

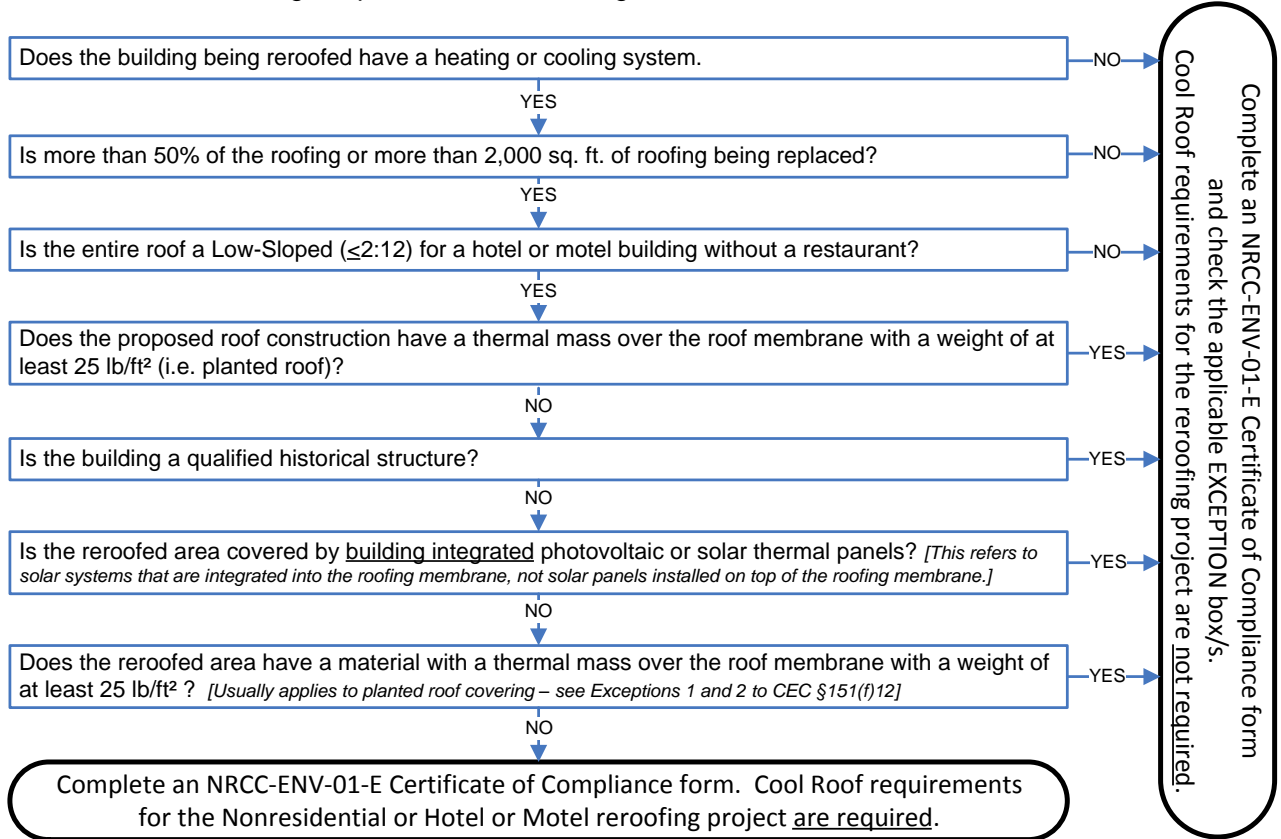


Cool Roof Reroofing Requirements for Nonresidential and Hotel or Motel Buildings

Handout No: 35
 Updated: 1/17/2017
 Effective: July 1, 2014

Note: This chart applies to existing Nonresidential and Hotel or Motel buildings in Climate Zone 2 (Sonoma). As an alternative to these requirements, an applicant may submit energy calculations to show that the building complies with the California Energy Code Performance Approach. A completed NRCC-01-E form must be submitted with all Nonresidential and Hotel or Motel reroofing permit applications.

