

SAVE MONEY ■ SAVE TIME ■ SAVE ENERGY



Insulating and weatherizing your home

We're on for you.™



Introduction

Do you have to bundle up indoors even though the thermostat is cranked up? Do you swelter in the summer as your air conditioner works overtime?

It could be time to check your insulation and make sure your home is sealed up tight (weatherized). Your hard earned energy dollars could be disappearing into thin air!

Weatherizing and ensuring the right levels of insulation are key to an energy-efficient and budget-friendly home. This booklet will help you find areas of energy loss, choose the right insulation or weatherizing product and determine whether it's a do-it-yourself project or if it's time to call in a professional.

The good news is, with a little time and a relatively small investment; you'll see significant savings in your heating and cooling costs. Let's get started!



Insulation

Not only will proper insulation lower your energy bills, it can also increase your home's value, decrease maintenance costs and reduce outside noise pollution. Here's what we'll cover:

- Understanding R-value
- How much insulation do you have?
- How much insulation do you need?
- Types of insulation
- Deciding whether to do it yourself or hire a professional

Understanding R-value

Insulation is rated by its R-value. This is a measure of its thermal resistance, or how well it holds back warm or cool air – the higher the R-value, the better. Bare concrete foundation walls are about R-1, while attic insulation in newly built Midwestern homes usually measures about R-49.

R-value is measured by its thickness, but also the type of material and its density. For example, R-38 attic insulation may be 14 inches of fiberglass batts, 12 inches of rock wool or 10 inches of cellulose.

How much insulation do you have?

It's easy to determine how much insulation you have. All you'll need is a flashlight, a ruler and a screwdriver.

Checking your insulation:

- Using the ruler, measure the depth of the insulation on your attic floor.
- Remove the cover plate from an electrical outlet or light switch on an exterior wall (be sure to shut off power at the service panel first). Shine the flashlight behind the junction or switch box to check for sidewall insulation. If you can't see behind the box, remove a corner of the baseboard in a hidden area, such as a closet or behind a door. You may be able to see insulation poking out the bottom.
- Go to your basement and check the rim joist – this is the long, thick board running the length of your house that attaches the floor joists to the foundation. You should see insulation poking out of the pockets between each floor joist.
- If you have a finished basement, remove an outlet cover to check for sidewall insulation – it may be thick foam sheets instead of fiberglass.



How much insulation do you need?

The best place to start is the attic – you'll get the greatest impact by adding insulation here. If you upgrade your attic insulation from three inches to 12 inches, you could save up to 20 percent on your heating and 10 percent on cooling costs!

If you heat your home with electricity, proper attic insulation is even more crucial, because electric heat is costlier and less energy efficient than natural gas.

Improving sidewall insulation in an existing home is more difficult, but it can help lower your energy costs by about 10 percent. For existing homes, typically loose-fill insulation is blown into wall cavities through holes cut under the exterior siding. It's more labor intensive and therefore more expensive.

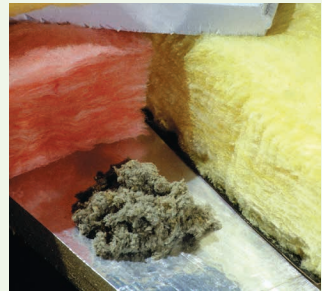
Both basement and foundation insulation can decrease heating costs by 10 percent. If you have a crawlspace, insulating the walls in the area can help you save another five percent.

Insulation Type	Spray Foam Closed	Spray Foam Open	Cellulose	Rock Wool	Fiberglass
R-value per inch	6.0 - 6.2	3.5 - 3.7	3.2 - 3.8	3.0 - 3.3	2.2 - 2.7
Inches needed for R-38	6 - 7	10 - 11	10 - 12	11.5 - 13	14 - 17

Types of insulation

The right insulation for your home depends on where it will be used and what type you already have. Your contractor or retailer can help you choose the best option for your needs:

- Fiberglass is the most common type of insulation. It's made from molten glass spun into microfibers. It's pink, yellow or white and comes in the form of batts or rolled blankets.
- Rock wool is literally made from rock – it's manufactured similar to fiberglass, but with molten rock instead of glass. The gray or brown fibers come in batts or blankets, or as shredded loose-fill.



