $\leq 75 \text{ ft}^2$ U-factor ≤ 0.40 SHGC ≤ 0.35 ❖ Vertical fen. $> 75 \text{ ft}^2$ U-factor ≤ 0.30 SHGC ≤ 0.23 ❖ Skylights U-factor ≤ 0.55 SHGC ≤ 0.30 	<p>Added Fenestration $1 \text{ ft}^2 \leq \text{Area} \leq 75 \text{ ft}^2$</p> <ul style="list-style-type: none"> ❖ U-factor ≤ 0.30 SHGC ≤ 0.23 <p>Total and west-facing area requirements do NOT apply</p> <p>Alterations that add $\leq 16 \text{ sf}$ new skylight area with a max U-factor of 0.55 and a max SHGC of 0.30 area do NOT need to meet the total fenestration area and west-facing fenestration area required</p>	<p>Added Fenestration $\text{Area} \geq 75 \text{ ft}^2$</p> <ul style="list-style-type: none"> ❖ U-factor ≤ 0.30 ❖ SHGC ≤ 0.23 ❖ Total area $\leq 20\%$ ❖ West Facing Area $\leq 5\%$
--	--	---

*Applies even if a single window (including frame) is being replaced

❖ **Prescriptive Requirements for Envelope Alterations**

Envelope Alteration Type	Applicable Mandatory Measures
Adding ceiling insulation to an existing roof, or a new roof on an existing building	Ceiling w/ attic and roof rafters: R-19 min. (U=0.054)
Adding exterior framed wall insulation	2x4 framing: R-13 (U=0.102) 2x6 framing: R-20 (U=0.071) Exception: Walls already insulated to R-11.
Adding raised floor insulation	R-19 Exception: Floors over controlled ventilation or unvented crawlspaces.