

How to Insulate Your Basement

Efficiency
Vermont

SMART CHOICE

Pro tips from Efficiency Vermont

Most homes in Vermont can benefit from more insulation and proper air sealing. You can save an average of \$375 a year by properly air sealing and insulating your home. You'll also stay more comfortable, year-round.

Important Considerations:

- Items stored in the basement should be moved off the walls to allow access to work area.
- Use proper safety equipment (dust masks, gloves, long sleeves, safety glasses, lights, ladders).
- If working in a tight crawlspace make sure there is friend or family member that can help if needed.
- Call a professional if you see any of these:
 - Water and dampness in basements and crawlspace—these should be resolved first
 - Buckling or structurally questionable foundation
 - Old (knob and tube) or faulty unprotected wiring
 - Asbestos insulation—usually appears as old pipe wrap with white covering
 - Old, leaky stone foundations allow air to leak between the stones and are challenging to comprehensively air seal on your own

Materials checklist:

- Silicone, acrylic latex caulk and/or low-expansion foam for air sealing
- High-temperature (heat-resistant) caulk for sealing around flues and chimneys
- Appropriate board insulation products depending on project

First Things First: Air Sealing



Air comes in through leaks in the basement, gets sucked up through the house, and leaks out through the attic. This is called the "stack effect". Plug those basement leaks and you'll slow the air flow considerably—reducing drafts, saving energy, and allowing your insulation to work more effectively.

STEP 1:

Seal the big holes:

- Missing, broken, or poorly fitting windows
- Bulkhead doors

STEP 2:

Seal the little holes:

- Sill and rim joist seams
- Penetrations for water lines, fuel lines, etc.

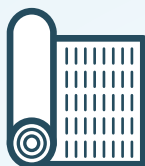
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View how-to videos at
www.encyvermont.com/DIY

Contact our help line for
trouble-shooting support
at 888-921-5990

Next: Install the insulation

Now that you've sealed up air leaks, check your insulation levels and add more if necessary.



R-15 is the minimum level of insulation the Vermont Energy Code calls for on foundation walls. This can be achieved in a variety of ways including;

Type of insulation	Material*	Depth (in inches)
Rigid board	Rockwool (R-4/in)	4"
	EPS (white) foam (R-4/in)	4"
	XPS (blue/pink/green) (R-5/in)	3"
	Polyisocyanurate (R-6/in)	2.5"
Batts in stud walls	Rockwool (R-4/in)	Fill to 4"

*Installations in certain locations require that foam insulation be covered with a fire protective covering equivalent to 1/2" drywall

STEP 3:

Band joist insulation:

Cut pieces of board insulation to fit between joists and seal in place against wood rim joists.

STEP 4:

Basement wall insulation:

Apply board insulation in large sheets glued and/or fastened to the wall. It's very important to seal the perimeter (top and bottom) of boards with caulk and seal their seams with building tape.*

While some work can be done on your own, we recommend working with a Building Performance Institute (BPI) contractor to air seal and insulate your entire home and reduce your bills as much as possible. They can also account for air quality and address other safety concerns.

To find a qualified contractor near you, visit www.encyvermont.com/contractors



As the state's energy efficiency resource, we partner with Vermont residents to help them save energy and money at home. For more information call us at 888-921-5990 or visit www.encyvermont.com