

TECHNICAL BULLETIN

MEETING COOL ROOF CODE REQUIREMENTS IN CALIFORNIA WITH OWENS CORNING® ASPHALT SHINGLES

APRIL 12. 2024

Issue Description:

Owens Corning Roofing has multiple asphalt shingle options that can meet cool roof code requirements in California. These requirements are constantly evolving and can vary by region in the state. Installers should verify specific requirements with their local building department prior to beginning a job.

How do Owens Corning® asphalt shingles comply with codes?

Owens Corning* asphalt shingles use the minimum Solar Reflectance Index (SRI) compliance path to meet the various cool roof codes in California. SRI is a mathematical calculation based on the shingle's aged solar reflectance and thermal emittance. It measures how hot the shingle surface is likely to become when exposed to solar radiation. Shingles with a higher SRI rating are cooler in the sunshine. In some California locations, asphalt shingles must exceed a minimum SRI value (approximately "16") to comply with the building codes.

How do the code requirements vary by region in California?

As of today, the following table and map shows how the cool roof code requirements vary by region, barring local code adoption/enforcement from individual jurisdictions.

CALIFORNIA LOCATION REQUIREMENT TYPE		SRI MINIMUM	
City of Los Angeles ¹	Mandatory	20	
Unincorporated areas of Los Angeles County ¹	Mandatory	20	
All other regions in Climate Zones 10-15 (Title 24, Part 6) ²	Tradeoff	16	
All other regions in Climate Zones 1-9, 16 (Title 24, Part 6) ²	No Requirements	None	

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- 1. For the Green Building Standards Code of Los Angeles County and Los Angeles City Cool Roofs Ordinance, asphalt shingles must meet or exceed an SRI value of 20 for all new construction and reroof applications in residential and commercial buildings.
- 2. The rest of the state, including other incorporated areas of Los Angeles County, falls under the requirements contained in California's Building Energy Efficiency Standards Title 24, Part 6. Whether any requirements may apply is based on the building's location relative to the 16 California climate zones established in the Standards. For zones 1-9 and 16, there are no cool roof requirements. In climate zones 10-15, asphalt shingles must meet or exceed an SRI of 16 for all new construction applications and reroof applications when greater than 50% of the roof is removed.

These criteria apply to all residential and commercial buildings. In zones 10-15, installing a cool roof with an SRI that meets or exceeds 16 is one of three options to demonstrate code compliance. Therefore, a cool roof is considered a 'tradeoff' option. Asphalt shingles with an SRI value under 16 can be used to comply in these areas. Refer to the Building Energy Efficiency Standards Title 24, Part 6 for the details on these alternative compliance paths. In most cases, contractors are complying with the code by installing a cool asphalt shingle roof that meets or exceeds 16 SRI.

Please contact 419-248-6557 for additional information. Email: gettech@owenscorning.com

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What Owens Corning® asphalt shingle products meet the code requirements?

PRODUCT	COLORS	CRRC PRODUCT ID	SOLAR REFLECTANCE	THERMAL EMITTANCE	SOLAR REFLECTANCE INDEX (SRI)
Woodmoor®	Mountainside	0890-0027	0.19	0.91	18
	Night sky	0890-0028	0.19	0.91	18
	Sand Castle	0890-0029	0.19	0.91	18
Woodcrest®	Mountainside	0890-0027	0.19	0.91	18
	Night Sky	0890-0028	0.19	0.91	18
	Sand Castle	0890-0029	0.19	0.91	18
TruDefinition® Duration MAX®	Forest Brown^^	0890-0018A	0.18	0.92	17
	Mountainside^^	0890-0016A	0.19	0.91	19
	Night Sky^^	0890-0026	0.18	0.90	16
	Sand Castle^^	0890-0020	0.17	0.92	17
	Summerwood^^	0890-0015A	0.18	0.91	17
TruDefinition® Duration® COOL Plus	Cliffside Gray^^	0890-0031	0.20	0.93	21
	Copper Trail^^	0890-0030	0.22	0.92	22
	Golden Meadow^^	0890-0033	0.21	0.93	22
	Midnight^^	0890-0038	0.21◊	0.9100	21#
	Mystic Gray^^	0890-0032	0.22	0.93	23
	Prairie Wood^^	0890-0035	0.20	0.93	21
	Rolling Stone^^	0890-0034	0.21	0.92	22
TruDefinition® Duration® COOL	Amber^^	0890-0009	0.23	0.92	24
	Oyster Shell^^	0890-0012	0.23	0.93	24
	Shasta White^^	0890-0008	0.29	0.87	29
	Sierra Gray^^	0890-0013	0.20	0.92	20
	Forest Brown^^	0890-0018A	0.18	0.92	17
	Mojave^^	0890-0017A	0.19	0.91	18
	Mountainside^^	0890-0016A	0.19	0.91	19
	Night Sky^^	0890-0026	0.18	0.90	16
	Sand Castle^^	0890-0020	0.17	0.92	17
	Summerwood^^	0890-0015A	0.18	0.91	17
Oakridge®	Amber	0890-0009	0.23	0.92	24
	Cliffside Gray	0890-0036	0.21	0.93	21
	Golden Meadow	0890-0037	0.21	0.92	22
	Shasta White	0890-0002	0.28	0.91	30
	Sierra Gray	0890-0013	0.20	0.92	20
	Sand Castle	0890-0020	0.17	0.92	17

The table to the left shows the wide array of Owens Corning® asphalt shingle products that comply with cool roof code requirements throughout California. For our Compton Plant Service area, we have:

- 34 products that meet or exceed 16 SRI
- 16 products that meet or exceed 20 SRI

Thank you for supporting Owens Corning Roofing. Please contact your Owens Corning Area Sales Manager for information and any other questions relative to our complete asphalt shingle product offering in the Compton Plant Service Area.

April 12, 2024

Please contact 419-248-6557 for additional information. Email: gettech@owenscorning.com

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[^] Features Patented SureNail® Technology.

Aged solar reflectance calculated based on equation provided in California Energy Code (Title 24, Part 6).
 Indicates initial thermal emittance.

^{**} SRI calculation based on calculated aged solar reflectance and initial thermal emittance. SRI is calculated using California Energy Commission SRI calculator worksheet and it is calculated in accordance with ASTM E1980.