

**Method of Compliance - Prescriptive Component Approach:**

This form may be used only for replacements, recovering or recoating of the exterior surface, using the Prescriptive Component Approach for existing: single family (SFR), accessory dwellings (ADU), duplexes, and halfplexes.

**Roofing Replacement – Prescriptive Alteration, 2022 California Energy Code Section 150.2(b)1.I:**

- When 50% or more of the roof is being replaced the roofing requirements are triggered.
- When roofs have multiple pitches, the requirements are based on the pitch of 50 percent or more of the roof.
- The new roofing area must meet the roofing product “Cool Roof” requirements

<b>STEP 1 – GENERAL INFORMATION</b> <i>Complete each field, then go to Step 2</i>	
Project Name:	
Project Address*:	Climate Zone: 11
<small>*include unit number or building number, if any</small>	

<b>STEP 2 – EXISTING BUILDING TYPE</b> <i>Select one building type, then go to Step 3</i>	
Building Type: <input type="checkbox"/> Single Family Residence <input type="checkbox"/> Accessory Dwelling Unit <input type="checkbox"/> Duplex <input type="checkbox"/> Half-Plex	

<b>STEP 3 - SCOPE</b> Identify the installation type and indicate the number of squares, then go to <b>Step 4 for Steep Slope Roofs</b> (pitch greater than or equal to 2:12) and/or go to <b>Steps 5 and 6 for Low Slope Roofs</b> (pitch less than 2:12)	
Installation Type (select one): <input type="checkbox"/> Overlay <input type="checkbox"/> Tear-Off <input type="checkbox"/> Recoat	
Number of Squares: _____ SQS    (1 square = 100 square feet)	

<b>STEP 4 – STEEP SLOPE REQUIREMENTS</b> (pitch greater than or equal to 2:12) Complete either the exemptions/alternatives section below <b>OR</b> the cool requirements section below, not both. Then go to Step 7.															
Check applicable alternatives or exceptions below if the roof alteration is exempt from the roofing products “Cool Roof” requirements:															
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;"><b>STEEP SLOPE COOL ROOF EXEMPTIONS &amp; ALTERNATIVES</b></th> </tr> <tr> <th colspan="2" style="text-align: center;"><i>(pitch greater than or equal to 2:12)</i></th> </tr> <tr> <td><input type="checkbox"/></td> <td>Roof has R-38 ceiling insulation or ceiling assemblies with a U-factor less than or equal to 0.025; or</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Roof has a radiant barrier, not installed directly above spaced sheathing, meeting 2022 California Energy Code Section 150.1(c)2; or</td> </tr> <tr> <td><input type="checkbox"/></td> <td>R-2 or greater continuous insulation above the roof deck; or</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Mass roof 25lb/ft2 or greater (<i>uncommon situation such as sod roof</i>); or</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Any areas of roof covered by building- integrated photovoltaic panels or building integrated solar thermal panels**</td> </tr> </table>		<b>STEEP SLOPE COOL ROOF EXEMPTIONS &amp; ALTERNATIVES</b>		<i>(pitch greater than or equal to 2:12)</i>		<input type="checkbox"/>	Roof has R-38 ceiling insulation or ceiling assemblies with a U-factor less than or equal to 0.025; or	<input type="checkbox"/>	Roof has a radiant barrier, not installed directly above spaced sheathing, meeting 2022 California Energy Code Section 150.1(c)2; or	<input type="checkbox"/>	R-2 or greater continuous insulation above the roof deck; or	<input type="checkbox"/>	Mass roof 25lb/ft2 or greater ( <i>uncommon situation such as sod roof</i> ); or	<input type="checkbox"/>	Any areas of roof covered by building- integrated photovoltaic panels or building integrated solar thermal panels**
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\*\*The area of roof not covered by photovoltaic panels would still need to meet any applicable cool roof requirements.

**Note:** If any one of the alternatives or exceptions above is checked, the aged Solar Reflectance and Thermal Emittance requirement for roofing products in 2022 California Energy Code Section 110.8 are not applicable; do not fill-in the table below for Steep Slope Cool Roof Requirements.

