

NYC °CoolRoofs

NYC °CoolRoofs, an initiative of NYC Service and Department of Buildings, promotes and facilitates the cooling of New York City's rooftops. By working with non-profits, city agencies, and building owners, NYC °CoolRoofs engages volunteers in applying white, reflective surfaces to rooftops. Cool roofs reduce cooling costs, cut energy usage, and lower greenhouse gas emissions.

A cool roof has a highly reflective surface, typically white, and releases heat quickly. Roofs are often coated with either a paint-like coating which is rolled or sprayed onto flat roofs, or covered with a white rooftop membrane. Both materials are durable and easily installed without disruption to daily operations.

Benefits of Cool Roofs



Save money. Cool roofs can reduce air conditioning costs by 10% to 30% on hot summer days when air conditioning accounts for up to 40% of daily electricity use. Cool roofs can reduce internal building temperatures up to 30%.



Preserve roof structure and cooling equipment. Because cool roofs don't reach such high temperatures, the thermal shock stress associated with large temperature changes is reduced, thereby prolonging the life of cooling equipment and limiting a roof's expansion and contraction that results from those temperature changes.



Reduce energy usage. By decreasing summertime peak energy demand, cool roofs help reduce utility grid stress and thus the likelihood of power outages.



Reduce carbon emissions. Cool roofs reduce carbon emissions in New York City at a rate of 0.5 lbs. per square foot of rooftop coated. In its first full year, NYC °Cool Roofs coated 1 million square feet rooftop, a reduction of 227 metric tons of carbon.



Combat the *urban heat island effect*. Because cities like New York have greater amounts of dark surfaces, city temperatures are five to seven degrees warmer than surrounding areas on an average summer day. Coating all eligible dark rooftops in New York City could result in up to a 1 degree reduction of ambient air temperature.

In 2010 nearly 1,600 volunteers coated over 1 million square feet of rooftops throughout the City. Visit nyc.gov/coolroofs to learn how you can help cool New York City.

NYC °CoolRoofs also engages building owners interested in cooling their own roofs. Visit nyc.gov/coolroofs and read our °Cool It Yourself guide to find out how to learn more.



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NYC Service

Michael R. Bloomberg
Mayor

Department
of Buildings





Frequently Asked Questions from Building Owners

Costs

What is the cost of coating materials?

The cost of material depends on the coating you decide to install but can be as low as .30 - .45 cents per square foot if you purchase coating from one of the NYC °CoolRoofs vendors.

What is the approximate labor cost for installation done outside of NYC °CoolRoofs?

Labor Type	Cost Estimate per square foot
Contractor	.65 cents - \$1.00
Painter	.17 - .45 cents
Workforce Group	.25 - .45 cents

How does the price of a cool roof compare to the price of traditional roofing materials?

The following chart from the NYC Department of Design and Construction (DDC) Cool and Green Roofing Manual shows the cost differences between cool and dark roof types:

Traditional	Cool Version	Cost Differential
4-Ply Built Up Roof \$12.50/sf	Top White Mineral Cap \$13.30 sf	.80 cents
	With White Coating \$13.50 sf	.80 cents
Built-up with Grey gravel \$12.75/sf	With white marble ballast \$13.25 sf	.50 cents
EPDM –black membrane \$17.20/sf	EPDM White membrane \$17.50 sf	.30 cents
Modified bitumen black \$13.30/sf	White mineral cap sheet \$15.50 sf	.80 cents
Metal dark color \$25.00/ sf	Light or cool coating \$25.00 sf	.0 cents
Membrane		\$8.00 - \$12.00

Roofing and Cooling Equipment

What types of roofing membranes can be coated?

White coatings can be applied to practically any roofing surfaces, membranes, or substrates, including: granule, smooth asphalt, EDPM rubber, and smooth aluminum. Roof types not suitable include: gravel roofs, spray foam, TPO, PVS, Clay tile, wood shingles, slate and asphalt shingles.

Will my warranty be voided?

Some roof membrane manufacturers extend the roof of the warranty when a reflective coat is applied. Be sure to check with your roof warranty before cooling your roof.

How can a cool roof prolong my cooling equipment?

Cool roofs can reduce internal building temperatures up to 30%, reducing cooling loads.



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NYC Building Code Requirements and LEED Incentives

Are cool roofs required by the NYC Department of Buildings?

The 2008 New York City Building Code requires most new buildings in New York City to have 75 percent of the roof area covered with reflective, white coating or to be ENERGY STAR® rated as highly reflective.

What does the Building Code require of simple buildings?

The NYC Building Code allows simple buildings that are required to complete an audit and retro commissioning mandated in BC 28-308 to postpone the completion of their audit if the building is in compliance with 6 out of 7 items listed in the section. One of these items is the installation of a cool roof that complies with BC 1504.8. Participation in NYC °CoolRoofs would help a building meet these requirements. *A simple building is defined as a covered building with neither a central chilled water system nor a central cooling system that covers more than 10 percent of the building's gross area.*

Will a cool roof earn a building LEED credit?

Depending on the solar reflective index (SRI) of the product you install, you may qualify for a LEED point. For more information, read the LEED Reference Guide for Green Building Operations & Maintenance.

Do I need a permit?

A permit is not required for coating a roof.

Volunteering

How can I volunteer to help?

Volunteers are needed to:

- **Prepare rooftops** by using brooms and power washers to clean the surface, or
- **Coat rooftops** with a reflective white membrane using rollers and paint brushes.

Volunteers are needed Monday - Saturday, April through October. If you are over the age of 18 and in good health, you are eligible to volunteer. We ask that volunteers commit to a full day of coating. We will provide training. No prior coating experience is necessary.

To volunteer, visit nyc.gov/service.

Can I set up a group volunteer day?

Absolutely! It's a great team-based, green service initiative that will help a building and the community. We host Totally °Cool Corporate Days as well as organization group days.

How do I know if my building is a candidate for NYC °CoolRoofs?

If the building is in good condition, contact NYC °CoolRoofs to set up an inspection. A representative will come out to evaluate roof safety and the possibility of being a part of the cool roof season.

Can I cool my own roof and get discounted coating?

Yes. Our coating vendor partners provide discounted coating to any one who mentions they are participating in the NYC °CoolRoofs program. If you are cooling yourself you can report your completed square footage through our online tracking form.

For more information visit our website nyc.gov/coolroofs or email us at coolroofs@buildings.nyc.gov.

