HOMEOWNER REPAIR GUIDE

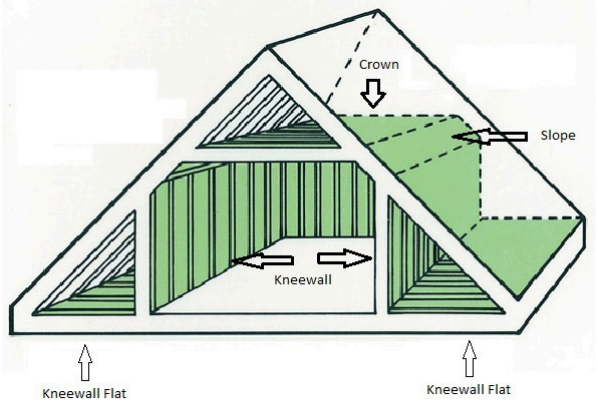
INSULATING A FINISHED ATTIC

Insulating a “finished” attic can have many benefits. In addition to improving sustainability on a community level, attic insulation can increase comfort and provide long-term savings on a personal level.

TYPES OF FINISHED ATTICS

Finished attics generally fall into two types. The first type is a “knee wall” attic (named for the short, often “knee” height, vertical wall that runs along the length of the room). This 2- to 4-foot knee wall extends up to the “slope,” a slanted wall that follows the roofline; a short, flat “crown” area is found above that.

The other type is a “vaulted” attic. This type of attic contains only sloped walls extending up from the floor (or sometimes from a kneewall) to the peak of the roof, without a flat crown.



Parts of a knee wall attic

Either type can be easily insulated, although the materials, methods, and level of difficulty will differ.

> **AIR SEAL, TOO**
>
> Note that you should also air seal your attic as part of the process. (See separate handout on “Air Sealing Your Home.”)

INSULATING A VAULTED ATTIC

A “vaulted” attic can be insulated in several different ways.

METHOD	CONSIDERATIONS
Remove the interior finish	One method is to remove whatever material is covering the ceiling and walls (drywall, paneling, or plaster and lath.) After installing fiberglass blanket insulation as you normally would, you'll need to put up new drywall or paneling on the walls. This can be quite expensive, but in some cases this approach may be necessary, or desired.

Blow in from inside	Another method is to drill holes between the rafters and blow in insulation from the inside of the room. The drawback to this method is that there are often wood members nailed between rafters for structural support. These pieces will stop the flow of blown-in insulation without your realizing it, leaving you with uneven coverage. So, the installer should be properly trained to “probe” the wall cavities to look for these framing components.
Install from outside during a re-roof	A third method is to blow or lay the insulation in from the outside at the time you remove the old roof to replace it. The advantage to this method is that you won't need to patch any holes in the interior walls as you must do if the insulation is installed from inside the room. The downside to that is you must wait until the roof is replaced to implement the measures and start saving on heating costs.

INSULATING A KNEE WALL ATTIC

Insulating a “knee wall” attic involves several steps.

1. **Insulate the knee wall flats.** First, locate (or create) hatch openings through the knee walls, to gain access to the areas behind them. These areas, often referred to as “knee wall flats,” can be floored or have open joists. Either way, the floor must be insulated to keep heat from the floor below from getting into these areas. Typically, you blow in insulation like cellulose or fiberglass; however if the area is “open-joist,” R-38 fiberglass roll insulation can be used, positioned so that the paper face is down toward the heated area. Now that you have cut off the heat migration into the knee wall flats, these areas will become cold.
2. **Insulate the back of the knee wall.** Next, to create a barrier between the warm living area and these new cold areas, you need to insulate the back of the knee wall, typically with R-13 roll insulation with the paper face toward the warm room. (If you are using the knee wall areas for storage and don’t want your skin to come in contact with the fiberglass, you can cover the insulation with Tyvek™ or other permeable material – not plastic.)
3. **Insulate the slope.** Third, insulate the slope area by blowing “dense pack” insulation into the cavities, using the techniques described above for a vaulted attic; densely packed blown insulation will prevent the migration of air from the knee wall flat areas into the crown area, as well as establishing a thermal boundary between the slope and the warm room.
4. **Insulate the crown.** Finally, create an access hatch into the crown and blow in 12”-14” of blown insulation or add a layer of R-48 fiberglass roll insulation.

INSULATING THE ATTIC FLOOR INSTEAD

Insulating the roof by any of these methods will allow the heat from the other floors to pass through to warm the finished attic “room.” However, if your finished attic is used only for storage, you may choose to pull up several pieces of the flooring and blow in insulation there. Insulating the attic floor in this way will keep the heat in the house below it, and leave the attic cold.

THINK BEFORE YOU INSULATE THE FLOOR

Note that, if you later wish to use the attic as living space, you'll need to provide another source of heat – new heating ducts, a space heater, etc. For this reason, think carefully before you decide to insulate the floor of a finished attic.

At this point you have established a complete thermal boundary surrounding the living area. This will create a comfortable and efficient living area in the attic of your home. Whichever method you choose, install the insulation properly, and you'll enjoy increased comfort and energy savings for years to come.

Home Repair Resource Center empowers homeowners to maintain their homes for sustainable and diverse communities.

WWW.HRRC-CH.ORG | +1.216.381.6100 | 2520 Noble Road, Cleveland Heights, OH 44121 |
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