

New Construction and Additions

When associated with conditioned spaces, New Construction and Additions must meet Energy Code requirements for fenestration. See Table 22 for the Mandatory and Prescriptive Energy Code requirements.

Fenestration Requirements

The Energy Code places Prescriptive limits on window glazing and skylight area and defines performance requirements when associated with conditioned spaces. Newly constructed projects have the following Prescriptive requirements for fenestration performance:

- † U-factor and solar heat gain coefficient (SHGC) performance requirements must be met.
- † Fenestration area, which includes windows, glass doors and skylights, cannot exceed a percentage of the conditioned floor area or, for Additions, a maximum square footage, whichever is greater. That percentage is determined by whether the project is New Construction or an Addition. Climate Zones 2, 4 and 6-15 have additional restrictions on west-facing fenestration.

If any of these Prescriptive requirements cannot be met, the Performance Approach must be used to demonstrate compliance.

Fenestration Requirements for Single-family Buildings			
Project Scope	Maximum U-factor Requirements	Maximum RSHGC Requirements	Fenestration Area Requirements*
		Mandatory: §§110.6, 150.0(g) Prescriptive: 150.1(c)3-4, 150.2(a)1A-B	
New Building	Yes	Yes	Yes
Addition	Yes	Yes	Yes
Conditioning an existing building for the first time	Yes	Yes	Yes

RSHGC = relative solar heat gain coefficient.
*Fenestration-to-conditioned-floor-area ratio

Prescriptive Fenestration Ratings and Ratios for Single-family Buildings					
Project Scope	Climate Zone	Maximum U-factor*	Maximum SHGC*	Maximum Area Allowed	
				Total**	West Facing***
New Construction	2, 4, 6-15	≤ 0.30	≤ 0.23	20% of the CFA	5% of the CFA
	1, 3, 5, 16		NR		No Limit
Addition > 700 ft ²	2, 4, 6-15	≤ 0.30	≤ 0.23	≤ 175 ft ² or 20% of the CFA, whichever is greater	≤ 70 ft ² or 5% of the CFA, whichever is greater
	1, 3, 5, 16		NR		No Limit
Addition ≤ 700 ft ² > 400 ft ²	2, 4, 6-15	≤ 0.30	≤ 0.23	≤ 120 ft ² or 25% of the CFA, whichever is greater	≤ 60 ft ²
	1, 3, 5, 16		NR		No Limit
Addition ≤ 400 ft ²	2, 4, 6-15	≤ 0.30	≤ 0.23	≤ 75 ft ² or 30% of the CFA, whichever is greater	≤ 60 ft ²
	1, 3, 5, 16		NR		No Limit

CFA = conditioned floor area; **CZ** = Climate Zone; **SHGC** = solar heat gain coefficient.

* Exceptions:

1. For each dwelling unit, up to 3 ft² of new glazing area in doors and up to 3 ft² of new tubular skylights with dual pane diffusers are exempt from Prescriptive U-factor and SHGC requirements.
2. For each dwelling unit, up to 16 ft² of new skylight area with U-factor ≤ 0.55 and SHGC ≤ 0.30 is exempt.

** Total fenestration area includes skylights and west-facing glazing.

*** West-facing fenestration area includes skylights with pitch < 1:12 facing any direction, and west-facing skylights with pitch ≥ 1:12.

Table 23. Prescriptive Fenestration Ratings and Ratios for Single-family Buildings

Table 22. Fenestration Requirements for Single-family Buildings



WHAT'S NEW

The fenestration area-weighted Mandatory U-factor is now ≤ 0.45 (previously 0.58). Mandatory U-factor can be used only with the Performance Approach. Exceptions still apply for up to 10 ft² or 0.5% of conditioned floor area, whichever is greater, and for up to 30 ft² of greenhouse or garden windows.

