**What is California’s Title 24?**

**Trevor Underwood • Jan 27, 2020**

<https://www.decra.com/title-24-cool-roofs-for-california-homeowners?utm_content=114080031&utm_medium=social&utm_source=linkedin&hss_channel=lcp-3063112>

As California’s population rapidly increased in the 1970’s and [the problems of urban heat islands](https://www.epa.gov/heat-islands), air quality, and stressed power grids became all too apparent, the California Building Standards Commission created Title 24 in 1978 with the hopes of:

* Reducing energy costs
* Decreasing greenhouse gas emissions
* Increasing reliability and availability of electricity
* Improving building occupant comfort
* Reducing the impact on the environment
* Enhancing sustainability by using materials with longer life cycles

Since 1978, California’s building efficiency standards have saved more than $70 billion in electricity and natural gas costs.

[Title 24, Part 6 of the California Code of Regulations](https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards) requires that California residents meet minimum energy efficiency standards in new and altered buildings.

Title 24 regulations cover a broad range of building systems including lighting, HVAC, hot water heating, natural gas, and electricity usage to name just a few. Roofing plays a major role in home energy efficiency and Title 24 has very specific standards requiring “cool roofs” for California residents.

We’ll focus here on how Title 24 applies to low-rise residential homes with traditional steep-sloped roof styles having a rise-to-run ratio greater than 2:12 (2 feet of rise for every 12 feet of roof span) or more than 9.5 degrees from horizontal.

**Title 24 Cool Roof Regulations Are in Effect For California Homes When:**

* The roofing project is in an affected California climate zone. Homes in zones 10-15 must meet cool roof standards.
* Any replacement, recovering, or recoating of the exterior surface of the existing roof, where greater than 50% of the existing roof surface area OR 2,000 square feet of the existing surface is re-roofed, whichever is less.

**DECRA Cool Roofs For California**

Lowering roof temperatures on the hot sunny days which prevail in California’s climate zones 10-15 significantly reduces energy costs and electricity consumption. The [Cool Roof Rating Council (CRRC)](https://coolroofs.org/about-crrc/overview) is the sole authority recognized by the California Energy Commission for certifying roofing products as “cool roof” materials. The CRRC rates roofing products and systems by measuring two important thermal properties:

Solar Reflectance (SR): The roofing material’s ability to reflect solar energy back into the atmosphere. Title 24 also rates SR after 3 years, a value known as aged solar reflectance.

Thermal Emittance (TE): The ability of the material to radiate absorbed heat up and away from the house.

Both of these thermal properties are measured and assigned values from 0 to 1. The higher the value the cooler the roof. By CRRC standards the minimum solar reflectance (SR) value is .20, and the minimum thermal emittance (TE) value is .75.

A third “cool roof” qualifier is the Solar Reflective Index (SRI) value of 16 which is calculated by combining thermal emittance and solar reflectance in a complex mathematical formula.

***“The SRI alternative is useful when a particular product exceeds the Energy Standards requirement for either the aged solar reflectance or the thermal emittance but does not meet both requirements.” — Energy Code Ace Resources***

DECRA cool color roofing systems easily meet the .20 Solar Reflectance requirement. Infrared blocking pigments and enhanced reflectivity decrease attic temperatures by 69% as compared to conventional asphalt shingles. The superior TE values of the Tuscan Sun and Antique Chestnut cool colors on DECRA stone-coated high-grade steel roofing products are among the highest thermal emittance materials available, rated by the CRRC at .97 and .98 respectively.  On a scale where the highest score is 1, you can’t do much better.

**The DECRA colors that meet the cool color standards of Title 24 are:**

* Tuscan Sun - All DECRA Profiles
* Woodland Green - All DECRA Profiles
* Sicilian Sand - All DECRA Profiles

**The Batten Installation Advantage: Energy Efficiency Above and Beyond Title 24**

[DECRA Tile](https://www.decra.com/metal-roofing-products/tile), [DECRA Shake](https://www.decra.com/metal-roofing-products/shake), and DECRA Shingle Plus roofing profiles are designed for installation on battens. Battens are a simple grid of 2x2 wood strips that create a continuous airspace of at least 1” between the roofing material and the roof deck.

This vital airspace increases thermal emittance tremendously by allowing heated air between the deck and the roofing materials to escape up and away from the house through ridge vents at the highest point of the roof. Battens provide a self-regulating “heat elevator”; the hotter the air, the faster it rises up through the air space and away from the home.