<b>STEEP SLOPE COOL ROOF REQUIREMENTS</b>										
<i>(pitch greater than or equal to 2:12)</i>										
Proposed CRRC Product ID Number	Existing Roof Slope / Pitch	Proposed Roof Product Type	PROPOSED				STEEP SLOPE ROOFS Minimum Requirements <i>(pitch greater than or equal to 2:12)</i>			
			Solar Reflectance Initial	Solar Reflectance Aged (3 year)	Thermal Emittance	OR	SRI Aged (3 Year)	Solar Reflectance Aged (3 year)	Thermal Emittance	SRI Aged (3 Year)
								<b>0.20</b>	<b>0.75</b>	<b>16</b>

Project Address: \_\_\_\_\_

**STEP 5 – LOW SLOPE ROOF INSULATION REQUIREMENTS** (pitch less than 2:12)

Complete either the exceptions section below **OR** the insulation requirements section below, not both. Then go to Step 6.

Check applicable exceptions below if the roof alteration is exempt from Energy Code insulation requirements:

**LOW SLOPE INSULATION EXCEPTIONS**  
(pitch less than 2:12)

Existing R-10 or greater continuous insulation above or below the roof deck; or

For sidewall and parapet walls only: Required continuous insulation may be reduced to R-4 or greater continuous insulation AND (a) mechanical equipment on the roof is not being disconnected or removed as part of the project OR (b) sidewall or parapet walls exist AND the additional insulation would reduce the height of the roof surface to the top of the base flashing to less than allowed by 2022 California Residential Code Section R900. *This exception only applies to* sidewall and parapet walls if they are finished with an exterior cladding material that must be removed to install the new roof covering membrane to maintain the base flashing height and the ratio of the replaced roof area to the affected sidewall or parapet walls is less than 25 linear feet.

**Note:** If any one of the exceptions above are checked, the 2022 California Energy Code Section 110.8 insulation requirements are not applicable; do not complete the table below for Low Slope Insulation Requirements.

Please check all of the below that apply:

**LOW SLOPE INSULATION REQUIREMENTS**  
(pitch less than 2:12)

R-14 continuous insulation **will be installed** above the roof deck; or

Overall assembly **will have** a U-factor  $\leq 0.039$  (such as R-11 cavity insulation below the roof deck **will be installed** with existing wood framing at 24" o.c.); or

Tapered insulation **will be used** at drains and other low points when insulation thickness is increased at the high points of the roof and the average thermal resistance meets the minimum required value. The thermal resistance rating for the proposed roofing product is \_\_\_\_\_; or

The required continuous insulation **to be installed** will be reduced where the flashing around an exterior wall opening would be reduced below manufacturer's installation instructions. *A copy of the manufacturer's installation instructions is attached; or*

The required continuous insulation **to be installed** will be reduced due to an approved design professionals flashing design meeting the requirements of 2022 California Residential Code R703.4 or R905.2.8.3. *The design professional's plans have been attached, for the City's review and approval.*

**STEP 6 – LOW SLOPE COOL ROOF REQUIREMENTS** (pitch less than 2:12)

Complete either the exemptions/alternatives section below **OR** the cool requirements section below, not both. Then go to Step 7.

Check applicable alternatives or exceptions below if the roof alteration is exempt from the roofing products "Cool Roof" requirements:

**LOW SLOPE COOL ROOF EXEMPTIONS AND ALTERNATIVES**  
(pitch less than 2:12)

Mass roof 25lb/ft2 or greater (uncommon situation such as sod roof); or

Any areas of roof covered by building- integrated photovoltaic panels or building integrated solar thermal panels\*\*

\*\*The area of roof not covered by photovoltaic panels would still need to meet any applicable cool roof requirements.

**Note:** If any one of the alternatives or exceptions above is checked, the aged Solar Reflectance and Thermal Emittance requirement for roofing products in 2022 California Energy Code Section 110.8 are not applicable; do not fill-in the table below for Low Slope Cool Roof Requirements.

LOW SLOPE COOL ROOF REQUIREMENTS (pitch less than 2:12)											
Proposed CRRC Product ID Number	Existing Roof Slope / Pitch	Proposed Roof Product Type	PROPOSED					LOW SLOPE ROOFS Minimum Requirements (pitch less than 2:12)			
			Solar Reflectance Initial	Solar Reflectance Aged (3 year)	Thermal Emittance	OR	SRI Aged (3 Year)	Solar Reflectance Aged (3 year)	Thermal Emittance	SRI Aged (3 Year)	
									<b>0.63</b>	<b>0.75</b>	<b>75</b>

For low sloped roofs only: Roof deck installation trade off - by installing minimum roof deck insulation of R-16, a lower aged solar reflectance of 0.60 is required.

Note: 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.

