**COOL ROOF REQUIREMENTS**

**FOR REROOFING MULTIFAMILY BUILDINGS IN CLIMATE ZONE 10**

The new 2022 California Energy Code effective Jan 1, 2023 requires cool roof when using the prescriptive requirement for reroofing multifamily buildings. Roofing products with high solar reflectance and thermal emittance are referred to as “cool roof”. **Solar Reflectance** refers to a material’s ability to reflect the sun’s solar energy back into the atmosphere. **Thermal emittance** provides a means of quantifying how much of the absorbed heat is rejected for a given material. Both properties are measured from 0 to 1 and the higher the value, the “cooler” the roof. To be considered a cool roof the roofing products must be tested and labeled by the Cool Roof Rating Council (CRRC). If one wishes not to install a cool roof, then they must meet the 2022 California Energy Codes using the performance method where tradeoff can be done.

Where **more than 50%** **of the roof** **or more than 2,000 square feet of roof, whichever is less**, is being replaced, recovered, or recoated, this altered roof area shall meet the cool roof requirements [per § 180.2(b)1A]:

* **For low-sloped roof (< 2:12)** [per § 180.2(b)1Ai and § 180.2(b)1Aiii]:

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| Roof Slope | Aged Solar Reflectance AND Thermal Emittance | OR Solar Reflectance Index (SRI) |
| Low-sloped (< 2 :12) | ≥ 0.63 ≥ 0.75 | ≥ 75 |

*Exceptions:*

1. The aged solar reflectance can be met by using R-16 roof deck continuous insulation for climate zone 10 per 2022 California Energy Code Table 180.2-A *(“Roof/Ceiling Insulation Tradeoff For low-Sloped Aged Solar Reflectance”)*; or.
2. Roof area covered by building integrated photovoltaic panels or solar thermal panels; or
3. Roof constructions with a weight of at least 25 lbs/ft2.
4. The area of the **roof recover or roof replacement shall be insulated** with R-14 continuous insulation above the roof deck or roof assembly U-Factor = 0.039 (R-11 cavity insulation below the roof deck, wood framing at 24” o.c.). [Per § 180.2(b)IAiii].

*Exceptions:*

* 1. **Roof recovers** with new R-10 insulation added above roof deck do not need to be insulated to meet R-14; or
	2. When existing mechanical equipment located on the roof will not be disconnected and lifted, insulation added may be limited to the greater of R-10 or the maximum installed thickness that will allow the distance between the height of the roof membrane surface to the top of the base flashing to remain in accordance with the manufacturer’s instructions; or
	3. At the drains and other low points, tapered insulation with a thermal resistance lee than R-14 may be used, provided that insulation thickness is increased at the high points of the roof so that the average thermal resistance equals or exceeds R-14; or
	4. The area of the **roof recoat** is not required to be insulated.
* **For steep-sloped roof (≥ 2:12)** [per § 180.2(b)1Aii]:

|  |  |  |
| --- | --- | --- |
| Roof Slope | Aged Solar Reflectance AND Thermal Emittance | OR Solar Reflectance Index (SRI) |
| Steep-sloped (≥ 2 :12) | ≥ 0.20 ≥ 0.75 | ≥ 16 |

*Exceptions:*

1. Buildings with ceiling assembly U-factor ≤ 0.025 or at least R-38 ceiling insulation; or
2. Buildings with a radiant barrier in the attic, where the radiant barrier is not installed directly above space sheathing, meeting the requirements of Energy Standards Section 170.2(a)1C; or
3. Buildings that have no ducts in the attic; or
4. Building with R-2 or greater continuous insulation above or below the roof deck; or
5. Roof area covered by building integrated photovoltaic panels or solar thermal panels; or
6. Roof constructions with a weight of at least 25 lbs/ft2.

DEFINITIONS [per §100.1]:

* **Roof Recover** is the process of installing an additional roof covering over a prepared existing roof covering without removing the existing roof covering.
* **Roof Replacement** is the process of removing the existing roof covering, replacing any damaged substrate and installing a new roof covering.
* **Roof Recoat** is not defined in the Energy Code, but typical industry use of “recoat” is when a new layer is applied to the outer surface of the existing roofing material and the existing roofing material is not being replaced and recovered [per 2022 Ace Fact Sheet Nonresidential Envelope page 7 of 33] .