



Cool Roofs

What You Need to Know About LADWP Rebates and Building Code Requirements

What Is a Cool Roof?

A cool roof is a roofing product that reflects sunlight and absorbs less heat than traditional roofs. Cool roofs lower roof temperatures on hot sunny days and therefore keep homes cooler inside, saving energy by reducing the need for running air conditioning systems.

Although often light in color, cool roofs come in a wide variety of colors ranging from white to black and including blues, grays, greens, oranges, browns, and tans.

Cool roofs also are available in a variety of styles: shingle, shake, tile, membrane, and spray-on liquid coatings.

“Coolness” Factors

The “coolness” of a roof is determined by several properties of roofing materials and their combined effects on temperature. The primary factor is the material’s ability to reflect the sun’s energy back into the atmosphere (“solar reflectance”). A higher “solar reflectance” factor means the roof will stay cooler. Also the “solar reflectance” is measured by how long it retains its effectiveness (“aged solar reflectance”). If the product is new and the “aged solar reflectance” value is unavailable, it can be calculated using the following formula:

Formula:

$$3\text{-year Aged Solar Reflectance} = (0.2 + 0.7 \times [\rho_{\text{initial}} - 0.2])$$

(where ρ_{initial} = Initial Solar Reflectance)

In addition to “solar reflectance” a secondary factor used is known as “thermal emittance,” which measures the material’s ability to release heat. The Solar Reflectance Index (SRI) combines these two factors into a simple to use index value.

Building Code Requirements

Starting Oct.1, 2014, the 2014 Los Angeles Green Building Code requires that roofing material used in residential buildings meet certain values for the “aged solar reflectance” and “thermal emittance”, or for “SRI”.

	Min. 3-yr Aged Solar Reflectance	Min. Thermal Emittance	SRI
Low-slope \leq 2:12	0.63	0.75	75
Steep-slope $>$ 2:12	0.20	0.75	16

Exceptions... Cool roof is NOT required for:

- 🏠 Roof repair; or
- 🏠 Roof replacement when the roof area being replaced is equal to or less than 50% of the total roof area; or
- 🏠 Where building-integrated photovoltaics (BIPV) are installed
- 🏠 Permits issued prior to January 1, 2015, for the replacement of an existing roof with asphalt roof shingles or asphalt composition roll roofing.

LADWP Rebates

LADWP’s cool roof rebates are available to single-family and multi-family residential customers, and are part of the Consumer Rebate Program.

Rebate Levels

- 🏠 The base rebate for qualifying roofs is \$0.20 per square foot
- 🏠 The enhanced rebate is \$0.30 per square foot

Roofing products must be tested and labeled by the Cool Roof Rating Council. A listing of rated products using the CRRC Rated Products Directory can be found at www.coolroofs.org/products/search.php

Qualifying Cool Roofs

To qualify as a cool roof under the LADWP Consumer Rebate Program, the roofing material must:

- 🏠 Have CRRC 3-year SRI value \geq 75 for low-slope (\leq 2:12) or \geq 16 for steep-slope ($>$ 2:12) roofs
- 🏠 For the enhanced rebate, have CRRC 3-year SRI value \geq 85 for low-slope (\leq 2:12) or \geq 35 for steep-slope ($>$ 2:12) roofs

How to Apply

LADWP advises customers to confirm rebate eligibility before making your purchase. Complete the Consumer Rebate Program application (available online at www.ladwp.com/rebatesandprograms) after purchasing and installing the product. All applications must be postmarked within 12 months of the purchase date. For your convenience, you may submit your application online or by mail.

Funds are available on a first-come, first-served basis. LADWP reserves the right to inspect and verify the installation of your products prior to releasing your rebate check. Rebates will be processed within six months of application submittal.

