

California's 2008 Title 24 Performance Path Compliance Options By Climate Zone Using Eagle's Cool Roof Tiles



*Boosted Capistrano
3645 & 8645 Sunrise Blend*

*For New Construction of Residential
Low-Rise Steep-Slope Buildings
(Subchapter 8, Section 151)*



How to read this table

- Choose the California climate zone where your project is located.
- Choose one of the seven aged reflectance ranges based on the tile color or reflectance preference planned for your project.
- Read the corresponding % above T24 base compliance (2008 Energy Code) in the first row of the chosen aged reflectance range. This % change in T24 compliance margin is attributable to that reflectivity and emissivity range, when comparing to the minimum T24 compliance with default aged reflectivity of 10% and 85% emissivity.
- The Additional set of rows within the chosen aged reflectance range first shows a revised % above the minimum T24 compliance after reducing features (insulation, ducts, radiant barriers, etc.) due to including the associated T24 savings from the chosen aged reflectivity. Generally, this revised T24 % will be as close to zero (compliance) as possible. Next, the features that were reduced are shown, and lastly the corresponding \$ savings from the traded-off features is shown.

Assumptions For Reference House

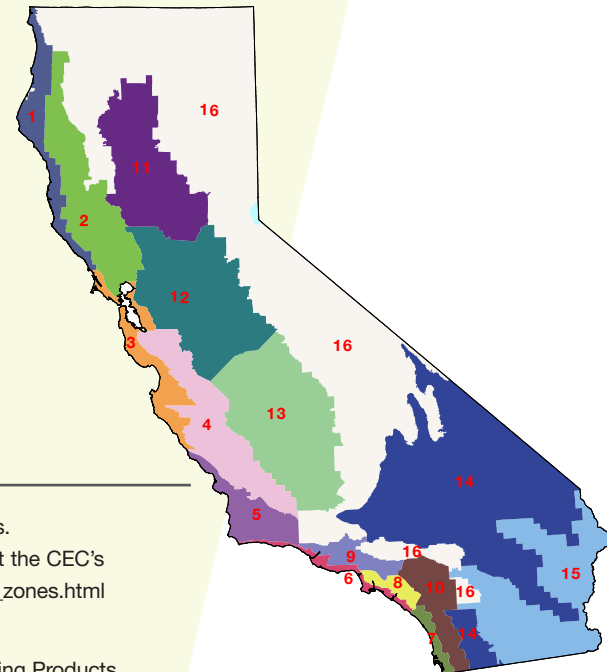
Floor Area 2123 sq ft
 Glazing / Windows 382 sq ft
 Attic Area 1372 sq ft 50 sq ft @ FAU Platform
 Exterior Wall 1399 (2x4) sq ft 591 (2x6) sq ft
 Floor Above Garage or Cantilever Area. 528 sq ft

Example: Climate Zone 13 at 30% Aged Reflectivity

- Increase in Title 24 compliance margin from 30% Aged Reflectivity vs. minimum compliance run at default reflectivity/emissivity: -3.5%

- Option 1: Revised Title 24 compliance margin after reducing features:
 - 1.0%
 - Reduced features: Roof R-30 to R-19 & Floor R-19 to R-13
 - Cost savings from reduced features: \$338

- Option 2: Revised Title 24 compliance margin after reducing features:
 - 0.4%
 - Reduced features: Walls R-19 to R-13, Duct R-6.0 to R-4.2
 - Cost savings from reduced features: \$245



Definitions

Climate Zone: One of the 16 California climate zones. To find out which climate zone your project is in, visit the CEC's website: www.energy.ca.gov/maps/building_climate_zones.html

Aged Reflectance: Solar reflectance value range. See enclosed aged reflectance values of Eagle Roofing Products colors as listed with the Cool Roof Rating Council.

