

# is it COOL?

The CRRC Rated Products Directory provides the radiative performances of roofing materials

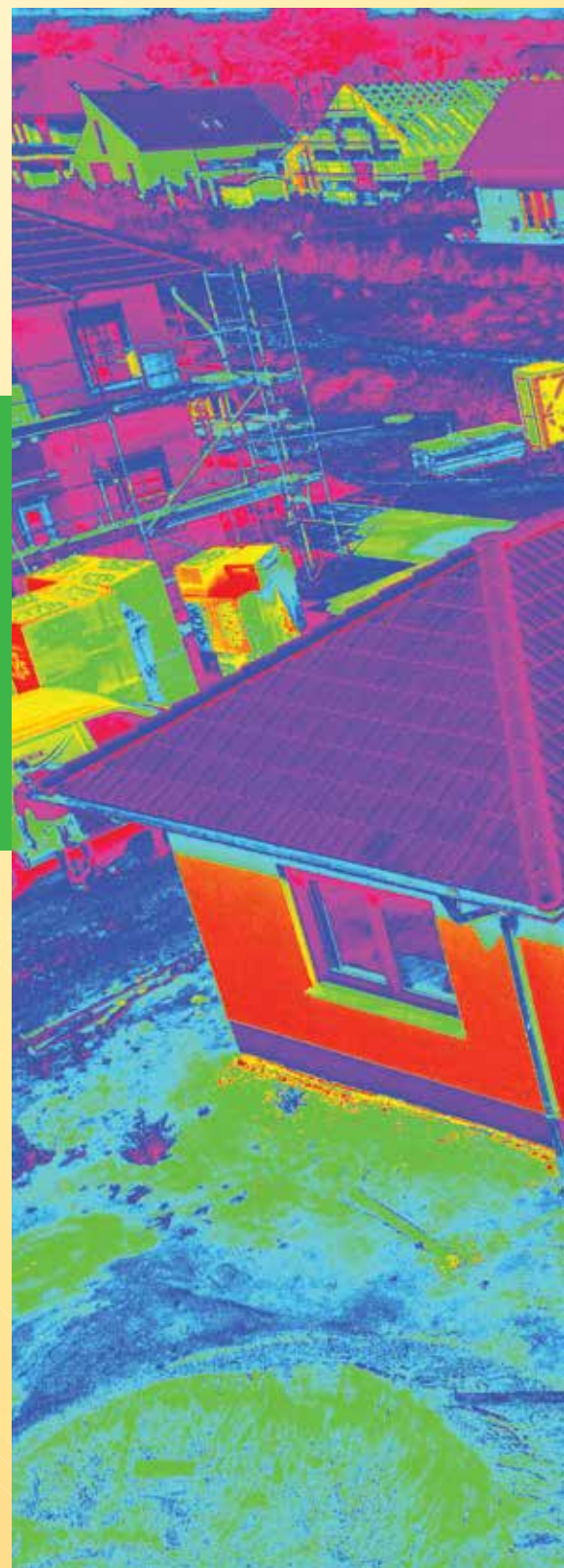
by Sarah Schneider

It can be a daunting task to search for roofing products that meet a building owner's needs while also complying with local building code requirements, voluntary green building standards and/or rebate programs. Add in the need to locate "cool roof" products, and one can easily get lost in product literature and manufacturer websites.

The Cool Roof Rating Council®'s Rated Products Directory is a quick, convenient resource that can be used for identifying a variety of roofing products, including "cool" products.

## An overview

Each product in the Rated Products Directory has a CRRC product rating that indicates the radiative performance—solar reflectance, thermal emittance and solar reflective index—of a roofing product. Solar reflectance is the fraction of solar radiation reflected away from a roof, and thermal emittance is the efficiency by which a roof reradiates absorbed heat.