Cool Roof Reroofing Requirements for Existing Nonresidential, Hotels and Motels in Sonoma



Prescriptive Requirements [CEC §141.0(b)2B]

Roof Pitch/Building Type	Minimum Aged Solar Reflectance		Minimum Thermal Emittance		Minimum Solar Reflectance Index (SRI)
Low-Sloped (<=2:12) Nonresidential Roofs	0.63 ¹	and	0.75	or	75
Steep-Sloped(>2:12) Nonresidential Roofs	0.20	and	0.75	or	16
Low-Sloped (<=2:12) Hotel and Motel Roofs	Not Req'd.	and	Not Req'd.	or	Not Req'd.
Steep-Sloped(>2:12) Hotel and Motel Roofs	0.20	and	0.75	or	16
	Insulation Requirements for Roof Tear-offs to Exposed Roof Deck				
	Continuous Insulation R-Value			U-factor	
All Nonresidential, High-rise Residential and Hotel and Motel Roofs ²	R-14			0.055	

¹ An aged solar reflectance less than 0.63 is allowed provided the maximum roof/ceiling U-factor in CEC Table 141.0-B is not exceeded.

² See exceptions in CEC §141.0(b)2Biii for roofs with existing R-7 insulation; under mechanical equipment not being moved; and at penthouse or parapets.

REROOFING

CERTIFICATE OF COMPLIANCE	NRCC-ENV-01-E (Customized for Reroofing in Sonoma)
Envelope Component Approach (Page 1 of 2)	
Project Name:	Date Prepared:

A. GENERAL INFORMATION					
1	Project Location:		4	Compliance Method:	Component
2	CA City and Zip Code:		5	Permitted Scope of Work	Alteration (Reroof)
3	Climate Zone:	2	6	Building Type(s)	<input type="checkbox"/> Nonresidential <input type="checkbox"/> Hotel/Motel Guest Room <input type="checkbox"/> Qualified Historical Building (Historical buildings are exempt)

B. ROOFING PRODUCTS (COOL ROOF)										
1	2	3	4	5	6	7	8	9	10	11
Mass Roof 25 lb/ft ² or greater	Roof Pitch	CRRC Product ID Number	Product Type	Proposed			Minimum Required			Comments
				Aged Solar Reflectance	Thermal Emittance	SRI ² (Optional)	Aged Solar Reflectance	Thermal Emittance	SRI (optional)	
<input type="checkbox"/>				<input type="checkbox"/> ¹						
<input type="checkbox"/>				<input type="checkbox"/> ¹						
<input type="checkbox"/>				<input type="checkbox"/> ¹						
<input type="checkbox"/> EXCEPTION: An aged solar reflectance less than 0.63 is propose because the maximum roof / ceiling U-factor in CEC TABLE 141.0-B is not exceeded. [CEC §141.0(b)2Bia]										
<input type="checkbox"/> EXCEPTION: Hotels and Motels with Low-Sloped roofs (≤2:12) are exempt from cool roof re-roofing requirements. [CEC §141.0(b)2Biaa]										
<input type="checkbox"/> EXCEPTION: The roof is covered by building integrated photovoltaic panels or building integrated solar thermal panels and are exempt from cool roof re-roofing requirements. . [CEC §141.0(b)2B Exception 1]										
<input type="checkbox"/> EXCEPTION: The building being reroofed has no heating or cooling systems. [CEC §100(e)1C]										
<input type="checkbox"/> EXCEPTION: Less than or equal to 50% of the roofing <u>or</u> less than or equal to 2,000 sq. ft. of roofing is being replaced. [CEC §141.0(b)2B]										
<input type="checkbox"/> EXCEPTION: The proposed roof construction has a thermal mass over the roof membrane with a weight of at least 25 lb/ft ² (i.e. planted roofs). [CEC §141.0(b)2B Exception 2]										
12			13			14			15	
Existing Continuous Insulation R-value of Roof Deck			Existing Insulation U-Factor of Roof Deck			Proposed Continuous Insulation R-value for Roof Deck (R-14 minimum)			Proposed Insulation U-Factor for Roof Deck (0.055 minimum)	
<input type="checkbox"/> EXCEPTION: No additional insulation is proposed; the existing roof deck is insulated with at least R-7 insulation or has a U-factor lower than 0.89. [CEC §141.0(b)2Biii]										
<input type="checkbox"/> EXCEPTION: The insulation proposed is less than the required minimum because adding the required insulation will reduce the base flashing height to less than 8 inches at penthouse or parapet walls or at mechanical equipment that will not be moved as part of the re-roofing project. See the Exception to CEC § 141.0(b)2Biii for additional criteria required for using this exception.										