Or visit the CRRC online at: www.coolroofs.org.

| Climate Zone | 1* | 2 | 3* | 4 | 5* | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | |
|--------------------------------------|---|-------|---|-------|-------------------------------|-------|-------------------------------|--|---|--|--|--|---|---|---|--|-------------------------------|
| 10% Aged Reflectance, 0.9 Emissivity | Percentage Above T24 Base Code from 10% Reflectivity | 0.2% | 3.3% | -0.2% | 0.9% | 0.9% | 2.2% | 1.3% | 1.9% | 3.6% | 0.5% | 0.8% | 0.4% | 1.6% | 1.7% | 0.6% | 0.2% |
| | Revised Percentage Above Code After Reducing Features, Feature(s) Reduced, Savings from Reductions (\$) | | 0.3% Attic R-30 to R-19 & Floor R-19 to R-13 \$338 | | | | 1.0% Floor R-19 to R-13 \$119 | 0.4% Floor R-19 to R-13 \$119 | 1.1% Floor R-19 to R-13 \$119 | 0.1% Attic R-30 to R-19 & Floor R-19 to R-13 \$338 | | | 0.7% Floor R-19 to R-13 \$119 | 0.7% Floor R-19 to R-13 \$119 | | | |
| 15% Aged Reflectance, 0.9 Emissivity | Percentage Above T24 Base Code from 15% Reflectivity | 0.0% | 3.7% | -0.4% | 1.0% | 0.7% | 2.0% | 1.7% | 2.6% | 4.3% | 1.4% | 1.2% | 0.7% | 2.0% | 2.0% | 1.4% | 0.3% |
| | Revised Percentage Above Code After Reducing Features, Feature(s) Reduced, Savings from Reductions (\$) | | 0.7% Attic R-30 to R-19 & Floor R-19 to R-13 \$338 | | | | 0.8% Floor R-19 to R-13 \$119 | 0.8% Floor R-19 to R-13 \$119 | 1.8% Floor R-19 to R-13 \$119 | 1.0% Attic R-30 to R-19 & Floor R-19 to R-13 \$338 | 0.6% Floor R-19 to R-13 \$119 | 0.2% Floor R-19 to R-13 \$119 | 1.2% Floor R-19 to R-13 \$119 | 0.3% Roof R-38 to R-30 & Floor R-19 to R-13 \$254 | 0.6% Roof R-49 to R-38 \$329 | | |
| 20% Aged Reflectance, 0.9 Emissivity | Percentage Above T24 Base Code from 20% Reflectivity | -0.2% | 4.0% | -0.6% | 1.1% | 0.4% | 1.8% | 2.1% | 3.4% | 5.2% | 1.6% | 1.1% | 2.5% | 2.3% | 2.3% | 0.8% | 0.4% |
| | Revised Percentage Above Code After Reducing Features, Feature(s) Reduced, Savings from Reductions (\$) | | 1.1% Attic R-30 to R-19 & Floor R-19 to R-13 \$338 | | | | 0.6% Floor R-19 to R-13 \$119 | 1.2% Floor R-19 to R-13 \$119 | 0.1% Attic R-30 to R-19 & Floor R-19 to R-13 \$338 | 2.0% Attic R-30 to R-19 & Floor R-19 to R-13 \$338 | 0.0% Attic R-30 to R-19 \$219 | 0.7% Floor R-19 to R-13 \$119 | 0.1% Walls R-19 to R-13, Floor R-19 to R-13 \$214 | 0.6% Roof R-38 to R-30 & Floor R-19 to R-13 \$254 | 0.8% Roof R-49 to R-38 & Floor R-19 to R-13 \$448 | | |
| 30% Aged Reflectance, 0.9 Emissivity | Percentage Above T24 Base Code from 30% Reflectivity | -0.6% | 4.7% | -1.0% | 1.4% | -0.2% | 1.3% | 2.8% | 4.7% | 6.7% | 4.1% | 2.5% | 1.8% | 3.5% | 3.0% | 4.0% | 0.7% |