That means that even the darkest DECRA colors can be used with batten installations, and there’s no need to restrict your choice of DECRA hues to the Title 24 approved colors.

The batten installation technique improves energy efficiency so well that Title 24 makes a notable exception to the cool color rules and any color can be used with battens to meet Title 24 standards:

**2019 Title 24 exception to SECTION 150.2(b)1Hi**

**a. Air-space of 1.0 inch (25mm) is provided between the top of the roof deck to the**

**bottom of the roofing product.**

The fully walkable strength of stone-coated, high-grade, multi-layered steel DECRA Tile and DECRA Shake makes the energy-efficient batten installation possible. The batten grid method simply isn’t practical with conventional materials such as easily fractured clay or concrete tiles, fragile wood shakes, or floppy asphalt shingles that all require direct-to-deck support.

**The Benefits of DECRA Metal Roofing Especially For California Homeowners**

Aside from the energy-efficient requirements required by Title 24, California homeowners need to prepare for the unique elements of the California wildfire season, earthquakes, drought, mountain snows, and sudden deluges of rain.

No conventional roofing material offers more benefits for protecting California homes than DECRA, [the walk-away champion in every roofing product comparison category](https://cdn2.hubspot.net/hubfs/5712265/Website%20Files/Roofing%20Comparison%20Chart%20/DECRA%20Roofing%20Product%20Comparisons%20Chart.pdf), able to withstand the elements in every climate from the tropics to the arctic.

The roof is the first line of defense against the elements. All lightweight DECRA stone-coated steel roofing products are made in the U.S. and are ready to protect California homes and businesses with the armor of stone-coated high-grade steel roofing including:

* **Class A fire rating** and the highest resistance to fires ignited by flying embers.
* **Fully walkable** roofs with the highest UL2218 Class 4 impact rating and no limit on hail size.
* **Lightweight**DECRA roofing systems can frequently eliminate the need for a complete tear-off of the existing roof, diverting roofing waste from landfills and saving disposal costs and labor.
* DECRA’s **strength**combined with lightweight adds additional shear strength to the roof to improve the earthquake resistance of the building envelope. No other conventional material can add shear strength to the roof.
* **Exceptional wind uplift resistance** warrantied up to 120 mph makes DECRA the popular choice for homes in hurricane and tornado zones, so California homeowners can rest assured that their DECRA roof can easily withstand the [Santa Ana and Diablo](https://www.usatoday.com/story/news/nation/2019/11/01/california-fires-santa-ana-winds-diablo-forecast-end/4121919002/) winds when they occur.
* **All DECRA roofing profiles are designed for lifetime durability**, backed by the industry’s most comprehensive [Lifetime Limited Warranty](https://www.decra.com/lifetime-warranty), transferable for the first 20 years after the installation. Asphalt shingles last just 10-20 years even in dry sunny climates before [delaminating, curling, and fish mouthing](https://inspectapedia.com/roof/Fishmouth_Shingle_Wear.php) take their toll.
* **The Ageless Beauty** of DECRA and the wide variety of colors and forms can replicate nearly any conventional roofing material to [complement popular California architectural styles](https://www.decra.com/residential-roofing-gallery) such as Spanish Colonial, Mediterranean Villa, Mission Revival, and American Craftsman.
* **Enhanced resale home value** up to 6% is achievable with DECRA metal roofs, DECRA homeowners can [recoup as much as 85.9% of the installation](https://homeguides.sfgate.com/metal-roofs-improve-resale-value-home-54257.html) costs in energy savings, not to mention eliminating the need for expensive reroofing every 10-20 years. Over a million informed homeowners have chosen DECRA as the “one-and-done” roofing solution that provides ongoing Returns on Investment for the lifetime of the home or building.

**About DECRA Metal Roofing**

DECRA stone-coated steel roofing systems have been providing the first line of defense against the elements for homes and buildings for more than 60 years. DECRA Metal Roofing is unsurpassed in every product comparison category, from wind, fire, and impact resistance to energy efficiency and sustainability.

With a Lifetime Limited Warranty that goes far beyond the 10 or 20-year warranties of conventional roofing products, DECRA is the gold standard of modern roofing systems for architects, contractors, and homeowners who will settle for nothing less than the best. Proudly made in the U.S., DECRA’s product quality is matched by our operational excellence, with fully-stocked warehouses located throughout the country and reliable shipping just 72 hours after receiving your purchase order.