

LEARN ABOUT COOL ROOFS AND WALLS: SUPPORTING CODES, PROGRAMS & STANDARDS WITH CRRC RATINGS

T HIS DOCUMENT PROVIDES helpful information to jurisdictions and programs that require, promote, or are considering the adoption of cool roofs and/or cool exterior walls to reduce building energy use, mitigate urban heat islands, and/or meet climate and resilience goals. Referencing the Cool Roof Rating Council's (CRRC) product ratings, rating programs, or standards in cool roof or wall policies and programs will help consumers with compliance and local jurisdictions with enforcement of those policies and programs.

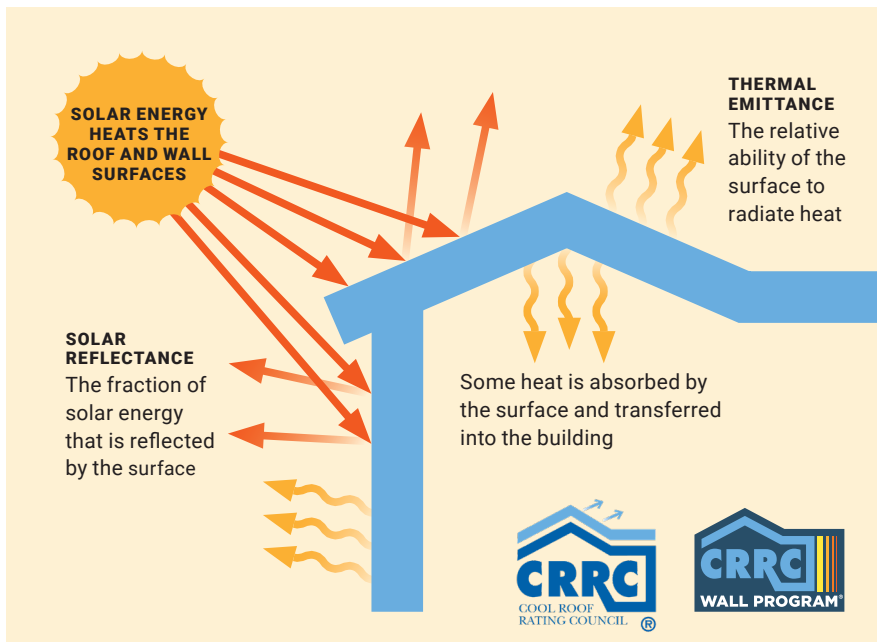


IMAGE CREDIT: COOL ROOF RATING COUNCIL

This illustration describes the flow of radiant energy as heat between the sun, roof and wall surfaces, building interior, and surroundings. The higher the solar reflectance, the more solar energy is reflected away from the surface. Some of the solar energy is absorbed by the surface as heat. The higher the thermal emittance, the more absorbed heat is radiated away from the surface.

WHAT ARE COOL ROOFS AND WALLS?

- These materials efficiently reflect solar energy and radiate heat. Cool roofs and walls can be made in a variety of colors and styles—they aren't necessarily white. For example, some "cool" products use darker-colored pigments that are highly reflective in the near infrared (non-visible) portion of the solar spectrum.
- The two basic characteristics that determine the "coolness" of a roof or wall surface material are solar reflectance and thermal emittance. Both properties are measured on a scale from 0 to 1, where 1 means 100% reflective or emissive.

WHAT IS A CRRC THIRD-PARTY PRODUCT RATING?