| | Revised Percentage Above Code After Reducing Features, Feature(s) Reduced, Savings from Reductions (\$) | | 0.2% Attic R-30 to R-19, Floor R-19 to R-13 & EF 0.62 to 0.58 \$488 | | 0.3% Floor R-19 to R-13 \$119 | | | 1.9% Floor R-19 to R-13 \$119 | 1.6% Attic R-30 to R-19 & Floor R-19 to R-13 \$338 | 1.6% Attic R-38 to R-30, Floor R-19 to R-13 & EF 0.62 TO 0.58 \$488 | 0.9% Floor R-19 to R-13 & Duct R-6.0 to R-4.2 \$269 | 0.8% Attic R-30 to R-19 \$219 | 0.7% Floor R-19 to R-13 \$119 | 1.0% Roof R-30 to R-19 & Floor R-19 to R-13 \$338 | 1.3% Attic R-38 to R-30, Floor R-19 to R-13 & EF 0.62 to 0.58 \$406 | 0.1% Roof R-49 to R-38, Floor R-19 to R-13, Ducts R-6.0 to R-4.2 & Remove Pipe Insulation to Kitchen \$698 | |
| 40% Aged Reflectance, 0.7 Emissivity | Percentage Above T24 Base Code from 40% Reflectivity | -1.0% | 5.3% | -1.4% | 1.7% | -0.9% | 0.8% | 3.4% | 6.0% | 8.2% | 5.9% | 3.4% | 2.6% | 4.5% | 3.7% | 5.8% | 0.9% |
| | Revised Percentage Above Code After Reducing Features, Feature(s) Reduced, Savings from Reductions (\$) | | 1.0% Attic R-30 to R-19, Floor R-19 to R-13 & EF 0.62 to 0.58 \$488 | | 0.6% Floor R-19 to R-13 \$119 | | | 0.2% Attic R-30 to R-19, Floor R-19 to R-13 \$338 | 0.3% Attic R-30 to R-19, Wall R-19 to R-13 & Floor R-19 to R-13 \$433 | 0.2% Attic R-38 to R-30, Wall R-19 to R-13, Floor R-19 to R-13 & EF 0.62 TO 0.58 \$583 | 0.0% Attic R-30 to R-19, Floor R-19 to R-13, Ducts 6.0 to 4.2 & Non. Insul. Entry Door \$588 | 0.9% Attic R-30 to R-19 & Floor R-19 to R-13 \$338 | 0.6% Attic R-38 to R-30 & Floor R-19 to R-13 \$254 | 0.5% Roof R-30 to R-19, Wall R-19 to R-13 & Floor R-19 to R-13 \$214 | 1.0% Attic R-38 to R-30, Walls R-19 to R-13 & Floor R-19 to R-13 \$351 | 0.7% Roof R-49 to R-38, Walls R-19 to R-13, Floor R-19 to R-13, Ducts R-6.0 to R-4.2 & Remove Pipe Insulation to Kitchen \$793 | 0.0% Attic R-38 to R-30 \$137 |
| 50% Aged Reflectance, 0.7 Emissivity | Percentage Above T24 Base Code from 50% Reflectivity | -1.4% | 5.9% | -1.9% | 1.9% | -1.5% | 0.2% | 3.9% | 7.1% | 9.7% | 7.7% | 4.3% | 3.2% | 5.5% | 4.4% | 7.5% | 1.0% |
| | Revised Percentage Above Code After Reducing Features, Feature(s) Reduced, Savings from Reductions (\$) | | 1.6% Attic R-30 to R-19, Floor R-19 to R-13 & EF 0.62 to 0.58 \$488 | | 0.7% Floor R-19 to R-13 \$119 | | | 0.9% Attic R-30 to R-19 & Floor R-19 to R-13 \$338 | 1.8% Attic R-30 to R-19, Wall R-19 to R-13 & Floor R-19 to R-13 \$433 | 2.0% Attic R-38 to R-30, Wall R-19 to R-13, Floor R-19 to R-13 & EF 0.62 TO 0.58 \$583 | 2.2% Attic R-30 to R-19, Floor R-19 to R-13, Ducts 6.0 to 4.2 & Non. Insul. Entry Door \$588 | 0.6% Attic R-30 to R-19, Floor R-19 to R-13 & EF 0.62 to 0.58 \$488 | 1.4% Attic R-38 to R-30 & Floor R-19 to R-13 \$254 | 1.7% Attic R-30 to R-19, Wall R-19 to R-13 & Floor R-19 to R-13 \$433 | 0.2% Attic R-38 to R-30, Wall R-19 to R-13, Floor R-19 to R-13 & EF 0.62 to 0.58 \$501 | 0.3% Attic R-49 to R-30, Wall R-19 to R-13, Non. Insul. Entry Door, EF 0.62 to 0.58, Remove Pipe Insulation to Kitchen & Ducts R-6.0 to R-4.2 \$1180 | 0.2% Attic R-38 to R-30 \$137 |
