



Butte County Department of Development Services

PERMIT CENTER

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www.buttecountv.ncf/dds

FORM NO

DBI-3

Re-Roofing and the 2008 California Residential Energy Compliance Requirements for Cool Roofs

Important information you need to know **BEFORE** obtaining a re-roof permit!

The California Energy Commission (CEC) has adopted new requirements for re-roofing projects.

Beginning January 1, 2010 when more than 50% of the exterior surface of the roof or more than 1,000-sq. ft. of roof is replaced, whichever is less, the roofing product must meet the following prescriptive requirements for Cool Roofs.

For roof slopes of greater than 2:12:

1. Roofing products with a density of less than 5lbs/sq.ft. (i.e. Asphalt shingles) shall have a minimum 3-year aged solar reflectance of 0.20 and a minimum thermal emittance of 0.75, or a Solar Reflectance Index (SRI) of 16.
2. Roofing products with a density of 5lbs/sq.ft. or more (i.e. Concrete, clay tiles or slate) shall have a minimum 3-year aged solar reflectance of 0.15 and a minimum thermal emittance of 0.75, or a SRI of 10.

Or,

Alternatives to the Cool Roof requirement may be one of the following:


1. Insulation with a thermal resistance of at least 0.85hr.ft².°F/Btu or at least ¾ inch air-space is added to the roof deck over an attic; or
2. If existing ducts in the attic are insulated and sealed according to CEC Regulations §151(f)10 ; or
3. Buildings with at least R-30 ceiling insulation; or
4. If the building with a radiant barrier in the attic meeting the requirements of §151(f)2 ; or
5. Buildings with no ducts in the attic; or
6. If in climate Zones 10, 11, 13, and 14, R-3 or greater roof deck insulation above vented attic.
7. Roof areas covered by integrated photovoltaic panels and building integrated solar panels and existing roof areas that have a thermal mass over the roof membrane with a weight of at least 25 lb/ft² are exempted for this requirement.

A Certificate of Compliance Energy Form "**CF-1R-ALT**" must be completed and submitted with the permit application. The "**CF-1R-ALT**" form must be signed by the documentation Author and the Building Designer (i.e. Contractor or Home Owner).

At Final Inspection an Installation Certificate Form "**CF-6R-ENV-01**" must be completed by the installing contractor and submitted to the owner and the building department.

Roofing products that are used for compliance with the energy standards are required to be tested and labeled by the Cool Roof Rating Council (CRRC).

The roofing products manufacturer must have its roofing product tested for solar reflectance and thermal emittance, and be listed in the CRRC's Rated Product Directory (see <http://www.coolroofs.org>) and be labeled according to CRRC procedures. Below is an example of an approved CRRC product label.

		<u>Initial</u>	<u>Weathered</u>
	Solar Reflectance	0.00	Pending
	Thermal Emittance	0.00	Pending
	Rated Product ID Number	-----	
Licensed Seller ID Number	-----		
Classification	Production Line		
<p><i>Cool Roof Rating Council ratings are determined for a fixed set of conditions, and may not be appropriate for determining seasonal energy performance. The actual effect of solar reflectance and thermal emittance on building performance may vary.</i></p> <p><i>Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating Council procedures.</i></p>			

Attached are the CF-1R-ALT and the CF-6R-ENV-01 forms for your use. Or you can visit the California Energy Commissions webpage at: www.energy.ca.gov for more information.



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FORM NO

DPI-3

COOL REROOF INFORMATION SHEET

Project Address: _____

Slope of Roof _____ # of Existing Layers _____ Existing Roofing Material _____

Check all that applies to NEW roof:

<input type="checkbox"/>	Composition	<input type="checkbox"/>	Tile	<input type="checkbox"/>	Shake	<input type="checkbox"/>	Wood Shingle
<input type="checkbox"/>	Built up	<input type="checkbox"/>	Bitumen	<input type="checkbox"/>	Metal	<input type="checkbox"/>	Other _____
<input type="checkbox"/>	Tear off existing	<input type="checkbox"/>	Overlay	<input type="checkbox"/>	New Sheathing	<input type="checkbox"/>	_____

The California Energy Commission (CEC) has adopted new requirements for re-roofing projects.