- Cellulose is made from recycled paper, such as newsprint or cardboard, shredded into small bits of white or gray fiber. It's treated with chemicals to make it fire- and insect-resistant, and is applied as loosefill or wet-sprayed through a machine.
- Synthetic insulation, usually polystyrene foam, is commonly used in rigid boards for insulating basements, cathedral ceilings or sidewalls. Polyurethane is manufactured as an expanding foam (the same synthetic material found in small aerosol cans); when applied, it expands up two to four times its original size, filling even the smallest nooks and crannies.



Do-it-yourself or hire a professional?

The experts on home improvement shows make it look easy, but installing insulation in an existing home can be messy, tiring and, if you don't plan carefully, as expensive as hiring a professional.



Hire an insulation contractor if:

- Your home currently has little or no insulation, especially in the attic. Starting from scratch is a big job that leaves many opportunities for mistakes; hiring a professional will ensure the best return on your insulation investment.
- Structural changes are involved.
- The area is difficult to reach and move around in.
- You own an older home [pre-1930] with original wiring. Some older homes still have a now-obsolete electrical system called "knob-and-tube" wiring that can be dangerous if handled improperly. An electrician must upgrade the wiring before insulation can be installed because of the fire risk.
- Existing insulation is wet or improperly installed. Moisture-laden insulation is worthless and must be removed.
- Your attic has no ventilation.
- You have respiratory problems or are claustrophobic.
- You're a home-improvement novice. The manufacturer's instructions may contain terminology and procedures you're not familiar with.

You can do it yourself if:

- You've identified the type and amount of attic insulation you currently have.
- You can purchase the additional insulation from a reputable dealer with a knowledgeable staff.
- You've successfully tackled other home improvement projects.
- The area is accessible and has few obstructions.
- No structural changes are involved.
- The existing insulation is dry and properly installed.
- Your roof is in good shape. It's a waste of time and money to install insulation under a leaky roof (or in a wet basement).
- Your plans include vapor barriers and proper attic ventilation.



Before embarking on any insulation project, do your homework first. Read magazine articles, look for books at the library or search for information on the internet, and talk with neighbors who've had insulation installed in houses similar to yours.

Tips for do-it-yourselfers

If you've decided to install insulation yourself, our number one recommendation is to follow the manufacturer's instructions exactly. Skipping steps and taking shortcuts could mean significant reductions in R-value – and a waste of your money and effort. Allow yourself plenty of time and make sure you have enough materials to complete the job.

Here are a few more tips to keep in mind:

- If you choose fiberglass insulation, "no-itch" products are worth the extra cost. They're much easier to handle and safer to work with.
- Always wear goggles, a dust mask or respirator, gloves, long sleeves and long pants when working with insulation.
- Don't open the package until you're ready to install the insulation – both loose-fill and batts/blankets are highly compressed inside the packaging and will expand to at least twice the size when opened.

- You don't have to use the same type of insulation you currently have. You can add loose-fill on top of batts or blankets, and vice-versa. Just keep in mind that some compression of the bottom layer will occur, reducing the R-value slightly.
- Be very careful moving around in your attic. Watch out for overhead rafters, and walk only on floor joists or sturdy floor boards. If you try to walk between floor joists, your foot could come right through the ceiling below. If you have room, lay a plywood panel across floor joists to walk or kneel on.
- Avoid disturbing existing insulation, especially loose-fill. Moving it around can create gaps where air can leak through.
- When installing additional batts or blankets, install the second layer at right angles to the first.
- If you're adding loose-fill insulation, it's imperative to distribute it evenly across the area. Any gaps, holes or inconsistencies in depth will decrease the R-value.
- Never lay insulation over recessed light fixtures, ceiling fans or ventilation fans. If you're using loose-fill insulation, use sheet metal to create barriers around the openings. Keep all insulation at least three inches away from chimney and gas flue pipes.
- Allow for adequate ventilation. Never cover attic vents, and leave at least one inch of airflow between the insulation and the roof.
- Remove and replace any wet or damaged existing insulation. Have leaky roofs repaired before installing attic insulation, and make sure basement areas are adequately waterproofed.
- Don't forget to insulate and weatherstrip the attic opening.





