

AIR SEALING

Kentucky Home Performance MINIMUM REQUIREMENT

Kentucky Home Performance (KHP) Incentives

KHP offers incentives of 20 percent of the total installation cost for a maximum rebate of \$2,000 per home for eligible improvements.

- or -

A low-interest rate loan at 6.99 percent is also available for eligible improvements.

Other Incentives

State and federal tax credits may apply.

Some additional local utility and manufacturer rebates may be available in your area.



Air sealing with caulk, weather-stripping, and other appropriate materials is a fundamental step in making your home more energy efficient. Individual gaps may appear minor, but collectively they can have the same effect as leaving a window open all year long. According to the Department of Energy, proper air sealing of gaps and holes in the attic, crawlspace, and other breaks in the thermal boundary can save 10 percent or more on your energy bills.

Why is air sealing important?

Air sealing the envelope or shell of your home, including the exterior walls, ceiling, windows, doors, and floors, is often one of the most cost effective ways to improve your home's energy efficiency and comfort. Air sealing should always be performed before any insulation is added. It can save 10 percent or more on your total annual energy bills.

What does the air sealing improve?

- Reduces utility bills
- Improves comfort, especially during winter and summer months
- Reduces noise from the outside
- Prevents allergens, dust, contaminants, and insects from entering your home
- Improves indoor air quality
- Improves humidity control
- Protects the environment

What areas should be air sealed?

Many air leaks and drafts are easy to find because they are easy to feel, such as those around windows and doors. Holes hidden in attics, basements, and crawlspaces, however, are usually bigger problems. For example, penetrations in ceilings and floors for electrical wires, plumbing, ducts, chimneys, flue pipes, and recessed lights can be major sources of air leakage. Proper air sealing materials (e.g., caulk, expanding foam, rigid foam board, weather-stripping, etc.) will vary depending on the nature of the leak and the surface to be sealed.

Windows

Old windows usually can be made more energy efficient, at a significantly lower cost than replacement windows by using proper air sealing methods. Jambes and trim must be adequately air sealed to optimize energy efficiency potential of both new and old windows. If new windows are installed, they should also contain energy-efficiency features such as low-e coatings and gas filling.

KHP Minimum Requirements

• Air Sealing:

attic plane

crawl space

basement

house-to-garage connections

rim joist

• Duct Sealing:

Holes and disconnects

High pressure areas

Supply take-offs

Joints, seams and boots

• Ceiling Insulated R-19; if not R-19 at test-in, must improve to R-38

• Attic access and Rim/Band Joists are R-10. Hatches must be air-sealed.

• Floor insulated to R-11; if not R-11 at test-in, must improve to R-19

• Working CO monitor

• BPI Health and Combustion Safety Requirements

Installation Standards for Air Sealing

Air Sealing Standards:

The following measures should be addressed when test-in leakage exceeds .40 nACH

Caulk, Foam, and Glazing

- Prioritize the air sealing work. First, air seal the largest holes in the thermal boundary, followed by:
 - holes from the living space to the attic
 - holes from the living space to the crawlspace, basement, and garage
 - windows and doors
 - electrical outlets and switches
- Ensure that all surfaces to be sealed are clean and free of debris, such as loose or deteriorated caulk, to ensure a long lasting seal.
- Ensure that air sealing materials are airtight, supported as needed, adhered to the surfaces and sealed around all edges.
- Use approved non-combustible material for fire blocking or air sealing within 3” of the heat dissipating device (sheet metal, fiber reinforced cement board, fire stop caulk, furnace cement).
- Use the proper type of caulk. High-temperature caulk must be used around chimneys, fireplaces, or furnace flues.
- Use proper and sufficient backing material to fill large crevices before caulking or foaming.
- Install mechanical ventilation if post work CFM50 is less than the Building Airflow Standard (BAS).
- Protect all foam products from direct sunlight.

Air Sealing Standards:

Weather-stripping, windows, and doors

- Weather-stripping must be durable (ten-year life expectancy) and permanently installed with fasteners (screws, staples, etc.).
- Doors, panels, and pull-down stairs to unconditioned space must be weather-stripped with no visible gaps.
- Apply sufficient caulk to properly seal crevices around windows, doors, and hatchways.
- Use glazing compound, not caulk, to seal leaks around window panes.
- Do not seal window weep holes.
- Seal window jambs and trim.



www.KYHomePerformance.org
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