

C. Roof Replacement (Prescriptive Alteration, Section 150.2(b)1H)

When 50% or more of the roof is being replaced the roofing requirements are triggered. Any areas of roof covered by building integrated photovoltaic panels and solar thermal panels (the area of roof not covered by photovoltaic panels would still need to meet any applicable cool roof requirements). Additionally, there are many alternatives/exceptions to when a cool roof is required.

When the roof is steep slope (pitch greater than 2:12) the roof requirements include a cool roof in climate zones 10-15. The minimum requirement is 0.20 Aged Solar Reflectance, 0.75 Thermal Emittance, or a minimum SRI of 16.

1. Method of Compliance: Indicate if the method of compliance is going to be based on Aged Solar Reflectance and Thermal Emittance, the Solar Reflectance Index (SRI), or an Exception.
2. Roof Pitch: Expressed as 4:12, for example, which means the roof rises 4 foot within a span of 12 feet. When roofs have multiple pitches the requirements are based on the pitch of 50% or more of the roof.
3. Exception: If meeting one of the exceptions. Indicate which exception is, or will be, met.

EXCEPTIONS AND ALTERNATIVES FOR STEEP SLOPE ROOFS:

- (a) Mass roof 25 lbs/ft² or greater (uncommon situation such as sod roof);
- (b) Air space 1" from top of roof deck to bottom of roofing;
- (c) Roofing product has a profile ratio of rise to width of 1 to 5 for 50 percent or greater of the width of the roofing product;
- (d) Ducts already meet Section 150.1(c) insulation and duct leakage requirements;
- (e) Roof has R-38 insulation;
- (f) Roof has a radiant barrier;
- (g) No ducts are installed in the attic; or
- (h) R-2 insulation above the roof deck.

In climate zones 13 & 15, when there is a low slope roof (pitch 2:12 or less) the cool roof requirements are for a minimum Aged Solar Reflectance of 0.63, a minimum 0.75 Thermal Emittance, or a minimum SRI of 75.

EXCEPTIONS AND ALTERNATIVES FOR LOW SLOPE ROOFS:

- (a) Mass roof 25 lbs/ft² or greater (uncommon situation such as sod roof);
- (b) No ducts are installed in the attic; or
- (c) Roof deck insulation—by installing roof deck insulation, a lower aged solar reflectance is required: R-2 (0.62-0.60), R-4 (0.59-0.55), R-6 (0.54-0.50), R-8 (0.49-0.45), R-12 (0.44-0.40), R-16 (0.39-0.35), R-20 (0.34-0.30), R-24 (0.29-0.25).

NOTE: If one of the exceptions above has been selected then the rest of Section C. is Not Required.