Hiring an insulation contractor

The best way to find a qualified insulation professional is to ask family, friends and neighbors who have recently hired contractors. You can also use our dealer locator to find a contractor near you who is well versed in energy efficiency. Visit alliantenergy.com/dealerlocator.

As with any other professional home contractor, ask for estimates from several companies, and get a firm bid before signing a contract. Make sure the contractor you choose is licensed and insured. Each company might suggest a

different type of insulation, but the recommendations for R-value should be consistent. Be wary of those who claim they can get more R-value per inch than other contractors – it just isn't possible.

Here are some good questions to ask potential insulation contractors:

- What type of insulation do you recommend for my home?
- Will a vapor barrier be used and where will it be used?
- What type of vapor barriers will be used?
- What R-value should we try to achieve?
- Do you plan for proper ventilation?
- Do you install attic vents?
- How long will the job take?
- Are you insured against accidents and property damage?
- Are you completely familiar with local building codes?
- What kind of guarantee can you offer?





Remodeling or building a new home

If you're building a new home or adding on to an existing home, your contractor may recommend 2x6 construction. Costing only a few cents more per foot, the extra two inches of

depth allows for thicker R-19 sidewall insulation; the cost difference can be paid back in energy savings in as little as two years!

If you choose conventional 2x4 construction, some builders may suggest using five-inch R-19 insulation in the stud walls, but the logic behind this idea is flawed. When the thicker insulation is compressed into the smaller space, it can reduce the insulating value to as low as R-10 or 11 – the same R-value provided by the less expensive three-inch thick insulation.

Building a new home is a great time to look into expanding foam insulation. This technique provides not only insulating value, but also an air-tight seal around obstructions, including electrical outlets and switches. Spray foam insulation must be installed at the proper temperature and onto clean surfaces in order to be effective. It is important to do your homework when searching for an installer. While the benefits of spray foam are significant, the cost can be up to 10 times the cost of a traditional fiberglass insulation.



Vapor barriers

As you plan your insulating project, keep in mind that it's also important to maintain a healthy balance of air and moisture movement throughout your home. That means making sure that your attic and sidewall insulation includes a vapor barrier and that your attic is properly ventilated.

Ironically, the more insulated and air-tight your house is the more prone to moisture damage it becomes. During cold weather, water vapor from the warm air inside travels through unsealed holes and cracks and condenses on cooler surfaces, including exterior walls, the underside of the roof and within insulation. This condensation can rot wood framing, blister paint, ruin insulation and damage the roof.

Vapor barriers installed between insulation and interior surfaces can help prevent this problem.

Batts or blankets often come with attached vapor barriers, usually made of coated kraft paper or foil-backed paper. When using unfaced batts or blankets, loose-fill or foam insulation, you can add polyethylene sheeting. Proper use of bath fans and range vents can also help alleviate moisture issues in air-tight homes.

If you're installing insulation yourself, remember these guidelines when using a vapor barrier:

- Always place the vapor barrier toward the warm side of the insulated area – facing downward on the attic floor or the interior side of a wall cavity.
- When adding a second layer of insulation to an attic, do not add a second vapor barrier – this can trap moisture inside the bottom layer of insulation. Use loose-fill or unfaced batts or blankets; if only faced batts are available, cut the facing every few inches to allow moisture to evaporate.
- If the vapor barrier tears during installation, tape it tightly.
- If you have a crawlspace, add a polyethylene vapor barrier on the floor of the area to reduce condensation from ground moisture.





Ventilation

It may seem like attic vents defeat the purpose of insulation, but they're a vital part of keeping fresh air circulating throughout your home. An unventilated (or under-ventilated) attic can trap heat in the summer months, raising the indoor temperature by several degrees and putting a strain on your air conditioner. During the winter, warmer air trapped in the attic can condense under the roof, causing ice dams that can lead to serious roof damage.

Attic vents can be positioned in several ways. New homes built in the Midwest usually have a combination of continuous ridge and soffit vents. Never cover attic vents with insulation. If your home has no attic vents, be sure to add several before installing new or additional insulation – your contractor or retailer can advise you on what's best for your situation.

Weatherizing

Cracks around doors or windows, and gaps around vents and pipes let outside air in, and allow interior air to escape increasing your heating and cooling costs.

