

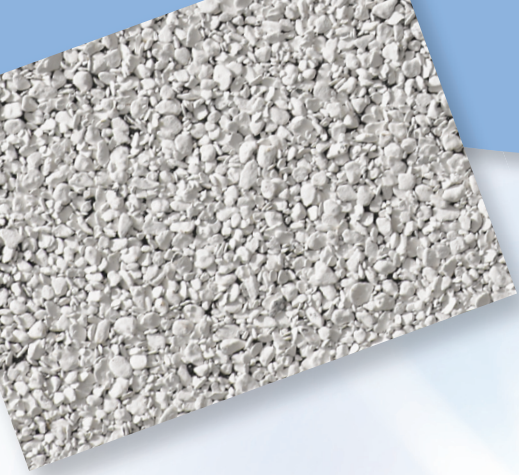
CertainTeed

CoolStar™

Energy-Saving Reflectant Roof Surfaces



CertainTeed
SAINT-GOBAIN



Using cool roof technology is one of the easiest, most cost-effective ways to lower energy consumption.

White roofs reflect the sun's heat. Black roofs soak it in.

That's the key advantage offered by a brilliant white CoolStar™ roof surface. In fact, reflective roof products lower roof surface temperatures dramatically.

With a cooler roof above, much less heat is absorbed into a building's interior. Cooler interiors translate into greater occupant comfort and lower energy-related costs – and reduced demand for air conditioning can even allow a building owner to buy a smaller, less-expensive cooling system.

CertainTeed's advanced roofing granules reflect sunlight to reduce roof temperatures by up to 20%. In addition to saving energy, cooler roofs reduce the "heat island" effect – a cause of smog, impaired water quality and heat-related illnesses.

New and Improved CoolStar

- Speeds installation; installs like standard, granule-surfaced products
- Reduces sticking and staining issues
- Reduces maintenance requirements
- Available on built-up, SBS modified bitumen, APP modified bitumen and self-adhered modified bitumen membranes for use over all low-slope deck types

Delivering a cooler, more comfortable interior environment in commercial buildings.

Key terms that will help you understand how cool roofs are measured and rated.

Solar Reflectivity – amount of solar energy that is reflected away from a surface, usually given as a ratio.

Thermal Emisivity – amount of absorbed heat energy that is radiated from a surface.

Solar Reflective Index (SRI) – the combined value of reflectivity and emissivity.

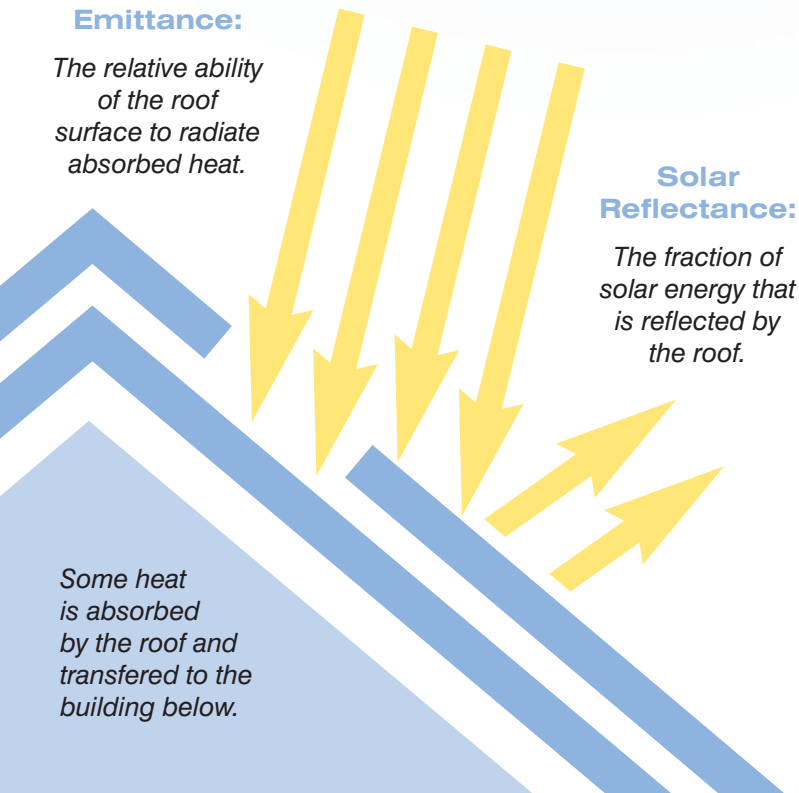
Thermal Emittance:

The relative ability of the roof surface to radiate absorbed heat.