- Informs end users about a product's ability to reduce heat gain
- Surface radiative properties measured by Accredited Independent Test Labs in accordance with consensus developed standards
- Published in online directories and displayed on product labels


EXAMPLES OF CRRC REFERENCES


- ASHRAE Standard 90.1
- California Building Energy Efficiency Standards (Title 24, Part 6)
- Chicago Building Code
- International Energy Conservation Code (IECC)
- LEED v4.1- Sustainable Sites Credit - Heat Island Reduction
- Louisville Cool Roof Incentive Program

➡ SEE MANY MORE EXAMPLES AT COOLROOFS.ORG ◀

"Every roofing product installed in construction...shall have a clearly visible packaging label that lists the emittance and the initial and 3-year aged solar reflectance, or a CRRC Rapid Rating for solar reflectance, tested in accordance with CRRC-1" (2022 California Title 24, Part 6, Section 10-113(a))

"Roofing products must be certified by the Cool Roof Rating Council" (louisvilleky.gov)"

	Rated Product ID #: 0000-0000		
		Initial	Aged
	Solar Reflectance	0.00	0.00
	Thermal Emittance	0.00	0.00
<p>The ratings above are subject to CRRC rating program conditions, requirements, and limitations. Visit coolroofs.org for important information and disclaimers about CRRC rating conditions, requirements, and limitations.</p>			

	Wall Rated Product ID #: W000-0000		
		Initial	Aged
	Solar Reflectance	0.00	Pending
	Thermal Emittance	0.00	Pending
<p>The ratings above are subject to CRRC rating program conditions, requirements, and limitations. Visit coolroofs.org for important information and disclaimers about CRRC rating conditions, requirements, and limitations.</p>			

The standard CRRC Roof Product Label and Wall Product Label Usage requirements can be viewed at COOLROOFS.ORG

CRRC PROGRAMS AND STANDARDS

CRRC-1 ROOF PROGRAM

- Rates and lists radiative properties of roofing products
- Launched in 2002
- Program detailed in the CRRC-1 Program Manual, which references the ANSI/CRRC S100 Standard

[LEARN MORE](#)

ANSI/CRRC S100 STANDARD

- Standard contains testing and weathering protocols for radiative properties of roofing products
- First published in 2010 and is updated regularly
- Standard developed through the consensus process open to the general public

[LEARN MORE](#)

CRRC-2 WALL PROGRAM

- Rates and lists radiative properties of exterior wall products
- Launched in 2022
- Program detailed in the CRRC-2 Program Manual, which also contains testing and weathering protocols for radiative properties of exterior wall products

[LEARN MORE](#)

ACCURATE, CREDIBLE, AND RELIABLE RATINGS

- Standards developed and maintained by a body of experts
- Accredited Independent Test Labs and CRRC-approved manufacturer test labs
- Three-year natural weathering by accredited test farms in three designated U.S. climates to reflect long-term performance of rated products
- Verification testing to ensure products reflect their CRRC ratings
- Ratings help consumers select products to meet requirements of programs and policies that seek to reduce energy consumption or mitigate urban heat islands




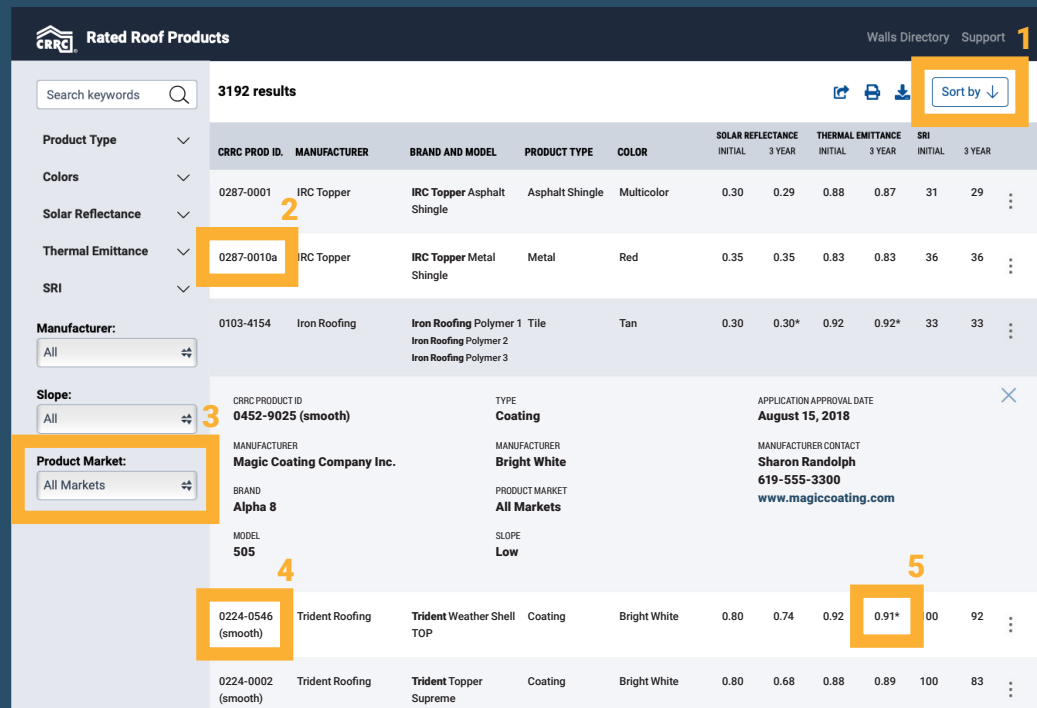
The CRRC was established in 1998 as a 501(c)(3) nonprofit organization that develops fair, accurate, and credible methods for evaluating and labeling the surface radiative properties (solar reflectance and thermal emittance) of roofing and exterior wall products. The CRRC is an accredited ISO/IEC 17065 product certification body and an ANSI Accredited Standards Developer Organization.

