

In warm, humid regions with a long air conditioning season and high exterior humidity, water vapor sometimes moves in a continuous flow from the warm exterior to the cooler interior of the home.

Vapor retarders can be pre-attached to the fiber glass insulation when you purchase it. A vapor retarder can also be purchased separately, then attached after installation of unfaced insulation.

For years polyethylene sheeting has been used with unfaced insulation when a continuous, airtight vapor retarder film was desired. However, polyethylene does not allow excess moisture, which can accumulate in a cavity, to escape. As a replacement, CertainTeed recommends MemBrain smart vapor retarder.

Other vapor retarders include special low perm paints, plywood, waferboard, foil-faced polyisocyanurate, closed cell polyurethane and 3/4" or thicker extruded polystyrene. All of these, if properly installed with joints taped and holes or tears repaired, are vapor retarders.

CertainTeed Fiber Glass Insulation is Available Unfaced, Kraft Faced or MemBrain™ Faced



Unfaced



Kraft Faced



**MemBrain™
Faced**

Unfaced insulation is manufactured in a variety of widths to insulate attics and to allow pressure fit installation in wall cavities. This insulation is used with a separate vapor retarder or when no vapor retarder is required. The most common types of separate vapor retarders used are made from polyethylene or nylon, available in several roll sizes. Separate vapor retarder installation instructions are found in Vapor Retarder Installation Guidelines on pages 23-24.

Kraft Faced insulation is manufactured with a kraft paper vapor retarder attached. The kraft paper is coated with a thin layer of asphalt adhesive and the coated side is applied to the unfaced fiber glass insulation material. The asphalt adhesive bonds the kraft paper and the insulation together. This type of insulation is used in most parts of the country. It is flammable and should never be left exposed. Most types of kraft-faced insulation have formed stapling flanges at the edges for either face or inset stapling.

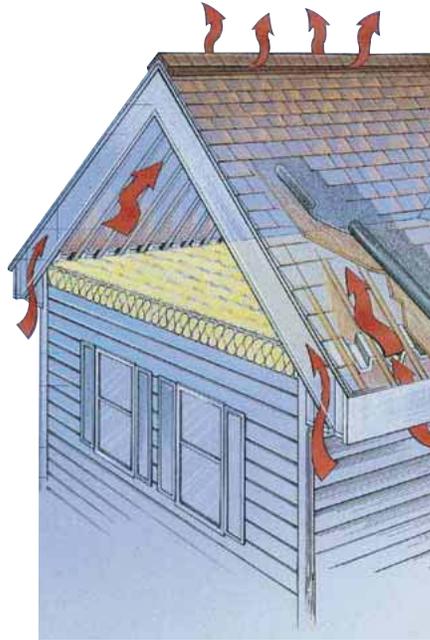
MemBrain™ Faced

CertainTeed DryRight™ insulation is manufactured with MemBrain™ vapor retarder and air barrier film attached. MemBrain, which is also sold as a stand-alone product, is capable of changing its permeability, from low permeability in conditions of low relative humidity to high permeability during conditions of high relative humidity. This process allows wall and ceiling cavities to “dry” with climate changes, thus minimizing the potential for moisture damage. This product can be used in place of traditional vapor retarders with unfaced insulation in wall and ceiling cavities.



Why it's important to ventilate

Since vapor retarders (see previous page) work to retard the flow of water vapor from inside homes into attics and wall cavities, you should provide a way for the excess moisture to escape to the outside. This is done by providing adequate



Adequate ventilation creates a positive flow of air that allows the house to "breathe" and helps prevent moisture from damaging your attic and walls year-round.

ventilation in attics/ flat ceilings and crawlspaces.

In the summer.

Proper ventilation prevents the attic from becoming a hot-box that spills unwanted heat down through the attic floor (even if the attic is insulated) into the living area. This could help reduce your air conditioning costs.

In the winter.

Proper ventilation could help prevent moisture from condensing on the insulation, rafters or roof deck.