Solar Reflectance:

The fraction of solar energy that is reflected by the roof.

Some heat is absorbed by the roof and transferred to the building below.



Performs for years.

Due to the layering of high-quality reinforcements, heavy asphalt coating and highly reflective ceramic granules, CoolStar roofing products are extremely flexible and durable. This tough flexibility enables them to withstand negative effects of expansion and contraction caused by heating, cooling, light and moisture (weathering) – meaning CoolStar roofing products extend the overall life of a roof.

CertainTeed's proprietary CoolStar granules utilize naturally occurring rock that has been stable for millions of years. This type of roofing granule has been used for over a century with proven success on traditional residential shingles and low-slope membranes. The base mineral granules are 100% opaque to UV radiation and, therefore, will protect the asphalt coating on the roofing membrane, thus maintaining granule coverage.

CertainTeed's CoolStar granules are surfaced with a highly reflective ceramic coating to achieve high solar reflectance. This ceramic coating has the same chemistry as that used for traditional roofing granules that have been used successfully for over a century, demonstrating excellent durability.

Works with a range of roof systems.


- Built-up roofing
- SBS modified bitumen
- APP modified bitumen
- Self-adhering modified bitumen

CoolStar exceeds ENERGY STAR® and California Title 24 requirements.



CoolStar roofing products are more energy-efficient than standard roofing products and exceed ENERGY STAR® standards. To meet ENERGY STAR standards, a low slope roofing surface must have a solar reflectivity of .65 (meaning it reflects 65% of the radiation away from the surface and absorbs 35%). In general, an ENERGY STAR labeled product can help reduce energy costs by at least 30%. A complete list of products can be found at

www.energystar.gov. The state of California has an even tougher requirement, called Title 24, for a “cool” or energy-saving roof. To comply, a low slope roofing surface must have a minimum solar reflectivity of .70 and thermal emittance of .75. All CoolStar cap sheets have initial ratings for solar reflectance and thermal emittance from the Cool Roof Rating Council (CRRC). A complete list of products can be found at www.coolroofs.org. CoolStar roofing products surpass both of these important, industry-recognized standards. In fact, CoolStar products leave CertainTeed's manufacturing facility

	Solar Reflectance	Initial	Weathered
	Thermal Emittance	0.70	Pending
	Rated Product ID	0081	
	Licensed Manufacturer ID	0668	
	Classification	Production Line	
<small>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. Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating Council provisions.</small>			

meeting ENERGY STAR and Title 24 standards. There's no need to apply a white coating on-site.

CoolStar products may qualify for credits/points under LEED®, NAHB® National Green Building Standard and other “green” programs.



Cool Roof Stats

- 1 ENERGY STAR qualified reflective roofs can reduce peak cooling demand by 10-15 percent. (ENERGY STAR)
- 2 Cool roof technology can help roofs stay up to 50–60°F (28–33°C) cooler than conventional materials during peak summer weather. (EPA)
- 3 A California study found that cool roofs provide an average yearly net savings of almost 50 cents per square foot.
- 4 Traditional roofs have low solar reflectance of 5 to 15 percent, but, cool roof materials have a high solar reflectance of more than 65 percent, transferring less than 35 percent of the energy to buildings.
- 5 Standard black asphalt roofs can reach 165 to 185°F. Cool roofs reach peak temperatures of only 110 to 115°F (43-46°C) in the summer sun.
- 6 Cool roofs have been identified with energy savings ranging from 2 to over 40 percent, with average savings of about 20 percent.