The good news is, by weatherizing your home, a few dollars and a little effort can reduce your heating costs by up to \$150 a year. Not only will you save energy and be more comfortable, weatherizing can extend the life of your home and increase the value of your property!



Understanding the problem

When air moves in and out of your home through cracks and crevices, that's called infiltration. You want to find the source and eliminate it.

Infiltration can occur in three different ways:

- Wind-driven infiltration occurs when the wind blows in through cracks in your house bringing cold air in and forcing warm air out. (The volume of air your house can hold is limited, so when unwanted cold air comes in, some of the existing heated air is pushed out). This cold/warm air displacement can happen in reverse during summer months.
- The chimney effect occurs when warm air rises, escaping through cracks, and draws cold air in at a lower level to replace it.
- Negative air pressure occurs when fuel-burning appliances decrease air pressure in your home, or air is expelled through your clothes dryer or exhaust fans. Air is then drawn in to equalize the pressure.



Finding air leaks

Whether you start from the top in the attic or the bottom in the basement, a thorough examination is your first step in sealing the exterior envelope of your home. Arm yourself with pencil and paper, a flashlight and tape measure before you begin.

In the basement or crawl space

Visually inspect exterior walls for cracks or gaps. Examine areas where pipes or vents exit through the walls and inspect basement window casings. Use your tape measure to determine the width of larger openings. Take notes as you go, and make sketches if that will help you later to prepare your plan of action.

Main floors

Again, look for gaps or cracks in exterior walls. Look closely around doors and windows and make a note of their condition. Is the weather stripping worn, or non-existent? Are there broken panes of glass or dried or missing putty? Measure the perimeter around doors and windows. Count the number of electrical outlets and switches. You'll need this information later when you're ready to purchase supplies.

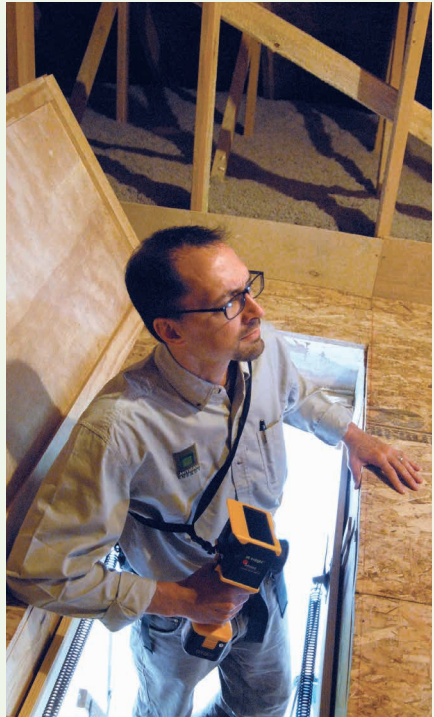
Examine the area where lighting fixtures and exhaust fans penetrate the ceiling and check for possible air leaks. Make a note of any cracks in drywall or plaster that could allow air to escape. If you have a wood burning fireplace, check to make sure the damper closes tightly. Then feel around the fireplace where it meets the wall to see if there are any gaps.

In the attic

Your ability to examine the attic will depend on its accessibility and whether it is finished or unfinished. At a minimum, examine the entry door or hatch to make sure it fits snugly. Pay close attention to any area where wires or pipes go through the attic floor and make sure they are sealed properly.

Exterior

Take a walk around the outside of your home, again looking for any place the wires or pipes pass through from outside to inside. Look for any missing or deteriorating caulking. Note the condition of caulking around windows, doors and siding.



Develop your strategy

Using the notes from your home inspection – determine how you want to tackle the job and the materials you'll need. Whether you start inside or outside, just be sure to cover all the spots you identified that need attention.

Now it's time for a trip to the hardware store or home center for supplies. An average house will cost about \$50 to weatherize completely.

Caulking and weather stripping

Caulking and weather stripping will take care of the majority of your weatherizing needs. Caulk is used to permanently seal air leaks between stationary surfaces like the frame around your front door and the side of your house. There are some removable caulks that can be used seasonally and then removed. Weather stripping is used to eliminate gaps between moving surfaces such as your front door and the door frame.

Choosing the right caulk

Caulk is inexpensive, easy-to-use and it has a multitude of applications. It will effectively seal openings up to ¼ inch wide. Larger cracks require backing material before caulk is applied.