Beginning January 1, 2010 when more than 50% of the exterior surface of the roof or more than 1,000-sq. ft. of roof is replaced, whichever is less, the new roofing area must meet the roofing product "Cool Roof" requirements of §152(b)1Hi, 152(b)1Hii, or 152(b)1Hiii.

For roof slopes of greater than 2:12:

<input type="checkbox"/>	Roofing products with a density of less than 5lbs/sq.ft. (i.e. Asphalt shingles) shall have a minimum 3-year aged solar reflectance of 0.20 and a minimum thermal emittance of 0.75, or a Solar Reflectance Index (SRI) of 16. or check alternate (alt)	<input type="checkbox"/>	Roofing products with a density of 5lbs/sq.ft. or more (i.e. Concrete, clay tiles or slate) shall have a minimum 3-year aged solar reflectance of 0.15 and a minimum thermal emittance of 0.75, or a SRI of 10. or check alternate (alt)
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Note: Manufacturers specification for Cool Roof compliance when required shall be provided for inspector. Packaging materials w/CRRC labels must be left on the job site to demonstrate compliance with the specification for the cool roof rating if applicable.

ALTERNATE (ALT) Alternatives to §152(b)1Hi and §152(b)1Hii, Steep-slope roof (pitch > 2:12)

Alternatives to the Cool Roof requirement may be one of the following:

alt <input type="checkbox"/>	Building with at least R-30 ceiling insulation (approximately 11" (or more) thick if blown in)	alt <input type="checkbox"/>	If in climate Zone 11*, R-3 or greater roof deck insulation above vented attic.
alt <input type="checkbox"/>	Existing ducts insulated with R-6 and H.E.R.S. duct tested to verify ducts are sealed	alt <input type="checkbox"/>	Building has no HVAC ducts in the attic (evaporative cooling duct exempt)
alt <input type="checkbox"/>	Building with a radiant barrier in attic meeting the requirements of §151(f)2;	alt <input type="checkbox"/>	Insulation over roof deck or at least ¾ inch air-space is added to the roof deck over an attic

Other Exceptions

- Roofing area covered by building integrated; photovoltaic panels and solar thermal panels are exempt from the below Cool Roof criteria.
- Roof constructions that have thermal mass over the roof membrane with at least 25 lb/ft² is exempt from the below Cool Roof criteria.

* Butte County areas within **Climate Zone 11** per T-24, Part 6, 2008 California Energy Code: Bangor, Berry Creek, Biggs, Centerville Powerhouse, Cherokee, Chico, Cohasset, Dayton, De Sable, Durham, East Biggs, Forest Ranch, Gridley, Honcut, Lake Oroville, Lake Wyandotte, Las Plumas, Magalia, Nelson, Nord, Oroville, Oroville East, Palermo, Paradise, Pentz, Richardson Springs, Richvale, south Oroville, Thermalito, Thermalito Afterbay, Thermalito Forebay, Tiger Creek Powerhouse and Wyandotte.

CLIMATE ZONE 16 (ONLY) Cool roof requirements apply **ONLY** when Roofing products with a density of 5lbs/sq.ft. or **more** (i.e. Concrete, clay tiles or slate) shall have a minimum 3-year aged solar reflectance of 0.15 and a minimum thermal emittance of 0.75, or a SRI of 10. **or check alternate (alt)** as applicable.

INSTRUCTIONS FOR COMMERCIAL PROJECTS

- Commercial roofs on decks with a slope of 2:12 or less must meet the 2008 Building Energy Efficiency Standards by being a certified Cool Roof. A copy of the standards, signed by the applicant must accompany this application.
- Overlays that exceed 100 pounds per square must be accompanied by calculations performed by a California licensed Civil or Structural Engineer. All overlays must be approved by the Building Official and other requirements listed within Appendix Chapter 15, California Building Code.
- A specification from the roofing manufacturer must accompany this application. The specification should list the fire class of the material, a description of the materials or layers that must be installed, the Cool Roof certification (if required because of the slope of the roof), and installation requirements.
- Packaging materials w/CRRC labels must be left on the job site to demonstrate compliance with the specification for the cool roof rating if applicable.