PRODUCT NAME	DESCRIPTION	THICKNESS (TYPICAL)	WEIGHT PER ROLL	COVERAGE PER ROLL	ASTM REFERENCE
BUR (Built-Up Roofing) Cap Sheet					
Flintglas® Cap Sheet CoolStar™	Mineral surfaced fiber glass cap sheet with reflective CoolStar™ granules	2.8 mm (111 mils)	80 lbs.	100 sq. ft.	D3909
APP Modified Bitumen Cap Sheet					
Flintlastic® GTA CoolStar™	Standard polyester mineral surfaced APP cap sheet with reflective CoolStar™ granules	4.0 mm (156 mils)	106 lbs.	100 sq. ft.	D6222, Grade G, Type I
Flintlastic® GTA-FR CoolStar™	Polyester mineral surfaced APP cap sheet with fire retardant additives and reflective CoolStar™ granules	4.0 mm (156 mils)	106 lbs.	100 sq. ft.	D6222, Grade G, Type I
SBS Modified Bitumen Cap Sheet					
Flexiglas™ Premium Cap Sheet 960 CoolStar™	Heavy duty SBS modified, fiber glass with reflective CoolStar™ granules	3.8 mm (157 mils)	95 lbs.	100 sq. ft.	D6163, Grade G, Type I
Flintlastic® FR Cap 30 CoolStar™	Mineral surfaced, fire resistant, SBS modified bitumen, fiber glass cap sheet with reflective CoolStar™ granules	3.3 mm (131 mils)	88 lbs.	100 sq. ft.	D6163, Grade G, Type I
Flintlastic® FR Cap 30 T CoolStar™	Mineral surfaced, fire-resistant, SBS modified bitumen, fiber glass cap sheet with reflective CoolStar™ granules	3.8 mm (151 mils)	102 lbs.	100 sq. ft.	D6163, Grade G, Type I
Flintlastic® FR-P CoolStar™	Fire-resistant, SBS modified, polyester, mineral surfaced cap sheet with reflective CoolStar™ granules	4.0 mm (156 mils)	103 lbs.	100 sq. ft.	D6164, Grade G, Type I
Flintlastic® Premium FR-P CoolStar™	Premium, fire-resistant, SBS modified, heavyweight polyester mineral surfaced cap sheet with reflective CoolStar™ granules	4.0 mm (156 mils)	103 lbs.	100 sq. ft.	D6164, Grade G, Type II
Flintlastic® GMS CoolStar™	Mineral surfaced, SBS modified, polyester cap sheet with reflective CoolStar granules	3.8 mm (151 mils)	97 lbs.	100 sq. ft.	D6164, Grade G, Type I
Flintlastic® Premium GMS CoolStar™	Premium, SBS modified, heavyweight polyester mineral surfaced cap sheet with reflective CoolStar™ granules	4.0 mm (156 mils)	103 lbs.	100 sq. ft.	D6164, Grade G, Type II
Flintlastic® GTS FR CoolStar™	Premium, SBS modified, heavyweight polyester mineral surfaced cap sheet with reflective CoolStar™ granules	4.3 mm (171 mils)	92 lbs.	75 sq. ft.	D6164, Grade G, Type II
Flintlastic® GTS CoolStar™	Premium, SBS modified, heavyweight polyester mineral surfaced cap sheet with reflective CoolStar™ granules	4.3 mm (171 mils)	92 lbs.	75 sq. ft.	D6164, Grade G, Type II
Self-Adhering SBS Modified Bitumen Cap Sheet					
Flintlastic® SA Cap CoolStar™	Self-adhering, SBS modified, polyester/fiber glass scrim combination mat reinforced, cap sheet with reflective CoolStar granules	3.8 mm (151 mils)	98 lbs.	100 sq. ft.	D6164 Grade G, Type I
Flintlastic® SA Cap FR CoolStar™	Self-adhering, fire-resistant, SBS modified, fiber glass mat reinforced, mineral surfaced cap sheet with reflective CoolStar granules	3.0 mm (118 mils)	90 lbs.	100 sq. ft.	D6163, Grade G, Type I UL 2218, Class 4

CoolStar touch-up granules are available in 5-gallon buckets for use on asphalt bleed-out areas.

ASK ABOUT ALL OF OUR OTHER CERTAINTEED® PRODUCTS AND SYSTEMS:

ROOFING • SIDING • TRIM • DECKING • RAILING • FENCE • FOUNDATIONS
GYPSUM • CEILINGS • INSULATION • PIPE

www.certainteed.com <http://blog.certainteed.com>

CertainTeed Corporation
P.O. Box 860
Valley Forge, PA 19482

Professional: 800-233-8990
Consumer: 800-782-8777

