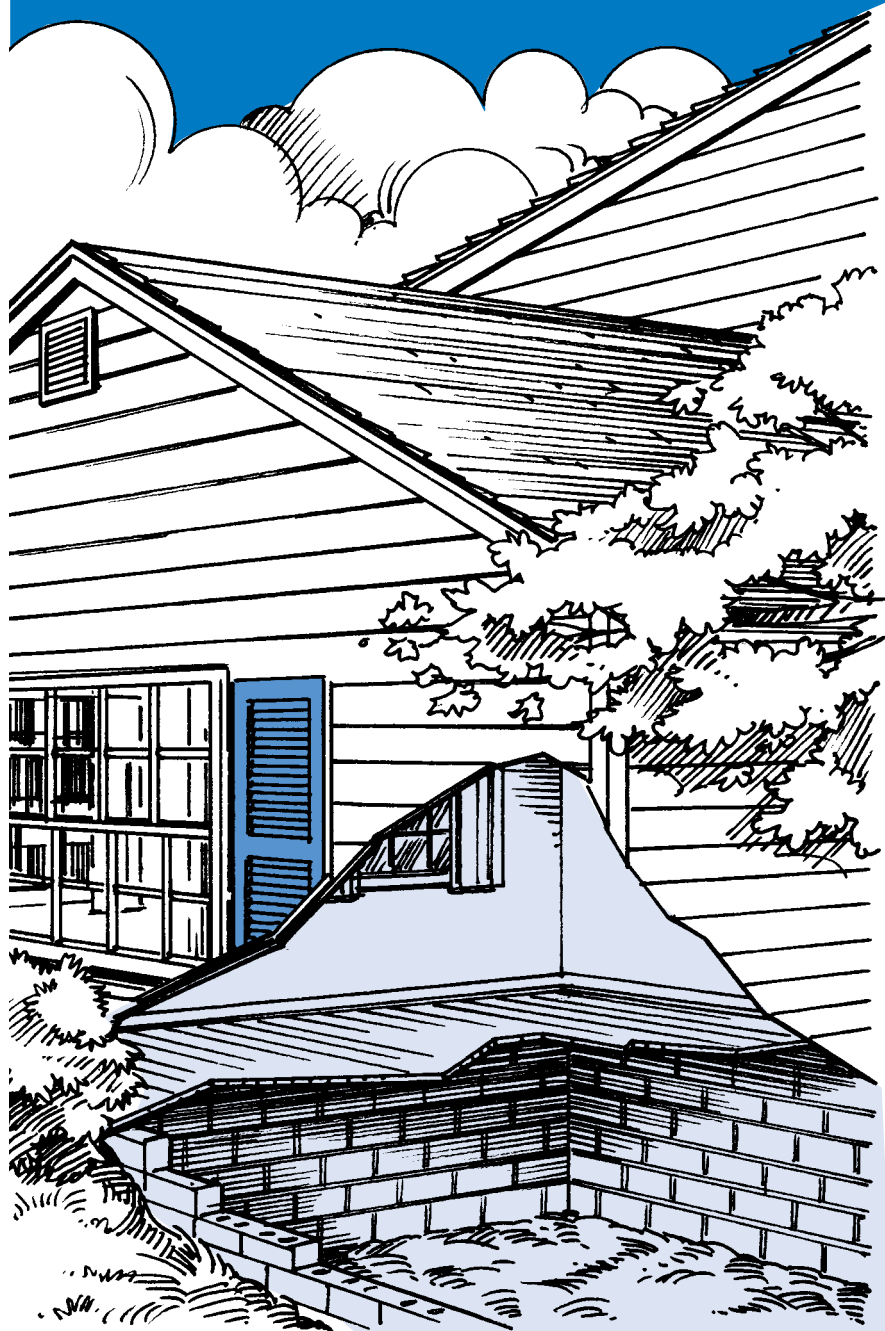


HOW TO INSULATE A CRAWLSPACE



Many homes throughout the United States have what are commonly referred to as crawlspaces. Crawlspaces are open spaces underneath a portion of a home. They are very common in areas with high moisture content in the soil, split level homes or homes with partial basements.