I agree that the information provided on this document is accurate and true.

Applicants Signature: _____ Date: _____

CF-6R-ENV-01- ROOFING

INSTALLATION CERTIFICATE		<i>(Revised for roofing only) CF-6R-ENV-01</i>
Envelope - Roofing		
Site Address:	Enforcement Agency:	Permit Number:

If more than one person has responsibility for installation of the items on this certificate, each person shall prepare and sign a certificate applicable to the portion of construction for which they are responsible; alternatively, the person with chief responsibility for construction shall prepare and sign this certificate for the entire construction. All applicable Mandatory Measures with check boxes require to be checked to ensure the mandatory measures have been met.

ATTIC ROOF INSULATION AND/OR ATTIC RADIANT BARRIER

Material: _____ Brand Name: _____
 Material: _____ Brand Name: _____
 Thickness (inches): _____ Thermal Resistance (R-Value): _____
 §118(a): Insulation installed meets Standards for Insulating Material.
 §160(g): Mandatory Vapor barrier installed in Climate Zone 18

Description of Roofing Products									
CRRC Product ID Number	Manufacturer Information	Brand/Model	Product Type	Roof Area	Roof Slope	Product Weight	Initial Solar Reflectance	Aged Solar Reflectance	Thermal Emittance
<p>1. The CRRC Product ID Number can be obtained from the Cool Roof Rating Council's Rated Product Directory at www.coolroofs.org/productssearch.php</p> <p>2. The weight in lbs per square foot of the roofing product being installed.</p> <p>3. Check box if the Aged Reflectance is a calculated value using the equation below, footnote 4.</p> <p>4. If the aged reflectance is not available in the Cool Roof Rating Council's Rated Product Directory then use the initial reflectance value from the directory and use the equation $(0.2+0.7(\text{initial} - 0.2))$ to obtain a calculated aged value.</p>									
✓ <input type="checkbox"/> CHECK APPLICABLE BOX BELOW IF EXEMPT FROM THE ROOFING PRODUCT "COOL ROOF" REQUIREMENT:									
<input type="checkbox"/> The roof area covered by building integrated photovoltaic panels and building integrated solar thermal panels are exempt from the above Cool Roof criteria.									
<input type="checkbox"/> Roof constructions that have thermal mass over the roof membrane with a weight of at least 25 lb/ft ² is exempted from the above Cool Roof criteria.									
<i>To apply Liquid Field Applied Coatings, the coating must be applied with a minimum dry mil thickness of 20 mils across the entire roof surface and meet minimum performance requirements listed in §118(f)(3) and Table 118-C. Select the applicable coating</i>									
<input type="checkbox"/> Aluminum-Pigmented Asphalt Roof Coating <input type="checkbox"/> Cement-Based Roof Coating <input type="checkbox"/> Other _____									
✓ <input type="checkbox"/> CRRC-1 Label Attached to CF-6R <i>(Note if no CRRC-1 label is available, this compliance method cannot be used and another method is required to meet compliance).</i>									

DECLARATION STATEMENT

- I certify under penalty of perjury, under the laws of the State of California, the information provided on this form is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for construction, or an authorized representative of the person responsible for construction (responsible person).
- I certify that the installed features, materials, components, or manufactured devices identified on this certificate (the installation) conforms to all applicable codes and regulations, and the installation is consistent with the plans and specifications approved by the enforcement agency.
- I reviewed a copy of the Certificate of Compliance (CF-1R) form approved by the enforcement agency that identifies the specific requirements for the installation. I certify that the requirements detailed on the CF-1R that apply to the installation have been met.
- I will ensure that a completed, signed copy of this Installation Certificate shall be posted, or 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 signed copy of this Installation Certificate is required to be included with the documentation the builder provides to the building owner at occupancy.

Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)			
Responsible Person's Name:		Responsible Person's Signature:	
CSLB License:	Date Signed:	Position	With Company: