

### WHAT IS A COOL ROOF?

A cool roof is one that strongly reflects sunlight (solar energy) and cools itself by efficiently emitting any heat that was absorbed. This reduces the amount of heat conducted into the building below. If a building does not have air conditioning, this keeps the building cooler and a more constant temperature. If a building has air conditioning, the equipment does not have to work as hard. Imagine the difference between wearing a white or a black T-shirt on a hot day. By wearing the white T-shirt you will remain cooler because it reflects more sunlight and absorbs less heat. Cool roofs, like a white T-shirt, keep the internal temperature of the building lower.

However, a cool roof does not need to be white. There are many “cool color” products which use darker-colored pigments that are highly reflective in the near infrared (non-visible) portion of the solar spectrum.

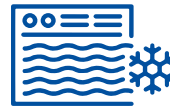
### WHAT DOES THE COOL ROOF RATING COUNCIL (CRRC) MEASURE?

The CRRC measures these two properties for roofing products, both for the product’s initial values and after three years of outdoor exposure. The CRRC publishes the results on the Rated Roof Products Directory. The directory enables you to compare the rated values of various product types and brands.

### BENEFITS OF A COOL ROOF



Increase occupants’ comfort by keeping the building cooler during hot summer months.



Cut costs by reducing the need for air-conditioning and extending the life of cooling equipment. Individual results may vary based on a variety of factors related to the climate and installation.



Decrease roof temperature, which may extend the roof’s service life.



Address air pollution and global warming concerns by lowering CO2 and other emissions associated with fossil fuel-generated electricity used for air-conditioning.



Reduce the urban heat island effect by reflecting heat back into the atmosphere. An urban heat island occurs when a city is hotter than the surrounding rural areas due to having more dark surfaces (like roofs and roads) that absorb heat from the sun and having fewer shade trees and less vegetation.



Visit [coolroofs.org](http://coolroofs.org) for more information and help with local code compliance for building codes with cool roof requirements. Visit the Resources tab for Home and Building Owners to learn more about the benefits of cool roofs.



## COOL ROOF CHARACTERISTICS

There are two basic characteristics that determine the “coolness” of a roof. These characteristics are solar reflectance and thermal emittance. Both properties are measured on a scale from 0 to 1, where 1 is 100% reflective or emissive.

CRRC Prod. ID	COLOR	SOLAR REFLECTANCE		THERMAL EMITTANCE		SRI	
		INITIAL	3 YEAR	INITIAL	3 YEAR	INITIAL	3 YEAR
1270-0002	Aged Bronze	0.25	0.25*	0.83	0.83*	22	22*
1270-0003	Military Blue	0.3	0.29	0.85	0.85	29	29
1270-0004	Stone White	0.55	0.51*	0.83	0.83*	63	59*
1270-0005	Mansard Brown	0.25	0.25*	0.83	0.83*	22	22*
1270-0006	Dark Bronze	0.25	0.25*	0.83	0.83*	22	22*
1270-0007	Cityscape	0.35	0.35*	0.83	0.83*	35	35*
1270-0008	Charcoal	0.25	0.25	0.83	0.83	22	22
1270-0009	Pacific Blue	0.25	0.25*	0.83	0.83*	22	22*
1270-0011	Hemlock Green	0.25	0.25*	0.83	0.83*	22	22*
1270-0010	Sandstone	0.35	0.35*	0.83	0.83*	35	35*
1270-0012	Medium Bronze	0.25	0.25	0.83	0.83	22	22
1270-0013	Zinc	0.32	0.32*	0.83	0.83*	31	31*
1270-0014	Aged Copper	0.25	0.25*	0.83	0.83*	22	22*
1270-0015	Teal	0.25	0.25*	0.83	0.83*	22	22*
1270-0016	Champagne	0.35	0.35*	0.75	0.75*	32	32*
1270-0017	Musket Gray	0.25	0.25*	0.83	0.83*	22	22*
1270-0018	Almond	0.55	0.51*	0.83	0.83*	63	58*
1270-0019	Slate Gray	0.35	0.35*	0.83	0.83*	35	35*
1270-0020	Granite	0.32	0.32*	0.83	0.83*	31	31*
1270-0021	Copper Penny	0.35	0.35*	0.75	0.75*	32	32*
1270-0022	Drexel Sierra Tan	0.32	0.30*	0.86	0.86*	33	30*
1270-0023	Drexel Silver	0.35	0.35*	0.75	0.75*	32	32*
1270-0024	Drexel Terra Cotta	0.35	0.32*	0.86	0.86*	36	33*
1270-0025	Drexel Weathered Zinc	0.24	0.23*	0.82	0.82*	20	19*
1270-0026	Drexel Patina Green	0.32	0.32*	0.83	0.83*	31	31*
1270-0027	Cardinal Red	0.35	0.35*	0.83	0.83*	35	35*
1270-0028	Colonial Red	0.25	0.25*	0.83	0.83*	22	22*
1270-0029	Bone White	0.70	0.66*	0.83	0.83*	84	79*
1270-0030	Antique Bronze	0.25	0.25	0.83	0.83	22	22
1270-0031	Buckskin	0.32	0.32*	0.83	0.83*	31	31*
1270-0032	Iron Ore	0.25	0.25*	0.83	0.83*	22	22*
1270-0033	Aspen Bronze	0.25	0.25	0.83	0.83	22	22
1270-0034	Chestnut Brown	0.25	0.25	0.83	0.83	22	22
1270-0035	Autumn Red	0.25	0.25*	0.83	0.83*	22	22*
1270-0036	Nantucket Gray	0.35	0.35*	0.83	0.83*	35	35*
1270-0037	Classic Bronze	0.25	0.25	0.83	0.83	22	22

An asterisk (\*) next to a product rating indicates a CRRC Rapid Rating. Rapid Ratings are interim laboratory-aged values that simulate three-year aged values. The Rapid Ratings values will be replaced by the measured three-year aged values upon completion of the weathering process. SRI values that are calculated using Rapid Ratings may change once the aged rating replaces the interim rating.