FOOTNOTES:

¹ Check the box if the aged Solar reflectance was not available in the Cool Roof Rating Council's Rated Product Directory, and the equation in Section 110.8(i)2 was used to determine the aged solar reflectance value.

² Calculate the SRI Value by using the SRI-Worksheet (NRCC-ENV-03-E) and enter the resulting value in the SRI Column above and attach a copy of the SRI-Worksheet.

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true, accurate, complete and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the system design identified on this Certificate of Compliance.
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Person's Name:	Responsible Person's Signature:
Company:	Signature Date:
Address:	License:
City/State/Zip:	Phone:

NRCC-ENV-01-E Instructions (for Nonresidential, Hotels and Motels Reroofing Only)

A. GENERAL INFORMATION

- Project Name:** Identifying information, such as owner's name.
- Date:** Date of document preparation.
- Project Location:** Enter legal street address of property or other applicable location identifying information.
- CA City:** Legal city/town of property and **Zip Code:** 5-digit zip code for the project location (used to determine climate zone).
- Climate zone:** Sonoma is in Climate Zone 2
- Building Type:** Indicate Nonresidential or Hotel/Motel Guest Room.

B. ROOFING PRODUCTS - COOL ROOF

Roofing requirements are found in California Energy Code Sections 110.8(i) and 140.3(i). Cool Roof (defined as a minimum aged solar reflectance and thermal emittance, or a minimum SRI) requirements are dependent on the climate zone and roof slope.

1. **Mass roof 25 lb/ft² or greater:** Mass roofs are not required to have a cool roof even if the climate zone specifies minimum performance requirements.
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. **The CRRC Product ID Number** is obtained from the Cool Roof Rating Council's Rated Product Directory at www.coolroofs.org/products/search.php. Products are listed by manufacturer, brand, and type of installation, roofing material, and color, as well as product performance.
4. **Product type:** See Cool Roof Rating Council's directory. Product types include single-ply roof, wood shingles, asphalt roof, metal roof, and tile roof.

5. **Proposed Aged Solar Reflectance:** Value is from the Cool Roof Rating Council's Rated Product Directory. If the aged value is not available, calculate the SRI using the initial solar reflectance on NRCC-ENV-03-E (Cool Roof and SRI Worksheet).
6. **Proposed Thermal Emittance:** From the product specifications. Skip this value if using a calculated SRI.
7. **Proposed SRI:** It is optional to meet either the SRI or the solar reflectance/thermal emittance. To calculate the SRI value use calculation from <http://www.energy.ca.gov/title24/>. Enter the resulting value in the SRI Column above and attach a copy of the SRI-Worksheet (NRCC-ENV-03-E).
8. **Minimum Required Aged Solar Reflectance:** Based on climate zone and roof slope.
9. **Minimum Required Thermal Emittance:** Based on climate zone and roof slope.
10. **Minimum SRI:** Based on climate zone and roof slope.
11. **Comments:** Any notes regarding location, unique conditions, or attachments, such as an SRI worksheet.
12. Enter the **Existing Continuous Insulation R-value** of the Roof Deck (if any).
13. Enter the **Existing Insulation U-Factor** of Roof Deck(if any).
14. Enter the **Proposed Continuous Insulation R-value** of the Roof Deck (R-14 min.).
15. Enter the **Proposed Insulation U-Factor** of Roof Deck(0.55 min.).

Check any applicable **EXCEPTION** boxes.

If the cool roofing requirements will be met by a **liquid field applied coating**, Section 110.8(i)4 requires the coating be applied across the entire roof surface and meet the dry mil thickness or coverage recommended by the manufacturer.