

## Philadelphia Adopts Cool-Roof Law

City will work with Dow Chemical to retrofit an entire city block of 39 homes.

Source: [BUILDER magazine](#)

By: Nigel F. Maynard



Last week, [Philadelphia Mayor Michael A. Nutter](#) took a step toward his promise to make the City of Brotherly Love the greenest in America when he signed a law mandating energy-efficient reflective roofs or green roofs on all new commercial and residential buildings with no or low slopes.

The move is a pragmatic one, according to the city. Traditional black asphalt-based roofing contributes to the heat-island effect, but cool roofs reflect the sun's rays back into the atmosphere and release absorbed heat. This, in turn, keeps buildings cooler and lessens the demand for air conditioning by 10% to 30%.

The city says a white roof reflects heat and keeps houses cooler.

"On new construction, reflective roofs are comparable in price to traditional roofing materials, but average energy savings of 20%," the city says.

"This legislation is a simple step to reduce energy consumption and is virtually cost-neutral for new construction," Councilman [Jim Kenney](#), who sponsored the bill, said at the bill signing. "Reflective roofs offer both environmental and financial advantages over traditional roofs and by requiring them, I hope to spur a new wave of more energy-efficient building practices amongst our city's construction projects."

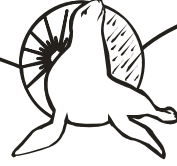
As part of the bill-signing ceremony, the mayor announced that the 1200 Block of Wolf Street in South Philadelphia has won the RetroFIT PHILLY "[Coolest Block](#)" contest the city was running. The competition, sponsored by the City of Philadelphia, the Energy Coordinating Agency of Philadelphia, and The Dow Chemical Co. in Midland, Mich., was part of a plan to bring communities together in the city's effort to become the greenest city in America.

"Many of the row homes that give our city its unique character were built long before today's energy-conscious environment," Mayor Nutter said at the bill signing. "This contest and today's legislation will help Philadelphia become a city of the future and set an example for others throughout the country."

Philadelphia joins such jurisdictions as Chicago, California, and New York in passing a cool roof law, and the city believes the legislation will greatly improve its overall green cred—as well as save money for residents and make Philadelphia a better place to live by reducing the heat island effect that many cities experience in the summer.

# Energy Seal Coatings

Acrylic Coatings for Roof and Wall Applications



Greenworks Philadelphia, the city's comprehensive sustainability plan, includes goals to reduce citywide energy consumption by 10% and to retrofit 15% of the city's housing stock by 2015.

But the law will likely only affect new row houses and commercial buildings since not many single-family homes are built with flat or near-flat roofs. Katherine Gajewski, the city's director of sustainability, explains that the cool roof law is targeted at new construction because a permit is not required for retrofit roofing projects. In addition, the law exempts projects with sod/vegetation roofs and those with rooftop photovoltaic and solar thermal equipment.

Mayor Nutter and other city officials will soon see how cool reflective roofing might be when Philadelphia and Dow begin to retrofit the 1200 block of Wolf Street, which beat out 74 other blocks with a total of more than 1,600 homes in the Coolest Block contest.

"Lowering energy is mandatory [for the city]," says Dr. Catherine T. "Katie" Hunt, director of external science and technology for Dow and a member of the mayor's sustainability advisory board. Cool roofs improve the comfort level for inhabitants, but, she says, it "could also lower the temperature by 4 degrees to 5 degrees at street level."

Hunt says the 39 homes on Wolf Street will first receive an energy audit from basement to rooftop so program partners may determine the existing conditions of each home. After, each will undergo thorough air sealing with the company's Great Stuff brand foam sealants and will be retrofitted with its Thermax Sheathing insulation products.

"PECO [the local utility] will calculate the cumulative bills of all the homes over the last couple of years and monitor the usage going forward," Hunt says, explaining that this will be on an overall basis so as not to invade homeowners' privacy. Finally, she says NASA will provide before and after thermal imaging to determine if the retrofit project indeed lowers temperatures as cool-roof advocates often claim.