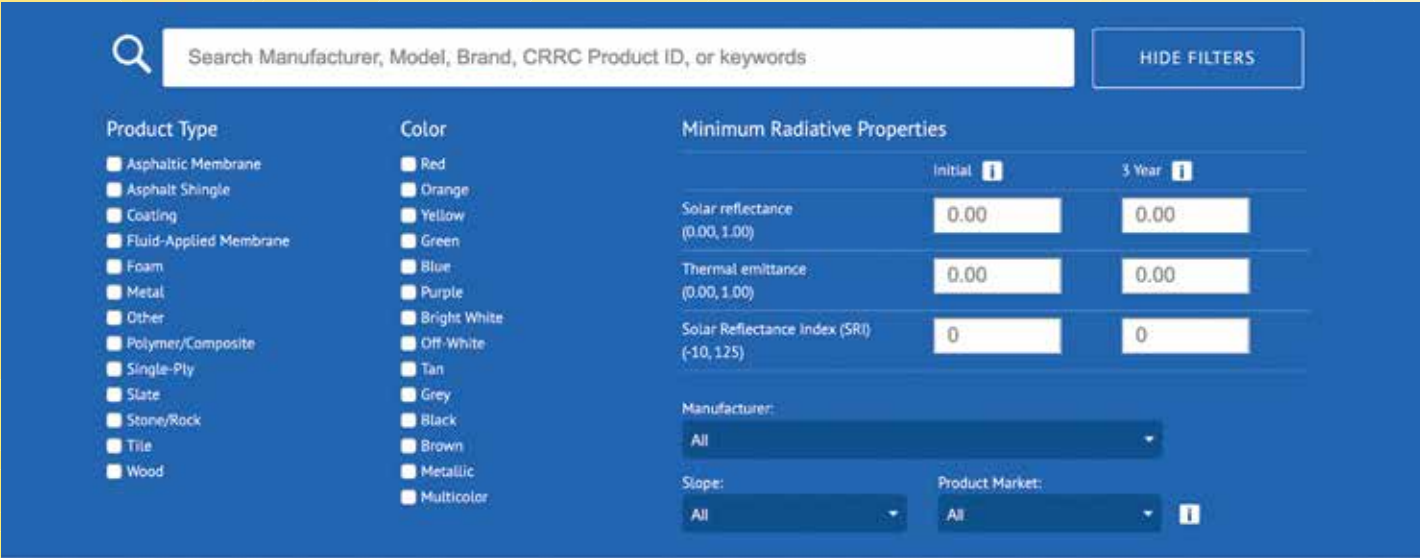


Figure 1: Filtering CRRC's Rated Products Directory


	<b>Solar Reflectance</b>	<b>Initial</b>	<b>Weathered</b>
	<b>Thermal Emittance</b>	<b>0.00</b>	<b>Pending</b>
	<b>Rated Product ID Number</b>	-----	
	<b>CRRC Licensee ID Number</b>	-----	
	<b>Classification</b>	<b>Production Line</b>	
<p>Cool Roof Rating Council ratings are determined for a fixed set of conditions, and may not be appropriate for determining seasonal energy performance. The actual effect of solar reflectance and thermal emittance on building performance may vary.</p> <p>Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating Council procedures.</p>			

Figure 2: CRRC product label sample

The values of both properties range from 0 to 1 with higher values indicating “cooler” products. In addition to these two metrics, the “coolness” of a roof also may be represented by its SRI. SRI values usually are between 0 and 100 with particularly cool materials exceeding 100.

The Rated Products Directory is specifically designed to assist contractors, architects, specifiers and building owners with identifying roofing products for building projects of any size. There currently are more than 3,000 products in the Rated Products Directory each rated with their initial values, which reveal how a product will perform when the product is new, and three-year-aged values, which provide an understanding of how a product will perform over time after installation.

Searching the directory

The Rated Products Directory features a universal search bar that allows users to narrow products by manufacturer,

brand, model name or CRRC Product ID. The directory is equipped with flexible search options to quickly find roofing products that meet a variety of needs, such as:

- Increasing occupant comfort by keeping a building cooler during hot summer months
- Lowering energy costs by reducing the need for air conditioning
- Achieving specific architectural style and design needs
- Complying with building codes and/or air quality regulations
- Qualifying for incentives, such as rebates, loans and PACE financing
- Becoming eligible for credits or points in voluntary certification rating systems, such as LEED® or Green Globes

The overall impact of cool roof benefits may vary depending on factors such as climate zone, time of year and energy usage patterns. Additionally, though positive impacts of implementing cool roofs can be significant, proper roof installation and maintenance are essential to achieving these benefits.