| 60% Aged Reflectance, 0.7 Emissivity | Percentage Above T24 Base Code from 60% Reflectivity | -1.9% | 6.4% | -2.4% | 2.0% | -2.3% | -0.4% | 4.3% | 8.3% | 11.2% | 9.4% | 5.2% | 4.0% | 6.6% | 5.2% | 9.3% | 1.2% |
| | Revised Percentage Above Code After Reducing Features, Feature(s) Reduced, Savings from Reductions (\$) | | 2.2% Attic R-30 to R-19, Floor R-19 to R-13 & EF 0.62 to 0.58 \$488 | | 0.8% Floor R-19 to R-13 \$119 | | | 1.3% Attic R-30 to R-19 & Floor R-19 to R-13 \$338 | 3.2% Attic R-30 to R-19, Wall R-19 to R-13 & Floor R-19 to R-13 \$433 | 3.7% Attic R-30 to R-19, Wall R-19 to R-13, Floor R-19 to R-13 & EF 0.62 TO 0.58 \$583 | 1.3% Attic R-30 to R-19, Floor R-19 to R-13, Ducts 6.0 to 4.2 & Non. Insul. Entry Door \$683 | 1.2% Attic R-30 to R-19, Floor R-19 to R-13 & Floor R-19 to R-13 \$433 | 0.6% Attic R-38 to R-30, Floor R-19 to R-13 & EF 0.62 to 0.58 \$406 | 1.2% Attic R-30 to R-19, Wall R-19 to R-13, Floor R-19 to R-13 & Ducts R-6.0 to R-4.2 \$583 | 0.0% Attic R-38 to R-30, Wall R-19 to R-13, Floor R-19 to R-13 & Ducts R-6.0 to R-4.2 \$501 | 0.8% Attic R-49 to R-19, Wall R-19 to R-13, Non. Insul. Entry Door, EF 0.62 to 0.58, Remove Pipe Insulation to Kitchen & Ducts R-6.0 to R-4.2 \$1400 | 0.4% Attic R-38 to R-30 \$137 |
| 70% Aged Reflectance, 0.7 Emissivity | Percentage Above T24 Base Code from 70% Reflectivity | -2.4% | 6.9% | -2.9% | 2.5% | -2.8% | 0.1% | 4.8% | 8.8% | 11.7% | 9.9% | 5.7% | 4.5% | 7.1% | 5.7% | 9.8% | 1.3% |
| | Revised Percentage Above Code After Reducing Features, Feature(s) Reduced, Savings from Reductions (\$) | | 2.7% Attic R-30 to R-19, Floor R-19 to R-13 & EF 0.62 to 0.58 \$488 | | 0.9% Floor R-19 to R-13 \$119 | | | 1.4% Attic R-30 to R-19 & Floor R-19 to R-13 \$338 | 3.4% Attic R-30 to R-19, Wall R-19 to R-13 & Floor R-19 to R-13 \$433 | 3.9% Attic R-30 to R-19, Wall R-19 to R-13, Floor R-19 to R-13 & EF 0.62 TO 0.58 \$583 | 1.4% Attic R-30 to R-19, Floor R-19 to R-13, Ducts 6.0 to 4.2 & Non. Insul. Entry Door \$683 | 1.3% Attic R-30 to R-19, Floor R-19 to R-13 & Floor R-19 to R-13 \$433 | 0.7% Attic R-38 to R-30, Floor R-19 to R-13 & EF 0.62 to 0.58 \$406 | 1.3% Attic R-30 to R-19, Wall R-19 to R-13, Floor R-19 to R-13 & Ducts R-6.0 to R-4.2 \$583 | 0.1% Attic R-38 to R-30, Wall R-19 to R-13, Floor R-19 to R-13 & Ducts R-6.0 to R-4.2 \$501 | 0.9% Attic R-49 to R-19, Wall R-19 to R-13, Non. Insul. Entry Door, EF 0.62 to 0.58, Remove Pipe Insulation to Kitchen & Ducts R-6.0 to R-4.2 \$1400 | 0.5% Attic R-38 to R-30 \$137 |

