

Exterior wall insulation

(Above grade)

For existing homes

Most homeowners are concerned about attic insulation levels. Yet, in many single-family homes, the exterior walls have the same surface area as the attic.

Benefits of wall insulation

Insulating empty wall cavities with blown-in insulation saves energy.

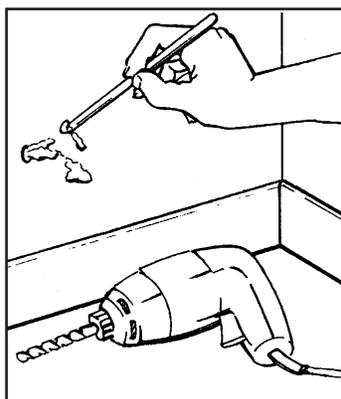
Blown-in insulation offers other benefits:

- Your home will be quieter.
- Drafts will be reduced.
- Warmer walls improve winter comfort.

Check for existing insulation

Before insulating sidewalls, find out what's there.

- Check outside walls, closets or a garage wall. Insulation levels may not be the same at each location.
- Call the home builder and ask how much insulation was used.
- Have an insulation contractor check the walls.
- Have infrared thermal imaging done.



Checking your insulation—Drill a hole in an inconspicuous location away from all electrical wiring. Use a plastic crochet hook or other nonconducting tool to check for insulating material.

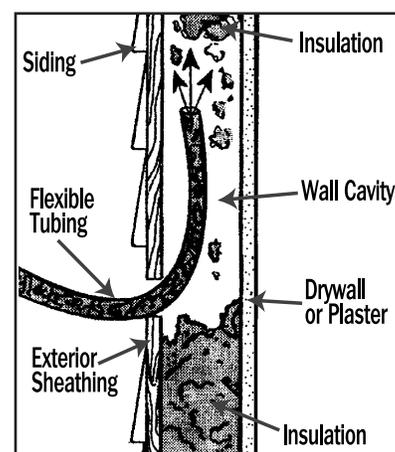
A rough estimate of insulation levels based on the age of your home is:

Year of construction	Insulation	Total R-value
Pre-1950	Probably none	R-4
1950-1960	1" or 2" fiberglass or rock wool batts	R-3 or R-6.2
1960-1970	2" or 3 1/2" fiberglass batts	R-6.2 to R-11
1970-1980	3 1/2" fiberglass batts and probably 1" rigid board	R-11 and R-5
1980-Now	Either 3 1/2" or 6" fiberglass batts with 1" rigid insulation board Or 1/2" or 5/8" plywood or OSB	R-11 and R-5 R-19 and R-5

Typical installation

Common materials used for blown-in insulation are cellulose, fiberglass and rock wool.

Blown-in insulation may settle if not installed at the proper density. Installation involves drilling one hole per stud cavity. The insulation is blown through a hose into the wall. The hose is inserted from the bottom to the top of the cavity and pulled back out. Insulation is blown in from the inside for brick homes.



(continued on reverse side)

Currently the United States National Electric Code forbids use of loose, blown-in or expanding foam insulation over knob-and-tube wiring because of the possibility of creating a fire hazard. Consult an electrician if you have knob-and-tube wiring.

Adding insulation to wall cavities that are partially insulated is difficult and usually not recommended because it may result in incomplete coverage. Check with your contractor.

Should I add rigid board under my new siding?

If the wall cavity is empty, we recommend filling the cavity with insulation. If you re-side your home, rigid-board insulation under the new siding may not be cost-effective. But if installed properly, it can cut down on air leakage. If you install rigid board insulation, MGE recommends the thickest insulation that can be installed without modifying windowsills, etc.

Insulation effectiveness for 2' X 4' frame wall

Material	Total R-Value
Rigid foam	R-5
Fiberglass	R-11
Cellulose	R-13
Polyurethane foam	R-22

If exterior wall cavities are opened for remodeling, either install fiberglass batts or consider spray-in-place insulation. Cellulose, fiberglass and foam insulation can all be sprayed in place.

Another option to consider is an air-infiltration barrier (“house wrap”). When installed over the studs or existing sheathing, it allows moisture to pass through while blocking airflow.

High-density insulation and air sealing

Some contractors have special training and equipment to measure air leakage in the home. They treat your home as a system including heating and ventilation.

Many homes have hidden airflow paths that are responsible for the majority of air leaks. These leaks are often found in openings in wall framing, wiring, plumbing penetrations, around chimneys and attic access.

MGE recommends you call Focus on Energy at 1-800-762-7077 and ask about “Home Performance with ENERGY STAR®”. Their trained professionals will conduct a thorough inspection of all the systems in your home and identify problems and their sources. You’ll receive an objective, third-party diagnosis and a report of recommended solutions. “Cash-Back Rewards” are also available on select installed measures.