

# Cooler Block Contest

## ENERGY EFFICIENCY FACT SHEET



### Give your Philadelphia row home an energy efficiency upgrade

To reduce the city's vulnerability to rising energy costs and to reduce energy use, Greenworks Philadelphia has set a goal of retrofitting 15 percent of the city's housing stock. The RetroFIT PHILLY "Coolest Block" Contest is furthering that effort by retrofitting a winning block of row homes with an energy-saving cool roof, insulation and air sealing.\*

### What's a cool roof?

Cool roofs reflect the sun's heat and help prevent it from transferring into the home. During summer months, cool roofs can be 50 to 80 degrees cooler than typical black asphalt rooftops. Homes that have cool roofs installed can realize energy savings of approximately 20 percent.

Cool roofs made with the Dow Building & Construction business group's acrylic technology are thick yet flexible elastomeric coatings that can be easily installed over existing roofing materials. Resistant to water, moisture, frost, salt and other outdoor elements, they can prevent roof leaks and cracks, helping to increase the roof's lifespan and improve a home's value.

### What's an elastomeric cool roof coating?

Elastomeric roof coatings are very flexible. When applied to the rooftop, they expand and contract with the surface below. To best protect the roof surface, it's important that the roof coating bridge and span any small cracks that form due to temperature changes. Roofs in temperate climates, like Philadelphia's, can undergo dramatic shifts in surface temperature, even within a single 24-hour period. Hot summers, cold winters and the variable seasons of spring and autumn all contribute to mechanical stress. Cool roof

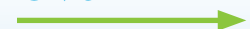


coatings have high reflectance and high emissivity, reflecting up to 92 percent of solar radiation, and shedding heat gain as soon as the sun goes down in the evening.

### Why is insulation and air sealing important?

According to the U.S. Department of Energy (DOE), you can reduce your home's heating and cooling costs by as much as 30 percent through proper insulation and air sealing. Air infiltration – which often occurs between walls and floors, around windows and doors, and through other gaps and cracks – can account for as much as 40 percent of heat loss in homes (source U.S. DOE). One of the best ways to insulate and air seal a row home is to use insulating foam sealants, which expand on contact to help bridge these openings, keeping heat outside during the summer and inside during the winter.

Over



\* Dow will provide the insulation and air sealing products. The ECA will provide the installation services and cool roof coating, which is based on technology from the Dow Building & Construction business group. The City of Philadelphia is supporting the effort with manpower and venue space. Contest rules apply; visit [www.retrofitphilly.com](http://www.retrofitphilly.com) for details.

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### How are these products installed and maintained?

A typical home head-to-toe energy efficiency upgrade can be completed in less than a week. Because row homes have contiguous, no- or low-slope roofs, a single cool roof coating can span the entire block in one application. Cool roofs made with the Dow Building & Construction business group's acrylic technology are resistant to dirt pick-up, so they stay whiter and more reflective with less maintenance and cleaning than other white roof options. That same chemistry is what also makes them strong and durable enough to withstand foot traffic, grit, snow and other outdoor elements. Maintenance is limited to occasional cleaning with a hose or power washer, and reapplying the coating every 10 or 15 years.

The insulating air sealants may be installed where required in each row home: in the attic, crawl spaces and basements; around windows and doors; etc. Depending on the home's layout and needs, the product's use and installation procedures will vary. Once installed, these products require minimal to no maintenance.

### How energy efficiency upgrades benefit Philadelphia row home owners:

- Improve occupant comfort year round
- Reduce cooling costs by approximately 20 percent with cool roofs, and reduce heating and cooling costs by up to 30 percent with insulation and air sealing (source: U.S. DOE)
- Reduce roof maintenance, repair and replacement costs, as well as landfill waste
- Preserve integrity of Philadelphia's historic row home blocks, which make up 75 percent of the city's residential housing stock (City of Philadelphia)
- Keep neighborhoods cooler and reduce urban heat island effect by reducing the concentration of dark, energy-absorbing surfaces
- Help reduce greenhouse gas emissions, and slow climate change
- Support Greenworks Philadelphia, a city-wide effort to become "the greenest city in America"