Most caulk is sold in tubes and requires a caulking gun for application. One caulking gun will last most people a lifetime! Don't let the range of caulk choices overwhelm you. A few simple guidelines will help you choose the correct one for your application.

When making your selection here are some things to consider:

- ALWAYS read the label.
- Is the caulk for interior or exterior use?
- What is the surface material you'll be caulking?
- Choose a color. Caulks come in white, brown and clear.
- Do you plan to paint over the caulk?
- How long do you want it to last?



Silicone vs. latex

There are two primary caulking materials, silicone and latex. Of the two, silicone is generally a little more expensive, but is much more durable and longer lasting. Some silicone caulks will last up to 20 years. It shrinks very little and will seal two dissimilar materials such as aluminum and wood. It remains somewhat flexible, allowing joined surfaces to expand or contract. Silicone caulk is generally not paintable.

Latex caulk is less expensive and less durable than silicone. It will not adhere to metal surfaces and is not flexible when cured. It must be painted in most exterior applications. Latex caulks bond well to drywall and plaster surfaces inside the home.

Using caulk

Here are the rules of caulking in four easy steps:

1. Make sure the area is clean and dry, so the caulk adheres properly. Use a utility knife or scraper to remove flaking paint and old caulk, and then wipe away dirt and dust.
2. Apply the caulk carefully. Try not to leave gaps; if you drip or apply too much, wipe it away with a wet rag. If you're sealing a wider crevice, be sure to force the caulk all the way in.
3. Gently smooth out the bead of caulk. Use a plastic spoon, a Popsicle stick or, for the best results, an ice cube. If you use your finger, make sure to wash your hands thoroughly when you're done.
4. Let the caulk dry for a few days before painting.

Handy Tip: If you have a partial tube of caulk left when you're done, plug the end of the nozzle with a galvanized nail or a piece of wire hanger.

Rope caulk

Rope caulk is great for temporary or seasonal use. It comes in a roll and peels off in a long strip like play dough. Use it around the movable parts of windows (especially double-hung windows) and around doors you don't use during the winter. It's a good choice for basement windows that are rarely or never used, but you don't want to caulk permanently closed. Rope caulk will eventually harden and fall out, so check it yearly, and replace when necessary.



Expandable foam sealant

This sealant works well to fill larger cracks or gaps on the exterior of your home. It most commonly comes in a pressurized can about the size of a can of spray paint. Use it to fill in areas around pipes that pass through basement walls. When it's applied, it expands quickly to seal the space.

Be careful when using expanding foam – it's difficult to clean up, and the rapid expansion can split wood or bend aluminum. Look for the low-expansion variety for use around windows and doors. It's less likely to over-expand and crack or bend window or door framework. One can of expanding foam equals about 20 tubes of caulk.

Be sure to read the label! Make sure the product is suitable for the application you have in mind. Some varieties are not recommended for use adjacent to electrical wiring or fixtures.

Weather stripping

Weather stripping seals leaks around windows and doors by closing the gap between the moving parts and the frame.

The type you choose should stand up to the wear and tear, weather and temperature fluctuation associated with its location. For example, a double hung window that remains closed all winter requires a different solution than a door that is opened and closed multiple times per day.

When choosing the right material it's primarily a matter of durability and expense. If you're willing or able to spend a little more money up front, you can purchase a more durable product and replace it less often. The table on pages 20-21 will help you choose the correct weather stripping for each application.

Weatherizing the outside

Start working on the outside of your home in the back. By the time you get to the front and inside, you'll be a pro!

Caulk around the following areas on your home's exterior:

- The top and bottom edges of the rim joist – this is the thick wooden board that sits on top of the concrete foundation and connects to the floor joists.
- The outside edges of window and door frames. Don't forget basement windows and doors.
- Any opening through the envelope of your house, including water spigots, electrical outlets, air conditioner hoses, dryer vents and gas and water pipes. Be careful not to touch or move pipes and wires.
- If you find a large hole or crack, use expanding foam. A small squirt is usually enough to seal the opening – too much can damage the surrounding materials. Don't use expanding foam around any electrical equipment.
- If you don't have storm windows, install plastic window film to the outside of windows, especially those facing north. The product has been much-improved over the past few years, with better visibility and stronger adhesives. Don't forget to cover basement windows!