Project Address: \_\_\_\_\_

<b>Declaration Statement</b>	
<p>I certify the following under penalty of perjury, under the laws of the State of California:</p> <ol style="list-style-type: none"> <li>1. The information provided on this Certificate of Compliance is true and correct.</li> <li>2. 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.</li> <li>3. 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 City of Roseville for approval with this building permit application.</li> <li>4. I understand that an approved copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the City of Roseville for all applicable inspections.</li> <li>5. I understand that an approved copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at project completion.</li> </ol>	
Name:	Signature:
Company:	Date:
Address:	License:
City/State/Zip:	Phone:

**Note :** When a cool roof is required, the installing contractor shall also complete and submit the **CF2R-ENV-04-E**

For assistance or questions regarding the Energy Standards, contact the California Energy Code's Energy Hotline at: 1-800-772-3300

# 2022 Residential Energy Code CF1R-ALT-01-E Reroof Form – User Instructions

## Roof Replacement (Prescriptive Alteration, 2022 California Energy Code 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 are exempt, but 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-sloped** (pitch greater than or equal to 2:12) the roof requirements include a cool roof in climate zone 11. 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 percent 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 pounds per square foot (lbs/ft<sup>2</sup>) or greater (uncommon situation such as sod roof);
- (b) Roof has ceiling assemblies with a U-factor less than or equal to 0.025 or R-38 insulation;
- (c) Roof has a radiant barrier not installed directly above spaced sheathing meeting 2022 California Energy Code Section 150.1(c)2;
- (d) R-2 continuous insulation above the roof deck.
- (e) Any areas of roof covered by building-integrated photovoltaic panels or building integrated solar thermal panels.  
*(The roof not covered by photovoltaic panels would still need to meet any applicable cool roof requirements.)*

When there is a **low-sloped roof** (pitch less than 2:12) the cool roof requirements in climate zone 11 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 pounds per square foot (lbs/ft<sup>2</sup>) or greater (uncommon situation such as sod roof); or
- (b) Any areas of roof covered by building-integrated photovoltaic panels or building integrated solar thermal panels.  
*(The roof not covered by photovoltaic panels would still need to meet any applicable cool roof requirements.)*
- (c) Roof deck installation trade off—by installing roof deck insulation, a lower aged solar reflectance is required:  
In Climate Zone 11: R-16 (0.60).

4. Proposed CRCC Product ID Number: The CRCC Product ID Number is obtained from the Council's Rated Product Directory at <https://coolroofs.org/directory/roof>. Products are listed by manufacturer, brand, type of installation, roofing material, and color, as well as product performance.
5. Existing Roof Slope/Pitch: Expressed as 4:12, for example, which means the roof rises 4 feet within a span of 12 feet. When roofs have multiple pitches the requirements are based on the pitch of 50 percent or more of the roof.
6. Proposed Product Type: See cool Roof Rating Council's directory. Generally include: single-ply roof, wood shingles, asphalt roof, metal roof, and tile roof.
7. Proposed Initial Solar Reflectance: Based on the product chosen from the Cool Roof Rating Council's Rated Product Directory. If using default assumption indicate N/A since the Aged Solar Reflectance is available.
8. 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 Aged Solar Reflectance using the Solar Reflectance Index (SRI) Calculator located on the California Energy Commission Website or the aging equation  $\rho_{aged} = [0.2 + \beta(\rho_{initial} - 0.2)]$ , where  $\rho_{initial}$  = the initial solar reflectance and soiling resistance  $\beta$  is listed by product type below:

VALUES OF SOILING RESISTANCE $\beta$ BY PRODUCT TYPE		
Product Type	CRRC Product Category	$\beta$
Field-Applied Coating	Field-Applied Coating	0.65
Other	Not A Field-Applied Coating	0.70

9. Proposed Thermal Emittance: From the product specifications default value. If using a calculated Solar Reflectance Index (SRI) place the thermal emittance used to calculate SRI.
10. Proposed SRI (Solar Reflectance Index): It is optional to meet the SRI but if chosen to do so, use the Solar Reflectance Index (SRI) Calculator found on the California Energy Commission website.
11. In order to meet the requirements of 2022 California Energy Code sections 140.1, 140.2, 140.3(a)1, 141.0(b)2B, 150.1(c)11, 150.2(b)1H, or 150.2(b)2, of Title 24, the California Code of Regulations (Part 6), a roofing product's thermal emittance and 3-year aged solar reflectance shall be certified and labeled according to Section 10-113 of Title 24, California Administrative Code (Part 1).

Exception: Roofing products that are not certified shall assume the following default values:

Product Type	Aged Reflectance	Thermal Emittance
Asphalt Shingles	0.08	0.75
Other Roofing Products	0.10	0.75