



We are Healthy, High-Performance Insulation.

INSTALLATION INSTRUCTIONS FOR HAVELOCK WOOL BATTS

Havelock Wool wool batts are easy to install. Wherever our insulation is installed, it's important that it fits snugly on all sides. If the insulation is too long for a space, cut it to the correct size. If it is too short, cut a piece to fill the void. Use a pneumatic or manual staple gun and 1/4", 5/16" or 3/8" staples, using enough staples to hold the insulation firmly in place and avoid gaps and fishmouths.

PERSONAL PROTECTIVE EQUIPMENT

Because it's an all-natural product you do not need any protective equipment (gloves, gas mask, hazmat suit) to install Havelock Wool. Traditional insulation requires exposure to materials and chemicals that can be quite harmful. We encourage you to be hands on with your insulation! A little planning will allow you to realize gains in installation methods and overall outcomes as installing Havelock Wool Batts is simple and even borderline fun.

SITE PREPARATION

Other trades, including but not limited to, electrical, plumbing, and mechanical should have already installed their required materials prior to the wool batts being installed. Proper air sealing should be complete prior to insure full performance of batts. Verify all holes and seams between sheet goods such as drywall, sheathing, and subflooring at the building envelope are sealed with durable caulk, tape, and/or alternative sealants.



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INSTALLATION INSTRUCTIONS

CEILINGS & ATTICS

Insulating Ceilings:

Ceiling insulation provides essential sound control between floors in your home. Properly insulating the ceilings will make your home a more peaceful and quiet place because it will ensure that footsteps and other sounds do not migrate to other rooms.

How to Install Insulation In Ceilings

(construction phase of finished wall board will determine if installation of Havelock Wool can rest on top of wall board or if it needs to be fixed, stapled, suspended or hung in place to then be covered up. Please see list of materials designed to “hang” insulation in open cavities)

1. Seal around all penetrations in band joists. Any walls that leak water must be repaired before insulating.
2. Caulk where wiring runs through the ceiling joists and around the top of the wall.
3. Gently press the wool insulation between the joists. Hold the insulation up with one hand, while inserting lightning rods every 12-18” with the other hand. Leave a little extra on each end to cover the top plate of the outside wall. In attic installations, make sure the insulation completely covers the top plate of the outside wall at the end of each joist run. However, it should not block the flow of air from the eave vents. If necessary, install baffles at the inside of eaves.
4. Expand the insulation to its full thickness in the joist cavity to insure complete coverage. Avoid compressing the wool, as this can reduce its R-value.



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INSTALLATION INSTRUCTIONS

CEILINGS & ATTICS

Insulating Cathedral Ceilings:

Sloped, vaulted, and cathedral ceilings are different names for essentially the same ceiling configuration. Because there is little or no attic space separating inside and outside air, proper insulation is especially important. Many cathedral ceilings will require that insulation be installed around recessed light fixtures.

How to Insulate Your Cathedral Ceiling

1. Caulk where wiring runs through the ceiling joists and around the top of the wall.
2. Staple prefabricated vent chutes between joists with one end over the wall top plate. Vent chutes ensure there is at least 1" of space between the roof sheathing and insulation, allowing vapor water to flow out and to cool the roof. Depending on your house, vent chutes may be placed only at the soffit areas or run all the way up to the ridge line.
3. Place the insulation between the joists and gently press into position. Insulation should be expanded to its full thickness in the cavity to extend over the top of the framing or trusses to insure complete coverage. However, avoid compressing the insulation material, because compression will reduce its R-value. Be sure to keep insulation three inches away from recessed lighting fixtures, unless the fixture is IC rated. Also, make sure the insulation is installed at least 3" away from any metal chimneys, gas water heater flues or other heat-generating sources.



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INSTALLATION INSTRUCTIONS

WALLS

Insulating Exterior Walls

An exterior wall is any wall that faces outside or otherwise separates conditioned spaces from unconditioned spaces. These walls should be thoroughly insulated in order to create the all-important thermal envelope around your living space. Properly insulated exterior walls make all the difference between a comfortable, energy-efficient home and a drafty one. Take time to fit the insulation carefully so heat cannot escape in the winter and the inside stays cool in the summer. A good, tight insulation job saves energy, saves money, and protects your home for the future. Since exterior walls may have plumbing and wiring running through them, review the Special Considerations for tips on installing insulation around these obstacles.