Crawlspaces can cause problems if they are not properly insulated. For instance, some crawlspaces contain water pipes which can, when they experience severe temperature extremes, freeze and burst. Or they may contain uninsulated heating and air conditioning ducts which can waste costly energy. Insulating the crawlspace can help prevent this from occurring. Also, an uninsulated crawlspace can make the floors and temperatures in the home above it colder in winter weather and hotter in the summer, affecting the comfort of the homes inhabitants.

Therefore, if your home has a crawlspace, check to determine if it is insulated. If it is not, the job is a fairly simple one to do yourself or you can hire an insulation contractor to complete the task.

The following is a guideline for insulating crawlspaces including: how to identify the type of crawlspace you have, a step-by-step how to insulate guide, materials you'll need to use for the job, determining how much insulation you'll need, and key pointers to keep in mind to ensure you'll achieve a well insulated crawlspace.

IDENTIFYING THE TYPE OF CRAWLSPACE YOU HAVE

There are two common ways to insulate a crawlspace depending on the type of crawlspace. If there are pipes and uninsulated ducts present, insulate the walls of the crawlspace area. If there are no pipes in the area, insulate the floor above the space.

SELECTING THE RIGHT INSULATION MATERIAL

The prime ingredient in an energy-efficient project is the insulation used. Fiber glass insulation is the most common and preferred insulation material on the market today. It is made from sand and recycled glass that is first melted and then spun into insulation fibers.

It is inorganic and, therefore, by nature noncombustible. In addition, fiber glass insulation is permanent. It will not settle or deteriorate over the years and it will maintain its fire retardancy over the life of the home.

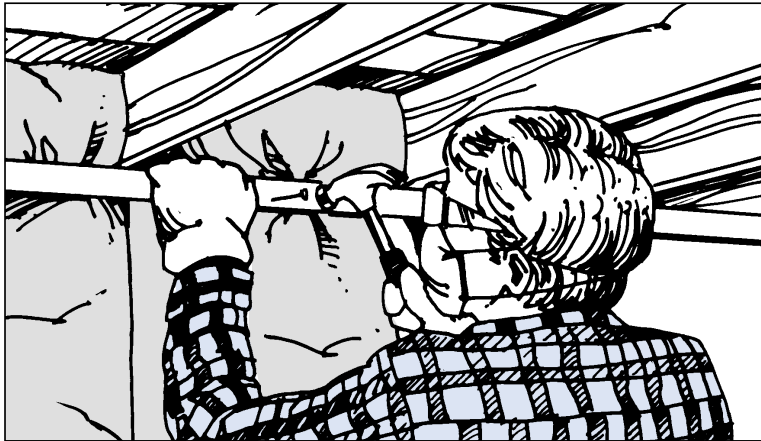
INSULATING A CRAWLSPACE WITH PIPES AND DUCTS

To start, gather the tools and materials you will need. These include 10 or 12 mil polyethylene sheeting, pieces of wood or furring strips, several large rocks or boards, the proper amount of fiber glass insulation, a knife to cut the insulation, nails and a hammer. To begin:



- 1** Cover the ground with the polyethylene sheeting, overlapping joints by 12" or more. Then use the rocks or boards to hold the material in place. This will prevent ground moisture from entering the space, rising to the flooring above and causing mold or wood rot.
- 2** Next, if the crawlspace walls have any vents, close them so insulation can be placed over them. Seal them if necessary.
- 3** Measure the distance from the top of the band joist down the wall extending two feet out along the ground. Multiply by the wall perimeter to get the number of square feet of insulation you'll need.
- 4** Cut the strips of insulation to the appropriate length.
- 5** Fasten each strip to insulate the band joist at the top of the wall by nailing a furring strip over the insulation. It will now hang down the wall and extend two feet onto the floor resembling an L shape.

