



## Building & Safety Division

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# COOL ROOFS Information Handout

**COOL ROOF** requirements were adopted by the California Energy Commission (CEC) for most non-residential buildings that have low roof slopes of 2:12 or less. This requirement became effective for both new buildings and the re-roofing of existing buildings for which permit applications were filed on or after October 1, 2005.

The purpose of requiring **COOL ROOFS** is reduction of building air-conditioning loads to assist in lowering statewide electrical use, particularly on hot summer days when electrical supplies may not be available to meet the total energy demand. Reduction of air-conditioning loads helps to reduce or eliminate “rolling brownouts”. **COOL ROOFS** are effective in reflecting solar radiation and emitting thermal radiation that reduces heat build-up inside of buildings. Use of cool roofs can reduce cooling loads by as much as 20 %.

### 1. COOL ROOFS

To be considered a **COOL ROOF**, roofing must be tested and rated through the Cool Roof Rating Council (CRRC), be labeled for reflectance and emittance values of at least 0.70 and 0.75 respectively to meet requirements of California Title 24 Energy Conservation Standards, Section 118(i). Roofing applied in the field as a liquid coating may also qualify as a **COOL ROOF** by meeting Non-Residential Energy Standards, Table 118-C.

### 2. WHEN COOL ROOFS ARE REQUIRED

New non-residential buildings and re-roofing of existing non-residential buildings that are heated or air-conditioned and that have a roof slope of 2:12 or less

### 3. COOL ROOF EXEMPTIONS

The following buildings and re-roofing of existing buildings are exempt from **COOL ROOF** requirements


- a. Buildings with an area less than 2,000 square feet.
- b. Buildings that are not heated or air –conditioned.
- c. Buildings where the prescriptive or performance energy analysis approach justifies other roofing types.
- d. “I” Occupancy buildings including hospitals, sanitariums, mental hospitals, jails, prisons, etc.
- e. Hotels and Motels.
- f. High Rise Residential buildings.
- g. Qualified historical buildings.
- h. Re-roofing where the re-roofed area is less than 2,000 square feet or 50 percent of the roof, whichever is less.
- i. Re-roofing of rock or gravel surfaced roofs that meet 5 prescribed conditions.

### 4. COOL ROOF REBATES and HELPFUL LINKS

Certain energy financial rebates or savings from your local utility company may be available for installation of **COOL ROOFS**. Check with your utility company and “**Cool Savings with Cool Roofs**”, California Energy Commission.

Cool Roof Rating council	<a href="http://www.coolroofs.org">www.coolroofs.org</a>
Greener Buildings	<a href="http://www.greenerbuildings.com">www.greenerbuildings.com</a>
California Association of Building Energy Consultants	<a href="http://www.cabec.org">www.cabec.org</a>
California Energy Commission	<a href="http://www.energy.ca.gov">www.energy.ca.gov</a>
California Energy Commission "Cool Savings with Cool Roofs"	<a href="http://www.consumerenergycenter.org">www.consumerenergycenter.org</a>
Professional Roofing Magazine	<a href="http://www.professionalroofing.net">www.professionalroofing.net</a>

Re-roof Cool Roof products may come in the form of modified bitumen, built up roofing, single ply thermo plastic, fluid applied roofing, coatings, or something else. **All products shall have at least 0.55 initial reflectance and 0.75 initial emittance and a CRRC Product ID number. All re-roof products must be labeled as indicated below:**

	<p style="text-align: center;"><b><u>Initial</u>      <u>Weathered</u></b></p> <p><b>Solar Reflectance    0.55 Min    Pending</b></p> <p><b>Thermal Emittance   0.75 Min    Pending</b></p>
	<p>Rated Product ID Number                      <b>XXXXX</b></p> <p>Licensed Seller ID Number                    <b>XXXXX</b></p> <p>Classification                                      Production Line</p>
<p>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.</p> <p>Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating Council procedures.</p>	