

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 ³/₄ inch airspace 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) ; or

3. In climate zones 10, 12 and 13, with 1 ft2 of free ventilation area of attic ventilation for every 150 ft2 of attic floor area, and where at least 30 percent of the free ventilation area is within 2 feet vertical distance of the roof ridge; or

4. Buildings with at least R-30 ceiling insulation; or

5. If the building with a radiant barrier in the attic meeting the requirements of 151(f)2 ; or

6. Buildings with no ducts in the attic; or

7. If in climate Zones 10, 11, 13, and 14, R-3 or greater roof deck insulation above vented attic.

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>I</u>	<u>nitial</u>	<u>Weathered</u>
	Solar Reflectance	0.00	Pending
	Thermal Emittance	0.00	Pending
COOL ROOF RATING COUNCIL	Rated Product ID Number Licensed Seller ID Number Classification	Pr	 oduction Line

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.

Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating Council procedures.

Attached are the CF-1R-ALT and the CF-6R-ENV-01 forms for your use. To obtain

Additional CF-1R-ALT and CF-6R-ENV-01 forms or for more information please

visit the California Energy Commissions webpage at: www.energy.ca.gov.

Prescriptive Certificate of Compliance: Residential Reroof		CF-1R-ALT-ReRoof
Project Address:	Climate Zone	Permit #

ROOFING PRODUCTS (COOL ROOFS) §151(f)12									
When the area of exterior roof surface to be replaced exceeds 50% of the existing roof area, or 1,000 ft ² , 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.									
Check applicable alternative or exception below if the roof alteration is exempt from the roofing product "Cool Roof" requirements:									
Cool roofs not required in Climates Zo	Cool roofs not required in Climates Zones 1-12, 14, and 16 with a low sloped roof pitch (less or 2:12 pitch).								
Cool roofs not required in Climates Zo	nes 1-9, a	nd 16 with	a steep-slo	ped roofs (greater pitch	than 2	:12) and pro	duct weight less	than 5/lb/ft ² .
Alternatives to §152(b)1Hi and §152(b)H	Alternatives to $\$152(b)$ 1Hi and $\$152(b)$ Hii, Steep-slope roof (<i>pitch</i> > 2:12)								
Insulation with a thermal resistance of at least 0.85 hr ft ² .°F/Btu or at least a 3/4 inch air-space is added to the roof deck over an attic; or									
Existing ducts in the attic are insulated	and seale	ed accordir	ng to §151(f)10; or					
□ In climate zones 10, 12 and 13, with 1	ft2 of free	ventilatior	n area of att	ic ventilatio	n for every 1	50 ft2 o	of attic floor a	area, and	
where at least 30 percent of the free v	entilation a	area is with	hin 2 feet ve	ertical distar	nce of the roo	of ridge	; or		
Building has at least R-30 ceiling insul	ation; or								
Building has radiant barrier in the attic	meeting th	ne requirer	ments of §1	51(f)2; or					
Building has no ducts in the attic; or	0	C 1	1		1.1.1.11				
\Box In climate zones 10, 11, 13 and 14, R	-3 or greate	er roof dec	k insulation	above ven	ted attic.				
Exception to §152(b)1Hill, Low-slope ro	of (pitch	≤ <i>2:12)</i>							
Other Exceptions									
Roofing area is covered by building in	teorated: p	hotovoltai	c panels an	d solar ther	mal panels a	are exei	mot from the	Cool Roof crite	ria.
□ Roof constructions that have thermal	nass over	the roof m	embrane w	ith at least	25 lb/ft2 are	exempt	t from the Co	ool Roof criteria.	
products in §118(i) are not applicable. Do n	ot fill table	below.	Product	Weight	Product	Age	ed Solar	Thermal	·5
CRRC Product ID Number'	≤ 2:12	> 2:12	< 5lb/ft ⁻	≥ 5lb/ft ²	Type ²	Refle	ectance ^{3,1}	Emittance	SRI°
						\square^4			
Note: If no CRRC-1 label is available, this	compliant	ce method	d cannot be	used, use	the Perform	ance A	Approach to	show compliand	ce,
1. The CRRC Product ID Number can be obtained	ed from the	Cool Roof	Rating Court	cil's Rated F	Product Direct	ory at <u>w</u>	ww.coolroofs	s.org/products/sea	rch.php
2. Indicate the type of product is being used for t	he roof top,	i.e. single-	ply roof, asp	halt roof, me	etal roof, etc.		:::		
3. If the Aged Reflectance is not available in the directory, and use the equation (0.2 ± 0.7)	Cool Root I = 0.2) to of	Rating Coul htain a calc	ncil's Rated	Product Dire	ectory then us ore o is the Ini	e the Ini tial Sola	itial Reflectar	ice value from the	same
4. Check box if the Aged Reflectance is a calculation (0.2 ± 0.7)	ated value u	isina the ec	nuation abov	value. vvne е.		liai 30ia	i Neneclance	<i>.</i>	
5. Calculate the SRI value by using the SRI- Wo	rksheet at <u>h</u>	ttp://www.e	, energy.ca.go	v/title24/ and	d enter the res	sulting v	alue in the S	RI Column above	and attach
acopy of the SRI- Worksheet to the CF-1R.									
To apply Liquid Field Applied Coatings, the coating must be applied across the entire roof surface and meet the dry mil thickness or coverage									
recommended by the coatings manufacture	recommended by the coatings manufacturer and meet minimum performance requirements listed in §118(i)4. Select the applicable coating:								
Aluminum-Pigmented Asphalt Roof Coating									
NOTE: When a Cool Roof is required, the installing contractor shall complete and submit the CF-6R-ENV-01 for final inspection.									
Declaration Statement									
• I certify under penalty of perjury, under the	e laws of the	State of C	alifornia, the	information	provided on t	this form	n is accurate	and complete.	