How to Install Insulation in Exterior Walls

Insulation should be installed in all exterior walls that separate conditioned spaces from unconditioned spaces.

1. Place the batts into the wall cavity and staple the batt to the inside of the studs about every 12 inches. If the insulation is too long, cut it to fit properly. Don't double it over or compress it. Use a sharp utility knife and straightedge. Cut batts on a smooth, flat surface, and cut them about 1" larger than the framing cavity. If the material is too short, cut a piece to size to fill the gap.
2. Fill in any narrow gaps between joists by forcing pieces of unfaced insulation into the gaps with a screwdriver or putty knife.
3. To control air leakage, apply caulk, tape or sealants around openings like window and door frames and any openings where wires or pipes go through the exterior wall.

Unlike conventional insulation fibers that become a haven for trapped moisture and subsequent molding issues, vapor barriers are not needed with Havelock Wool. If you choose to use a vapor variable membrane please do so using the manufacturer's suggested installation practices.



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INSTALLATION INSTRUCTIONS

WALLS

Installing in moisture prone areas such as bathrooms or kitchens

To Apply a Vapor Retarder

1. If you want to apply a vapor retarder, start at the top plate in one corner of the room.
2. Pull the film tight and staple at least every 12 inches.
3. Drive staples at the center of every stud and around openings, working around the room.
4. Overlap the sheets by one complete cavity to minimize leakage. Then staple evenly through, fastening both sheets to the studs at one- to two-foot intervals.
5. Pull the film tight along the sole plate and staple in the same manner, making sure the staples are driven flat, flush to the stud surface.
6. Trim out the poly from over windows, doors and electrical boxes.

NOTE: In areas of the country where vapor retarders are not required, bathrooms would require unfaced insulation and no poly film covering to allow moisture to escape.

INSTALLATION INSTRUCTIONS

WALLS

Insulating Basements

Basement walls and walls in unvented crawl spaces should be insulated to help prevent substantial heat loss. (A crawl space is an unfinished, accessible area below the first floor of a building. An unvented crawl space is part of the basement while a vented crawl space opens to the outside.) Unframed, exterior basement walls should be insulated with batts insulation, which can be installed horizontally or vertically. Typically, the batt is held against the sill plate at the top of the basement wall with furring strips. In addition to the furring strips, you will need patch tape, and depending on the installation method you choose, possibly a Hilti-type gun and special fasteners for driving into concrete or cinder blocks.

How to Install Basement Insulation on Unframed Walls: Horizontal Installation

1. Seal around all penetrations in band joists. Any walls that leak water must be repaired before insulating.
2. Pre-drill an ample supply of 1x2 furring strips.
3. Measure the length of insulation you'll need for the full wall and cut it accordingly.
4. Grip the insulation and position it against the sill plate at the top of the basement wall. Then position a furring strip and nail through the furring and the flange to the sill plate to secure the insulation. Whenever possible, pull the insulation behind any ductwork, plumbing, or electrical that may lie along the walls. Otherwise, carefully cut and fit the batts around obstructions.
5. When you cover the full wall, you'll need to attach a second length of the batt to the lower edge of the first one. If you have cut a piece to fit and there is no flange, create one by pulling back the insulation. Overlap the flanges of the top and bottom pieces so that the insulation butts together tightly. Then, staple through the flange to hold the pieces together. An alternate method is to attach furring strips to the wall at the mid-point and bottom of the wall. Then staple the batt flange to the furring strips.
6. To give the insulation a finished look, tape over all joints, seams and stapled edges with 3-inch wide, white vinyl patch tape.
7. Cut small pieces of batt insulation to fit against the header joists and push them into place between each floor joist



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INSTALLATION INSTRUCTIONS

WALLS

How to Install Basement Insulation on Unframed Walls: Vertical Installation

1. Seal around all penetrations in band joists. Any walls that leak water must be repaired before insulating.
2. Cut lengths of insulation a few inches longer than the height of the walls.
3. Attach the batt to the wall using furring strips or a Hilti-type gun to drive fasteners into the concrete or cinder blocks. Fit adjacent blankets tightly together.
4. Trim the bottom of the insulation flush with the floor.
5. To give the insulation a finished look, tape over all joints and with 3"-wide, white vinyl patch tape.