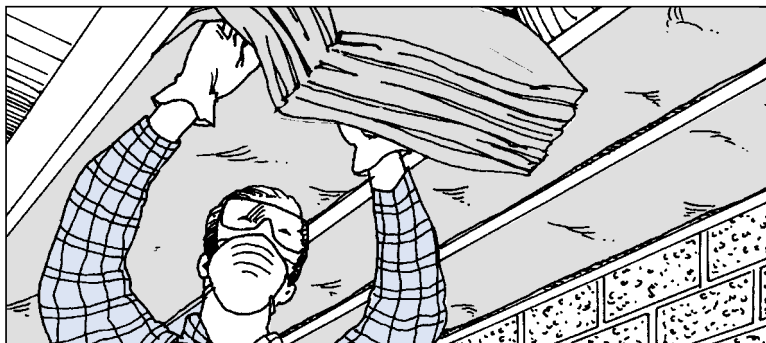
- 6 Use large rocks or boards as necessary to hold the insulation in place on the ground without unnecessarily compressing it.



INSULATING CRAWLSPACES WITHOUT PIPES AND DUCTS

The other common method for insulating a crawlspace is to insulate the floor above.

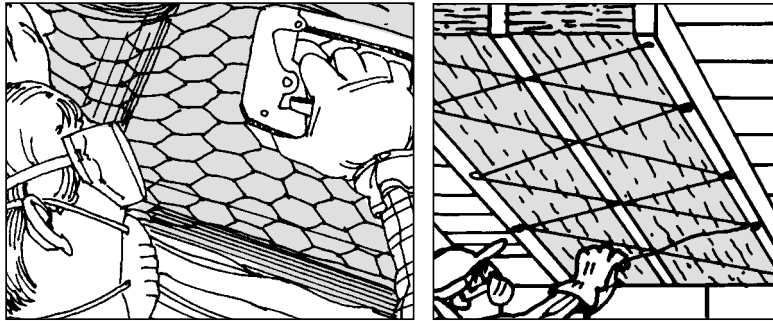
In addition to the materials mentioned previously, you will need either wire insulation supports, chicken wire or regular wire when insulating crawlspace floors. To determine how much insulation you'll need, multiply the length of the crawlspace area by the width and subtract a factor for the joists. Simply multiply the square foot area (length x width) by .90 if the joists are 16" on center, or by .94 if they are 24" on center. The resulting number gives you the amount of insulation you'll need for your insulating project.



- 1 Press the insulation between the floor joists above your head starting at one end and working out until the cavity is filled. Insulation with a vapor retarder should be used, with the vapor retarder facing up towards the heated area of the home. The insulation should be

installed up against the subfloor. The insulation will stay temporarily in place.

2 Once the insulation is in place, hold it in position with either insulation supports, or if the insulation fills



the joist cavity, staple chicken wire to the bottom of the joists OR lace wire back and forth around nails in the bottom of the joists.

3 To prevent loss of heat, check your work. Make sure the ends of the batts fit snugly up against the band joists, and the batt itself fits up against the bottom of the subfloor.

4 After you've insulated the floor above, completely cover the ground within the crawlspace with polyethylene sheeting and secure it in place with rocks or boards.

CHECKLIST

- Don't forget to cover the ground with polyethylene sheeting. It will reduce moisture build-up which can cause mold or damage the wood above. Do close all vents and cover them with insulation.
- Do wear a long-sleeve shirt, gloves, eye protection and a dust mask when handling fiber glass insulation.
- Do use 6 1/4" thick R-19 (or greater) CertainTeed fiber glass insulation.

For more information about insulating crawlspaces, write to the CertainTeed Home Institute, P.O. Box 860, Valley Forge, PA 19482, call 1-800-782-8777, or visit us on the Internet at <http://www.certainteed.com>.

CertainTeed Home Institute

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