



Since the addition is smaller than 100 ft², the fenestration area is limited to a maximum of 50 ft². The fenestration must meet the U-factor and SHGC requirements of Package D. For climate zone 7, these fenestration requirements are a maximum U-factor of 0.67 and a maximum SHGC of 0.40. For an addition of this size, insulation only must meet the mandatory requirements of R-19 ceiling insulation; R-13 wall insulation and R-13 floor insulation.

Since the existing heating and cooling equipment is being used for the addition, that equipment does not have to meet the mandatory equipment efficiency requirements. Mandatory duct insulation requirements of §150(m) apply (R 4-2 minimum in unconditioned space). All other mandatory requirements in §150 must be met. Note that this addition could comply with the requirements of §152 (a) 1 B, instead. For some additions this could allow more glazing area but additional Package D measures would apply.

Example 8-5

Question

A kitchen is being expanded by 150 ft². As part of the addition a sliding glass door (42 ft²) is being removed. How much fenestration area is allowed for this addition?

Answer

Since this addition is no larger than 1000 ft², the Standard permits the area of fenestration removed during the remodel to be added to the Package D fenestration area allowance (20% of floor area). In this case, the Package D allowance is 30 ft². Therefore, the total allowance for this addition is 72 ft² of fenestration area. If the addition were larger than 1000 ft², the area of the fenestration removed could not be added to the 20% Package D fenestration area allowance.

Example 8-6

Question

If I remove a window from the existing house while doing an addition, can I re-use this window in the addition, or does it need to meet a certain U-factor criterion?

Answer

You can use this existing window in the addition; however, you must use the actual or default U-factor and SHGC of this window in showing compliance. Therefore, meeting the prescriptive requirements may not be possible, and performance compliance may be the only option. Window certification and labeling requirements of §116(a) do not apply to used windows.

Example 8-7

Question

For additions and alterations that include a greenhouse window or a skylight, what are the U-factor and SHGC requirements? What is the area used for calculations for greenhouse windows?

Answer

In additions and alterations, you can assume that double-glazed greenhouse windows or skylights have the U-factor required to comply with the prescriptive standards and that this U-factor can also be used to determine compliance with performance approaches. Alternatively, the NFRC rated U-factor may be used if it meets the U-factor required in the prescriptive package. However, for greenhouse windows or skylights the SHGC must meet the