NI.		
	1 and 6 of the California Code of Regulations.	
•	I certify that the energy features and performance specifications identi-	ied on this Certificate of Compliance conform to the requirements of Title 24, Parts

Name:	Signature:
Company:	Date:
Address:	License:
City/State/Zip:	Phone:

For assistance or questions regarding the Energy Standards, contact the Energy Hotline at: 1-800-772-3300.

INSTALLATION CERTIFICATE: Residential Rero	CF-6R-ENV-01	
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 are required to be checked to ensure the mandatory measures have been met.

CEILING INSULATION

Rigid:	Brand Name:			
Batt or Blanket Type:	Brand Name:			
Loose Fill Type:	Thermal Resistance (R-Value):			
Spray Foam Type:	Brand Name:			
Installed Actual Thickness (inches):	Contractor's min installed weight/ft ² lb			
Manufacturer's installed weight per square foot to achieve Thermal Resistance (R-Value):				

 \square §150(a): Minimum R-19 insulation in wood-frame ceiling or equivalent U-factor.

 \square §118(a): Insulation installed meets Standards for Insulating Material.

□ §150(g): Mandatory Vapor barrier installed in Climate Zones 14 or 16.

ROOFING PRODUCTS (COOL ROOFS) §151(f)12

Check this box if the newly installed roof is exempted from the roofing product "Cool Roof" requirements as indicated on the CF-1R-Alt-Reroof form for this project. Otherwise fill in the table below.

CRRC Product ID Number ¹	Roof ≤ 2:12	Slope > 2:12	Product < 5lb/ft ²	t Weight \geq 5lb/ft ²	Product Type ²	Ag Refl	ed Solar ectance ^{3,4}	Thermal Emittance	
						\square^4			
						\square^4			

1. CRRC-1 label information is available is on the package of the roofing product being installed and attach the CRRC label to this form.

2. Indicate the type of product is being used for the roof top, i.e. single-ply roof, asphalt roof, metal roof, etc.

3. 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 same directory and use the equation (0.2+0.7(*ρ*_{initial} – 0.2) to obtain a calculated aged value. Where *ρ* is the Initial Solar Reflectance.
4. Check box if the Aged Reflectance is a calculated value using the equation above.

To apply Liquid Field Applied Coatings, the coating must be applied across the entire roof surface and meet the dry mil thickness or coverage recommended by the coatings manufacturer and meet minimum performance requirements listed in §118(i)4. Select the applicable coating:

□ Aluminum-Pigmented Asphalt Roof Coating	□ Cement-Based Roof Coating	□ Other
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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 (Title):			