If a more open-ended search is desired, users can select preset filters to identify products by type (field-applied coating, coated metal, tile, asphalt shingle, membrane), color, slope and/or market. There also is a minimum radiative properties filter, which is particularly useful when searching for products that comply with code or program requirements (see Figure 1).

The use of keyword search operators also is a helpful

strategy for narrowing the results of a search, particularly if the model name or CRRC Product ID is not known. For example, a part of a product name such as “Sandstone” or “Terra Cotta” will return all the products that include that term somewhere in the product information. To improve search functionality, the CRRC recommends clearing the filters before a new search.

In addition to product information, users also can acquire the manufacturer representative’s contact information for further assistance with product inquiries or procurement. By clicking the “More Info” button next to a product listing, the manufacturer’s contact information and website are revealed. This button also displays the product market, slope and test methods used to obtain the product’s radiative performance.

For users interested in data analysis, the directory can be exported as a .csv file that allows a user to create more complex filters in a spreadsheet. For added convenience, search results also can be printed in a PDF format. Because new products are frequently added, the CRRC highly recommends users reference the online directory rather than previously downloaded versions.

## How products get included

Roofing product manufacturers and sellers often obtain CRRC product ratings with the goal of complying with building code requirements and voluntary green building programs that specify roofing materials that meet minimum reflectance, emittance and/or SRI requirements. However, a CRRC product rating does not indicate a ranking or approval by the CRRC. The Rated Products Directory also is not limited to only “cool” products. Any roofing product can be rated in accordance with CRRC rating, testing and weathering protocols.

The process to obtain a product rating and have it listed in the directory is coordinated through the CRRC Product Rating Program. Roofing products are tested in accordance with program requirements and procedures contained in ANSI/CRRC S100, “Standard Test Methods for Determining Radiative Properties of Materials.”

The rating process begins with a CRRC-approved accredited independent test laboratory measuring the radiative properties of a product sample. After this initial testing, the product sample is sent to weathering test farms in three designated climate zones (hot/dry, hot/humid and cool/temperate) to naturally age for three years. Aging enables a user to better understand how soiling and weathering affects the radiative properties of various roofing products. After three years, the weathered samples are tested again.

The aged rating is the average of the radiative property measurements from the three climate zones. The initial and aged ratings then are published in the directory and on CRRC labels printed on product packaging (see Figure 2).

Designers, specifiers, contractors, building owners and building departments can rely on either the Rated Products Directory or CRRC label to obtain the radiative property information of a rated product. The online directory has the most recent information for a rated product.

The CRRC Rated Products Directory also includes roofing products that have undergone the laboratory-simulated aging process to receive a CRRC Rapid Rating. A Rapid Rating is an optional product rating process that enables manufacturers to list the laboratory-aged radiative property values in the directory and on CRRC labels at an accelerated rate—the aging simulation is completed in less than a week. Once the product completes the required three-year weathering process, the aged ratings replace the laboratory-aged values in the Rated Products Directory and on CRRC labels.

about the  
**CRRC**

**The Cool Roof Rating Council®** is dedicated to developing, implementing and communicating an accurate radiative performance rating system for roof surfaces, supporting cool roof research and serving as an educational resource for roofing information. The organization was established in 1998 through a partnership between roofing manufacturers, government, national laboratories, utilities and nonprofit organizations with the goal of developing a rating system for roofing products based on accurate and credible methods for evaluating a product’s radiative performance.

In addition to the CRRC Rated Products Directory, other “cool roof” resources such as a downloadable brochure for homeowners, building owners, architects and contractors and a list of cool roof incentives, rebates, loans, codes and voluntary programs across the U.S. can be accessed for free on the CRRC’s website, [coolroofs.org/resources](http://coolroofs.org/resources).

## A valuable resource

Knowing the radiative performance of roofing products is important for understanding a roof system’s effect on building energy use, occupant comfort and the surrounding environment. The CRRC Rated Products Directory is a free resource that can be used by all roofing professionals and is accessible on the CRRC’s website, [coolroofs.org/directory](http://coolroofs.org/directory). 🌐🔍

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