Weatherizing inside your home

Start with the windows. West-facing windows are subjected to the harshest winds, so that's a good place to begin. North-facing windows are exposed to the coldest air, so do those next. Follow up with east-facing, then south-facing windows.

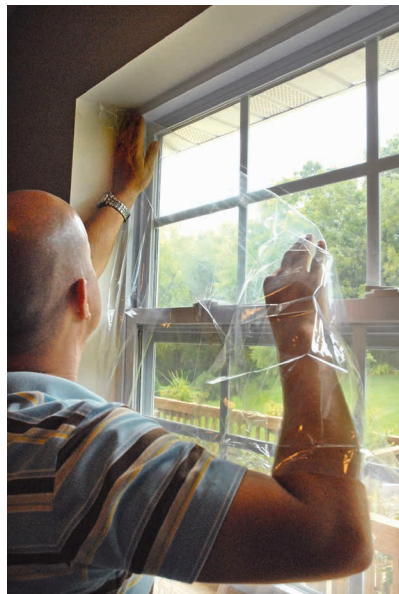
If you have any cracked window glass, replace it. If you find a window pane that's simply loose, you can seal it up with window glazing compound. Once all the window glass is secured you can move on to weather stripping.

Double-hung windows are the draftiest, but older casement windows may also need to be sealed.

- Apply caulk around the outside edges of the window casing.
- Select and apply weather stripping according to the manufacturer's directions. Use the table on pages 20-21 to determine what type of weather stripping is best for your application.

If you don't have storm windows, install interior window film. Heavy drapes or curtains can also help hold back cold air. This cools the glass surfaces, so remember to open them on sunny days to take advantage of the sun's rays. This also helps to minimize window fogging.

Don't forget to caulk around the outer edges of basement windows and cover them with plastic film. Don't use permanent caulk to seal basement windows – you may need quick ventilation in the event of a gas leak or a carbon monoxide problem. Use removable rope caulk instead.



Common Weather stripping

Type	Best Uses	
Tension seal: Self-stick plastic or springy metal folded lengthwise. Seals by pressing against the sides of a crack to block drafts.	Inside the track of a double-hung or sliding window, top and sides of door.	
Felt: Plain or reinforced with a flexible metal strip; sold in rolls. Must be stapled, glued, or tacked. Seals best if staples are parallel to length of the strip.	Around a door or window (reinforced felt); fitted into a door jamb so the door presses against it.	
Reinforced foam: Closed-cell foam attached to wood or metal strips.	Door or window stops; bottom or top of window sash; bottom of door.	
Tap: Nonporous, closed-cell foam, open-cell foam, or EDPM (Ethylene Propylene Diene Monomer) rubber.	Top and bottom of window sash; door frames; attic hatches and inoperable windows.	
Rolled or reinforced vinyl: Pliable or rigid strip gasket (attached to wood or metal strips).	Door or window stops; top or bottom of window sash; bottom of a door (rigid strip only).	
Door sweep: Aluminum or stainless steel with brush of plastic, vinyl, sponge, or felt.	Bottom of interior side of in-swinging door; bottom of exterior side of exterior-swinging door.	
Magnetic: Works similarly to refrigerator gaskets.	Top and sides of doors, double-hung and sliding window channels.	
Tubular rubber and vinyl: Vinyl or sponge rubber tubes with a flange along length to staple or tack. Door or window presses against them to form a seal.	Around a door.	
Reinforced silicone: Tubular gasket attached to a metal strip that resembles reinforced tubular vinyl.	On a doorjamb or a window stop.	
Door shoe: Aluminum face attachment with vinyl C-shaped insert to protect under the door.	To seal space beneath door.	
Bulb threshold: Vinyl and aluminum.	Door thresholds.	
"Frost-brake" threshold: Aluminum or other metal on exterior, wood on interior, with door-bottom seam and vinyl threshold replacement.	To seal beneath a door.	
Fin seal: Pile weather strip with plastic Mylar fin centered in pile.	For aluminum sliding windows and sliding glass doors.	
Interlocking metal channels: Enables sash to engage one another when closed.	Around door perimeters.	