[LEARN MORE AT COOLROOFS.ORG](http://COOLROOFS.ORG)




WHY USE CRRC RATED PRODUCTS DIRECTORIES?

- Unbiased performance information provided
- Free online at <https://coolroofs.org/directory>
- Wide array of rated roof and wall products
- Supports desktop and mobile use
- Quick and convenient search, filter, and sort features
- Use  to obtain a link to your dynamic search results!
- Helpful job aid for contractors, architects, building managers, and more!



The screenshot shows the CRRC Rated Roof Products directory interface. It includes a search bar, a list of filters (Product Type, Colors, Solar Reflectance, Thermal Emittance, SRI, Manufacturer, Slope, Product Market), and a table of products. The table has columns for CRRC Product ID, Manufacturer, Brand and Model, Product Type, Color, Solar Reflectance (Initial and 3 Year), Thermal Emittance (Initial and 3 Year), and SRI (Initial and 3 Year). A 'Sort by' dropdown menu is highlighted with a blue box and labeled '1'. A product ID '0287-0010a' is highlighted with a blue box and labeled '2'. A product ID '0452-9025 (smooth)' is highlighted with a blue box and labeled '3'. A product ID '0224-0546 (smooth)' is highlighted with a blue box and labeled '4'. A product ID '0224-0002 (smooth)' is highlighted with a blue box and labeled '5'. A 'Sort by' dropdown menu is also highlighted with a blue box and labeled '5'.

RESULTS ARE DISPLAYED IN A SORTABLE TABLE:

- 1 Use the  button to sort and reorder products
- 2 A letter after the CRRC Product ID means the product is a reformulation of a previously rated product
- 3 Indicates if the product is sold to other roofing manufacturers, end-use customers, or both
- 4 Indicates if the coating was tested over a smooth or rough substrate, as defined in the CRRC-1 Product Rating Program Manual
- 5 An asterisk indicates the product obtained a Rapid Rating, which will be replaced by three-year aged values once the weathering period is complete

IMPACTS OF COOL ROOFS AND WALLS



Increase occupant comfort by keeping the building cooler during warmer weather



Cut energy consumption by reducing air-conditioning use



Improve grid stability and decrease energy demand by reducing air-conditioning needs during peak periods



Reduce the urban heat island effect by reducing the heat retained by roofs and walls in urban areas, resulting in lower air temperatures



Improve air quality by lowering outdoor temperatures, which reduces smog production and fossil-fuel generated emissions from air-conditioning use.

Please note that individual results of cool roofs and walls vary based on a variety of factors related to climate, installation, material, construction and energy use patterns.

CONTACT US

Visit the CRRC website at
WWW.COOLROOFS.ORG

OR CONTACT US DIRECTLY

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