How to Ventilate Your Home

In an attic/flat ceiling. The most common ventilation method is the natural or static ventilation system, which consists of simple vent openings in your attic. Eave vents – openings under the eaves – combined with roof or gable vents provide an effective way to create positive movement of air out of the attic. Always provide at least two vent openings for proper air flow. Air will flow into one opening and out the other opening. Install attic baffles to make sure insulation does not block eave vents.

As a general rule, you should provide one square foot of net open vent area for each 150 square feet of attic floor when there is no vapor retarder in the ceiling. If the ceiling has a vapor retarder, provide one square foot of net open vent area for each 300 square feet of attic floor area.

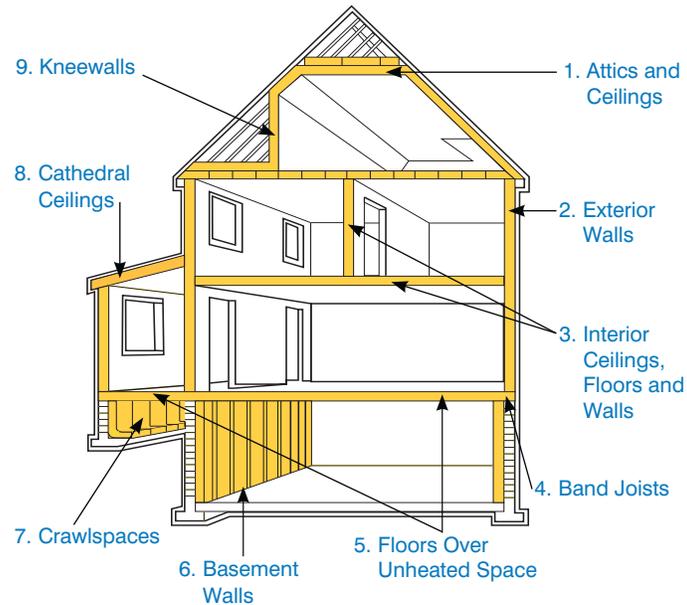
Ideally, 50% of the required ventilation should be provided by vents located in the upper portion of your attic, with the remaining 50% provided by eave vents.

If you're planning to add insulation to your attic, it's important not to cover eave vent openings and to maintain a 1" space between the insulation and roof sheathing so that air can move freely from the eaves to the ridge or gable vents.

In a crawlspace. Providing at least two crawlspace vents will allow a positive flow of air in and out of the crawlspace. One square foot of free vent area is recommended for every 1,500 square feet of floor area covered with a polyethylene ground cover. (In crawlspaces that are unheated or have a dirt floor, it is recommended that the floor be covered with a polyethylene vapor retarder.)

Cathedral ceilings. Cathedral ceilings are sloped ceilings where insulation is installed in rafter spaces and the ceiling finish layer is fastened directly to the rafters. In this type of ceiling, a vented air space between insulation and roof sheathing is usually recommended. CertainTeed manufactures special high-density insulation for use in cathedral ceilings. R-30C (cathedral) is 8-1/4" thick for use in 10" rafters and R-38C (cathedral) is 10-1/4" thick for use in 12" rafters – this allows for a 1" air space above the insulation.

Areas in your home to insulate



The following list refers to locations shown in the diagram above.

1. Attics – the most important area of a home to insulate. Ceilings with cold spaces above; this includes dormer ceilings.
2. Exterior walls. Sections that are sometimes overlooked are walls between living spaces and unheated garages or storage rooms, dormer walls, and the portions of walls above ceilings of adjacent lower sections of split-level homes.
3. Interior walls, ceilings and floors where sound control is desired.
4. Band or header joists, the wall section between floor levels.
5. Floors over unheated or open spaces such as garages and porches. Floors over unheated basements. The cantilevered portions of floors and under windows.
6. Basement walls.
7. Floors above vented crawlspaces. Insulation may also be placed on crawlspace floors and walls.
8. Sloped walls and ceilings (cathedral ceilings) of attic spaces finished as living quarters.
9. Kneewalls of attic spaces finished as living quarters.