	Cost	Advantages	Disadvantages
	Moderate; varies with material used	Durable. Invisible when in place. Very effective. Vinyl is fairly easy to install. Look of bronze works well for older homes.	Surfaces must be flat and smooth for vinyl. Can be difficult to install. Metal must be nailed in place. Can increase resistance in opening/closing doors or windows.
	Low	Easy to install, inexpensive.	Low durability; least effective preventing airflow. Do not use where exposed to moisture or where there is friction or abrasion. Very visible.
	Moderately low	Closed-cell foam is an effective sealer; scored well in wind tests. Rigid.	Can be difficult to install; must be sawed, nailed, and painted. Very visible.
	Low	Extremely easy to install. Works well when compressed. Inexpensive. Can be reinforced with staples.	Durability varies with material, but not especially high; use where little wear is expected; visible.
	Low to moderate	Easy installation. Self-adhesive on pliable vinyl may not adhere to metal; some types of rigid strip gaskets provide slot holes to adjust height, increasing durability..	Visible.
	Moderate to high	Relatively easy to install; many types are adjustable. Automatically retracting sweeps also available.	Visible. Can drag on carpet. Automatic sweeps are more expensive and can require a small pause once door is unlatched before retracting.
	High	Very effective air sealer.	
	Moderate to high	Effective air barrier.	Self-stick versions challenging to install.
	Moderate to high	Seals well.	Installation can be tricky. Hacksaw required to cut metal; butting corners pose a challenge.
	Moderate to high	On the exterior, product sheds rain. Durable. Can be used with uneven opening. Some door shoes have replaceable vinyl inserts.	Fairly expensive; installation moderately difficult. Door bottom planing possibly required.
	Moderate to high	Combination threshold and weather strip; available in different heights.	Wears from foot traffic; relatively expensive.
	Moderate to high	The use of different materials means less cold transfer. Effective.	Moderately difficult to install, involves threshold replacement.
	Moderate to high	Very durable.	Can be difficult to install.
	High	Exceptional weather seal.	Very difficult to install as alignment is critical. To be installed by a professional only.

After you've tackled the windows, it's time to move on to the doors.

- Apply caulk to the outside edges of the door casing.
- Open the door and install weather stripping to the inside of the door jamb. Use the table on pages 20 and 21 to find the kind that will work best for your situation.
- Stop under-door drafts by installing a rubber or vinyl sweep along the bottom. If you have a fiberglass or steel door, install a threshold with a flexible vinyl gasket along the bottom of the door jamb. Look for an adjustable model that's easy to fit to the proper height.
- If you have a side or basement door you don't use, seal the edges with removable rope caulk.



Other areas to weatherize

While windows and doors are the biggest culprits, there are three more indoor areas to weatherize:

- Electrical outlets and switches, especially on exterior walls. Be sure to turn off power at the electrical panel before working around electrical outlets. Carefully unscrew the faceplate and press a foam gasket around the outlet or switch. Put the cover back on and insert safety caps into all unused outlets.
- The attic opening is a prime spot for warm air to escape. Install insulation over the back of the attic door; if you have hatch-type access, install weather stripping around the top edges of the opening.
- Fireplaces are notorious sources of air leaks. Tight-fitting glass doors are the best way to prevent air from escaping or entering. When you're not using the fireplace, keep the damper closed and close the glass doors tightly. If you never use the fireplace, plug the chimney with batt or blanket insulation and seal the glass doors shut with removable or silicone caulk.

Air leaks in the exterior envelope of your home can allow the entire volume of air in your home to escape as often as every half hour! A few dollars and a weekend spent on weatherizing can reduce your energy use by 25-40 percent. Even small weatherizing efforts will have a positive impact.



If you'd like to learn more, visit our website at **alliantenergy.com** and check out other booklets:

- 101 Easy Ways to Save Energy
- Choosing & Using Appliances
- Electrical & Natural Gas Safety
- Energy-Efficient Landscaping
- Heating & Cooling Your Home
- Lighting Your Home
- New Home Construction
- Powering Your Plug-ins

You can also find great energy efficiency tips at **powerhousetv.com**.



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In Wisconsin, visit Focus on Energy, Wisconsin's statewide program for energy efficiency and renewable energy to find out about Cash-Back Rewards currently available in Wisconsin at **focusonenergy.com** or call 1-800-762-7077.

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