Notes: Unrated products with no stated Aged Reflectivity value, and those with aged ratings below 15% default to 10% under the T24 Compliance Performance Approach. In Climate Zones 1, 3, and 5, which are all coastal climate zones, it is most beneficial to use darker tile colors with lower reflectivity levels, or dark tiles with no stated reflectivity ratings.

Disclaimer: This analysis provided by ConSol using multiple Micropas 8.1 runs for each climate zone and reflectivity level. ConSol is a leading energy consultant for production homebuilders. To have your project evaluated by ConSol, please call Mark Kindelberger at 209.473.5000 or email: MKindelberger@ConSol.wa. All savings depicted are for example purposes only, and are for a single family home of the size and specifications detailed in the assumptions included in this brochure. For illustration purposes only. Savings will vary by home design and location.



Eagle's Top Selling Roof Tile Colors Grouped by Reflectivity Ranges

For a complete list of products, please contact your Eagle Sales Representative, visit www.eagleroofing.com, or view a current regional Eagle brochure.

Unrated Reflectivity: Top 8 Sellers



Sierra Madre
No: 5503



Concord Blend
No: 4602



Arroyo Tan
No: 5570



El Morado Blend
No: SHC8709



Light Brown Range
No: 5678



Nantucket
No: SCP8802



Fawn Gray Flashed
No: 5582



Puesta Del Sol Blend
No: SHC8711

15-19% Aged Reflectivity: Top 6 Selling Products



Sunrise Blend
No: 3645
CRR: 0918-0030
Ref Emi SRI **A.Ref** A.SRI
.15 .93 14 **.17** 17



Arcadia
No: 4502
CRR: 0918-0043
Ref Emi SRI **A.Ref** A.SRI
.13 .94 12 **.15** 15



San Benito Blend
No: 3605
CRR: 0918-0031
Ref Emi SRI **A.Ref** A.SRI
.20 .92 20 **.20** 20



Los Padres Blend
No: 3680
CRR: 0918-0013
Ref Emi SRI **A.Ref** A.SRI
.22 .91 22 **.21** 21



Brown Gray Range
No: 5687
CRR: 0918-0028
Ref Emi SRI **A.Ref** A.SRI
.13 .91 11 **.15** 13



Wthrd. Terracotta Flshd.
No: 2520
CRR: 0918-0038
Ref Emi SRI **A.Ref** A.SRI
.19 .93 19 **.19** 19



Santa Paula
No: 2549
CRR: 0918-0049
Ref Emi SRI **A.Ref** A.SRI
.20 .89 18 **.20** 18



Ocotilla
No: 2598
CRR: 0918-0001
Ref Emi SRI **A.Ref** A.SRI
.25 .80 21 **.24** 19



