

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

The 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	0.65	0.85	78
Steep-slope $>$ 2:12	0.25	0.85	20

Exceptions... Cool roof is NOT required for:

- Roof repair as defined in Section 100.1(b) of the California Energy Code; or
- Roof replacement when the roof area being replaced is equal to or less than 50% of the total roof area; or
- Roof replacement where solar systems are being installed; or
- Additions resulting in less than 500 square feet of added roof area or less than 50% of the total roof area, whichever is greater; or
- Roof construction that has a thermal mass over the roof membrane, including areas of vegetated (green) roofs weighing at least 25 pounds per square foot

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 \$0.60 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 <https://coolroofs.org/directory/roof>

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 78 for low-slope (\leq 2:12) or \geq 20 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.

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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 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. Recognizing the array of benefits (see below) cool roofs bring to Los Angeles 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, and has been subsequently enhanced. The Department of Building and Safety provides the roofing permits and code enforcement. The Department of Water and Power broadened its residential cool roof incentives to support the transition to the new requirement.

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 that published research showed include: reducing heat-related illness and death, reducing smog formation, and reducing cooling loads for all buildings in the City.

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 \$0.60 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.

*Energy Cost-Effectiveness Study for Cool Roofs, July 2016. TRC Solutions, Inc. Approved by the California Energy Commission.

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 <https://coolroofs.org/directory/roof>. 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:



How do I find compliant roofing products?

As noted above, to see the entire array of cool roof options, one can search <https://coolroofs.org/directory/roof>. 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. Coming soon, Climate Resolve will feature cool solutions on its website <http://climateresolve.org/urban-cooling>. Of course, your local contractor can also help identify the best 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.