How to Install Insulation in a Finished Basement

Finished basements are insulated like any other room in your house.

INSTALLATION INSTRUCTIONS

CRAWL SPACES

How to Insulate a Vented Crawl Space

If the sub-floor is already in place, the insulation is installed from below, much as it is installed in ceilings.

1. Cover the ground with sheets of six-mil plastic film. The sheets should overlap each other by approximately twelve inches, and extend a few inches up the walls.
2. Tape the film in place at the walls and hold the seams in place with tape, scrap lumber, or rocks. After the ground is covered, you're ready to install the insulation.
3. Fit the insulation batts into the joists. Make sure the insulation fits snugly so that there is no air space between the flooring and the insulation.
4. Staple the insulation flanges securely to the sides or bottom of the joists (called "inset stapling").

When installing wool batts, use wire lacing, screen or stiff wire fasteners to hold the insulation firmly in place. The fasteners are bowed upwards into the insulation, pressing it gently against the sub-floor without overly compressing it. Place the fasteners at least six inches from the end of each batt, and no more than 24 inches apart. If you're using a vapor retarder, its side is installed up against the subfloor. Where heating ducts between joists are exposed to cold air, insulation should be installed below the ducts to prevent heat loss. In cold climates, if water pipes are running through the joists in the crawl space, insulation should be installed below the pipes to protect them from freezing.

INSTALLATION INSTRUCTIONS

CRAWL SPACES

How to Insulate an Unvented Crawl Space

In an unvented crawl space, the general rule is to insulate the perimeter walls. This eliminates the need to separately insulate the water pipes and heating ducts.

1. Cover the ground with sheets of six-mil plastic film. The sheets should overlap each other by approximately twelve inches, and extend a few inches up the walls.
2. Tape the film in place at the walls and hold the seams in place with tape, scrap lumber, or rocks. After the ground is covered, you're ready to install the insulation.
3. Locate the header joists, which run across the ends of the floor joists. Measure and cut pieces of insulation and place them against the header joists between each floor joist. Completely fill the spaces enclosed by the sub-floor, sill, and floor joists.
4. Install lengths of batts to the sill using furring strips to nail the insulation to the edge of the sill plate. The insulation should be cut long enough to hang down the wall and extend two feet into the crawl space. It can also be installed horizontally in the same manner.
5. Anchor the insulation as close as possible to the wall where it meets the ground using 2x4s.
6. Locate the stringer joists, which run parallel to floor joists. Position an insulation a batt against the underside of the sub-floor and staple or nail it directly to the stringer joist. Or, attach the the batt to the top of the sill, and wedge smaller pieces between the sill plate and sub-floor. (This technique takes longer, but provides better thermal protection at the joist.) The insulation should be cut long enough to hang down the wall and extend two feet into the crawl space. It can also be installed horizontally in the same manner.
7. Anchor the insulation as close as possible to the wall where it meets the ground using 2x4s.
8. Make sure all pieces of insulation are tightly butted together. Be sure they fit snugly, without gaps between them. Taping is not usually necessary. An alternate way of fastening basement blankets to the walls in crawl spaces is using a Hilti-type gun to drive the fasteners into the concrete.



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INSTALLATION INSTRUCTIONS

FLOORS

Floor Insulation:

Underfloor means the floor above an unheated crawl space or basement. Once the underfloors are properly insulated, you will increase the overall comfort of your home because underfloor insulation provides valuable sound control and thermal control. The procedure for installing insulation in underfloors is similar to installing ceiling insulation. Follow the installation tips below to ensure that you do a professional job.

How to Install Underfloor Insulation

1. Caulk where wiring runs through the floor joists and around the top of the wall.
2. Gently press the insulation between the joists. allow friction to hold the insulation in place (called “friction fit method.”)
3. Expand the insulation to its full thickness in the joist cavity to insure complete coverage. However, avoid compressing the insulation material, because compression will reduce its R-value.