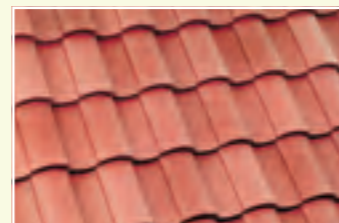
Kings Canyon Blend
No: 5634
CRR: 0918-0044
Ref Emi SRI **A.Ref** A.SRI
.13 .94 12 **.15** 15



Brown Range
No: 4689
CRR: 0918-0026
Ref Emi SRI **A.Ref** A.SRI
.15 .92 14 **.17** 16



Walnut Creek Blend
No: 3773
CRR: 0918-0037
Ref Emi SRI **A.Ref** A.SRI
.20 .94 21 **.20** 21



Kona Red Range
No: 3698
CRR: 0918-0018
Ref Emi SRI **A.Ref** A.SRI
.25 .83 22 **.24** 21

30-39% Aged Reflectivity: Top 3 Selling Products



Terracotta Gold*
No: 2118
CRR: 0918-0002
Ref Emi SRI **A.Ref** A.SRI
.35 .76 32 **.31** 27



Ridgecrest*
No: 4258
CRR: 0918-0008
Ref Emi SRI **A.Ref** A.SRI
.44 .93 51 **.37** 42



Arrowhead Gray*
No: 2209
CRR: 0918-0010
Ref Emi SRI **A.Ref** A.SRI
.34 .76 31 **.30** 31

40-49% Aged Reflectivity: Top 2 Selling Products



San Fernando*
No: 2203
CRR: 0918-0009
Ref Emi SRI **A.Ref** A.SRI
.48 .79 52 **.40** 41



Sonora Vista*
No: 2247
CRR: 0918-0005
Ref Emi SRI **A.Ref** A.SRI
.55 .83 63 **.45** 49

50-59% Aged Reflectivity: Top 2 Selling Products

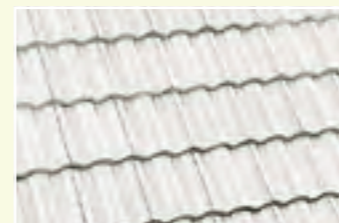


Sun Valley*
No: 3241
CRR: 0918-0024
Ref Emi SRI **A.Ref** A.SRI
.68 .89 83 **.54** 64



Coconut Creek*
No: 4388
CRR: 0918-0022
Ref Emi SRI **A.Ref** A.SRI
.66 .91 81 **.52** 66

60-69% Aged Reflectivity: Top 2 Selling Products



White*
No: 2800
CRR: 0918-0007
Ref Emi SRI **A.Ref** A.SRI
.77 .91 96 **.60** 72



White*
No: 4800
CRR: 0918-0007
Ref Emi SRI **A.Ref** A.SRI
.77 .91 96 **.60** 72

Manufacturing and Stocking Yards

Southern California
2352 N. Locust Ave.
Rialto, CA 92377
Phone: 800-300-3245
Fax: 909-854-7181

Northern California
4555 S. McKinley
Stockton, CA 95206
Phone: 800-998-3245
Fax: 209-234-4366

Design Centers
Southern California
17875 Sky Park Circle, Suite F
Irvine, CA 92614
Phone: 949-553-8333
Fax: 949-553-9556

Southern California
2352 N. Locust Ave.
Rialto, CA 92377
Phone: 800-400-3245
Fax: 909-822-5940

Northern California
9001 Foothills Blvd., Suite 120
Roseville, CA 95747
Phone: 916-789-4555
Fax: 916-789-8746



Corporate Offices
3546 N. Riverside Ave.
Rialto CA 92377
Phone: 909-822-6000

www.eagleroofing.com

Notice: To ensure your satisfaction with your tile choice, we request you obtain a current tile sample; or request addresses in your area from your local Design Center/ Eagle Representative.