Documentation

Please include the following documentation with your application:

- 🏠 Original Proof of Purchase or Original Home Improvement Contract Invoice (with manufacturer, product make and model number)
- 🏠 A copy of your LADWP bill (Page 1)
- 🏠 A copy of the roofing permit

For More Information about LADWP Rebates:

Visit: www.ladwp.com/rebatesandprograms (click on “Building Products”) or **Call:** 1 800 DIAL DWP

For More Information about the 2014 Green Building Requirements:

Visit: www.ladbs.org or **Call:** LADBS at 3-1-1

Please note: Funding is limited and rebates are not guaranteed. This program shall at all times be subject to change or termination without notice.



City of Los Angeles Cool Roof Ordinance FAQ

Why did the City pass the Cool Roof Ordinance?

In March 2013, the City helped convene a cool roofs conference where researchers, policy makers, industry representatives, and other stakeholders gathered to exchange information about cool roofs. The conference identified a number of benefits that cool roofs would bring to Los Angeles, including reduced smog formation, reduced heat-related illness/death, and increased energy savings. Recognizing the array of benefits and the untapped potential for residential roofs, the City Council unanimously approved a residential cool roof requirement as part of the Los Angeles Green Building Code. After a grace period for the roofing industry to prepare for enforcement, the code went into full effect on January 1, 2015. The Department of Building and Safety is responsible for permitting and inspection, and LADWP broadened its residential cool roof incentives to support the transition to the new requirement. (See reverse for information on the incentive program.)

What cool roofing products are available to comply with the ordinance?

There are hundreds of products that comply with the ordinance which can be searched on the Cool Roofs Rating Council's (CRRC's) website at www.coolroofs.org/products. These products occur in a variety of colors across all types of roofs, including, asphalt shingles, tiles, flat roofs and coatings. Additionally, the City has been working with the roofing manufacturers and suppliers to provide easy to understand information about key compliant product types. Here are just a few sample images of compliant roof products:



Do cool roofs cost more?

Most types of compliant roofs (such as tiles, flat roofs, and coatings) have little or no increased costs over non-cool roofs.* Costs can increase for asphalt shingle roofing products when purchasing a color other than white. To offset increased costs, LADWP has enhanced its cool roof rebate to offer between \$0.20 and \$0.30 per square foot of roofing, found at www.ladwp.com/rebatesandprograms (click on "Building Products"). Additionally, the building owner should realize reduced energy consumption, better indoor comfort, and increased life expectancy of the roof.

How do I find compliant roofing products?

As noted in a previous section, to see the entire array of cool roof options, one can search www.coolroofs.org/products. Each search result links to product websites where you can inquire about local distributors. If you need further help identifying product options, you can also contact the CRRC at info@coolroofs.org or (866) 465-2523. The nonprofit organization Climate Resolve features guidance on its website <http://climateresolve.org/hot-city-cool-roofs>. Of course, your local contractor can often best advise on the right roof for you.

What about historic buildings or zones?

For historic buildings and zones, the approval process for cool roofs is the same as for any other roof. Cool clay tile products, in particular, are offered in a wide variety of colors and styles.

Do other efficiency measures, like increased insulation and radiant barriers, provide the same benefits as cool roofs?

No. While other measures may also cost-effectively save energy within a building, they do not provide the area wide cooling of cool roofs which helps reduce Los Angeles' pronounced urban heat island effect. In this era of rising temperatures, the additional benefits of cool roofs above and beyond energy savings include: reducing heat-related illness and death, reducing smog formation, and reducing cooling loads for all buildings in the City.

Where can I learn more about cool roofs and their benefits, along with the urban heat island effect?

The Global Cool Cities Alliance is a good place to learn about the science behind cool surfaces and benefits cool roofs bring to cities and their residents. The California Energy Commission's Consumer Energy Center is a good place to learn about the basics of cool roofs, in particular their role in saving consumers money on their energy bills.

For more information, please visit www.coolroofstoolkit.org or www.consumerenergycenter.org

*Energy Cost-Effectiveness Study for Cool Roofs, July 2014. TRC Solutions, Inc. Approved by the California Energy Commission.