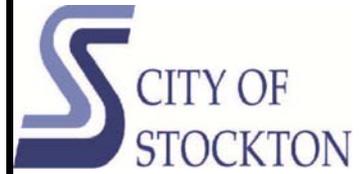


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Non-residential, High-Rise Residential, and Hotels/Motel Re-roofs in Climate Zone 12



Beginning July 1, 2014, when more than 2,000 SF or more than 50 percent of a roof (whichever is less) is being replaced on a conditioned building, “Cool roof” properties **and** roof insulation levels are triggered under the prescriptive code compliance method or a performance approach per Section 141.0(b)(3) must be verified with the appropriate documentation.

Exceptions to Cool Roof requirements:

- a. Roof areas covered by building integrated photovoltaic panels and building integrated solar thermal panels
- b. Existing roof areas that have thermal mass over the roof membrane with a weight of at least 25 lb/ft² are exempt per §141.0(b)2B, Exceptions 1 and 2.

It should be noted that these envelope requirements only apply to conditioned spaces and do not apply to unconditioned and process spaces. However, these requirements do apply to roof areas over office spaces in buildings that also have process spaces.

Additional roof insulation would not be "triggered" if the existing roof surface were overlaid instead of replaced. The roof insulation requirements when roof deck is exposed is R-14 or a .055 U-factor per Table 141.0-C, California Energy Code.

Exceptions and/or limitations to the additional insulation requirements are:

- a. Existing roof has at least R-7 insulation or has an overall U-factor lower than .089
- b. Roofs having penthouse or parapet walls with a significant length of wall cladding, other than roofing material, that must be removed to accommodate an increase of the base flashing height is limited to the maximum thickness that will maintain a base flashing height of no less than 8” above the roof membrane. Significant length is defined as less than 25 square feet of roof area per linear foot of affected wall length. (25:1) An alternate method of compliance that does not affect base flashing heights is to add insulation below the roof deck to the overall roof U-factor of .055 or less when the underside of the roof deck is accessible.
- c. For roofs with existing mechanical equipment that will not be removed during the re-roofing project, the maximum thickness of insulation required is that which will maintain a base flashing height of no less than 8” above the roof membrane. If the mechanical equipment is temporarily removed then the R-14 insulation or .055 U-factor criteria is required. Please note that skylights are not exempt as the exception is only for mechanical equipment.
- d. Per Section 141.0(b)2Biii, additional roof insulation requirements do not apply to steep-sloped roofs.

Minimum Cool Roof Standards

Minimum Cool Roof standard requirements and roof insulation requirements are based on the type of building and roof slope as follows:

Low-sloped roofs (2:12 or less) have the following minimum standards:

- Cool Roofing Requirements for non-residential buildings:
(*High-rise residential buildings and hotels and motels are exempt.*)
 - a. Minimum Aged Solar Reflectance = .63*** and Minimum Thermal Emittance = .75
Or Minimum SRI = 75

*** Aged Solar Reflectance less than .63 is allowed provided the maximum roof/ceiling U-factor in CEC Table 141.0-B is not exceeded.

Steep-sloped roofs (greater than 2:12) have the following minimum standards:

- Cool Roofing Requirements for both non-residential buildings and high-rise residential buildings and hotels and motels:
 - a. Minimum Aged Solar Reflectance = .20 and
Minimum Thermal Emittance = .75
or Minimum SRI = 16

Energy Forms Required:

- **Form NRCC-ENV-01-E must be submitted along with the permit application for ALL re-roof permits.**
- **Form NRCC-ENV-03-E must be submitted along with the permit application if the roofing product is not CRRC certified.**
- **Form NRCI-ENV-01-E must be completed and provided to the inspector upon final inspection. For all roofing—CRRC label specifying the initial and aged solar reflectance and thermal emittance.**