The easiest and most effective method of holding insulation in place is to use straight, rigid wire fasteners (preferably galvanized), with pointed ends. The fasteners are made for joist spacings of 12, 16, 18, 20 and 24 inches, and may be used against wood, metal or concrete. The fasteners, which are slightly longer than the joist spacing, are placed by hand between the joists and bowed upwards into the insulation, causing the insulation to be in contact with the subflooring. Install the fasteners so they hold the insulation in contact with the subfloor but avoid unnecessary compression. Spacing of fasteners is as required to prevent sagging of the insulation, normally 12 to 24 inches apart and not more than 6 inches from ends of the insulation.

SPECIAL CONSIDERATIONS

CRITICAL DETAILS & TIPS

Keep all insulation at least 3 inches away from combustible sources such as chimneys, non-IC fixtures, and heated (furnace, water heater, etc) flue pipes.

Insulating Around Electrical

Installing insulation around junction boxes that house electrical receptacles and switches, and around wiring in walls and ceilings requires some special techniques. When cutting insulation around wiring, be sure to keep your utility knife clear of the wires.

Junction Boxes - Hold the insulation up in the wall cavity and check where the junction box lines up. Cut a notch in the batt for the junction box. Place that cutout of insulation behind the junction box, and then insert the rest of the batt in the cavity.

Wiring in Walls - When electrical wiring passes through a stud cavity, split the insulation with your hands. Peel the batt into halves and fit half in front of and half behind the wire so that the wire is nested inside the insulation. If the wiring is located close to the inside surface, then press insulation behind the wiring.

Wiring in Ceilings - Insulation should be placed between electrical wiring and the ceiling.

Insulating Around Plumbing & Piping

In almost any insulation project, you are bound to encounter plumbing pipes in walls and ceilings. It's important to insulate around these obstacles properly, especially in exterior walls where an improper installation could lead to frozen pipes. Remember, in that particular application, the object is to block cold air from the pipes. You should have no problem tucking the insulation into position. Take your time to ensure that the insulation fills the width of the cavity, and do your best to eliminate gaps wherever possible. Never stress pipes by inserting the insulation too forcefully or tightly. In walls where plumbing fixtures are to be placed, insulation must be installed first. Where there is plumbing in exterior walls, install the insulation **BEHIND** the pipes, between the pipes and the exterior. To protect pipes from freezing, insulation should never be placed between the pipes and the warm side of the wall. For vented crawl spaces in cold climates where water pipes run through the joists, install insulation below the pipes to protect them from freezing.

Insulating Around Windows

Exterior Wall Windows - Apply sealants around all windows. Sealants can eliminate drafts, provide thermal resistance, and keep out moisture, dust and insects.

SPECIAL CONSIDERATIONS

CRITICAL DETAILS & TIPS

Insulating Around Ductwork

To insulate around heat ducts in ceilings or floors, cover ducts with insulation so the air temperature in the ducts can be maintained more efficiently.

In basement ceilings, whenever possible, pull the insulation behind any ductwork.

Insulating Non-standard Size Spaces and Narrow Cavities

You will need to trim and piece the insulation.

1. Cut the insulation about an inch wider than the space using a sharp utility knife or scissors against a safe backstop, such as an unfinished floor or other smooth, flat surface.
2. For shorter spaces, cut the insulation to fit properly. Don't double it over or compress it as compression changes the R-value of the insulation.
3. If it takes more than one batt to fill the height of a wall cavity, you need to make sure the two pieces are butted snugly together.

Insulating Around Recessed Lights in Ceilings

Recessed lighting fixtures, as well as fan motors and other heat sources protruding into the ceiling, are a potential fire hazard. Building and fire codes require that there be at least a 3" clearance from any heat-generating source—including chimneys—unless the fixture is IC rated. This rating will be clearly marked on the fixture.

Insulating Scuttles & Pull-Down Stairways

A scuttle is the opening for accessing the attic. Scuttles, pull-down stairways and other attic access holes should also be insulated to the same R-value as your attic. Many attics are filled with loose-fill insulation. However, that does not work for scuttles or pull-down stairways. Batt insulation, however, can be stapled directly to a scuttle hatch. Pull-down stairways may require a build-up framework to lay batts on and around. If you have pull-down attic stairs or an attic door, seal these similarly: Weatherstrip the edges and staple a batt to it.

Knee Walls

Insulation installed in knee walls should be secured to prevent it from falling out of the cavity and covered with an air barrier material. The air barrier should be air tight vapor open barrier.