

# Building In Radon Control

Radon is a tasteless, colorless and odorless gas

occurring naturally in soil and rock. Radon is a leading cause of lung cancer, second only to cigarette smoking.

Installing a radon system during construction of a structure doesn't cost a lot, and enhances the value of the property.

## How a radon system works.

Crushed stone under the house provides an

easy pathway for the radon to migrate towards the vent piping, where it is drawn upwards and released safely into the atmosphere.

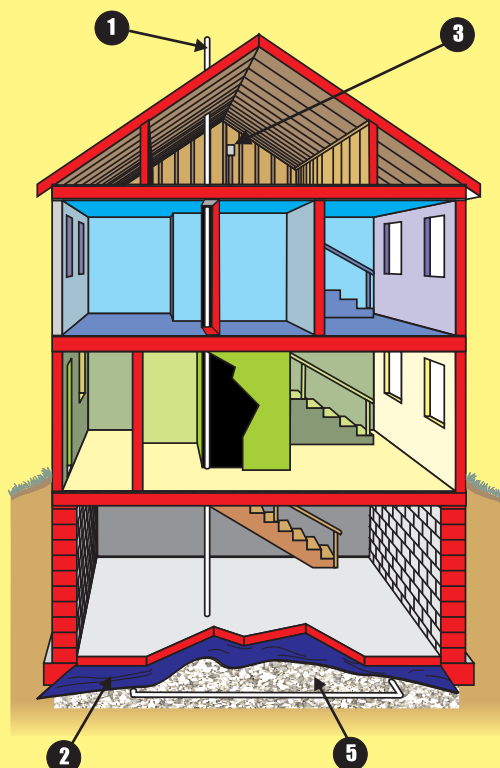
The mitigation system will lower radon levels even without a fan, but it may not be enough. A fan may be required. A simple radon test will provide the answer.

- 1 PVC Pipe** carries radon from under the slab to above the roof.

*A straight run of piping reduces friction losses. Piping MUST NOT be in an exterior wall; interior locations allow the thermal conduction of heat to cause air in the pipe to rise. Attic section needs space for the fan if required. Proper venting requires the pipe to extend above the roof. Four inch PVC pipe is best for system quietness and efficiency.*

- 2 Plastic Sheetting** is placed on top of the crushed stone. The plastic is part of an air barrier between the basement and the subslab, and also is a moisture blocking layer.

*Ensure plastic is not punctured during pouring or working of concrete.*



- 3 Electrical Junction Box** in case a radon fan is needed later.

*NEC requires a plugged fan to be within 6 feet of an outlet. Vent pipe and junction box placement need to account for this.*

- 4 Seal and Caulk** all openings in the concrete floor.

*As part of an air barrier between the subslab and the basement, seal the floor-wall joints and control joints with urethane caulking, and the sump lids with silicon caulking. If a fan needs to be installed after testing, this barrier will prevent basement air from being drawn under the subslab.*

- 5 Crushed Stone** under the slab allows radon to move freely underneath the house.

*Four to six inches of washed and clean 2B stone is best.*

**Important.** After the home is occupied, only home owners or state certified radon contractors may install fans or work on the radon system.

**A radon test should be preformed immediately after the house is occupied, and a fan installed if results are greater than 4 pC/L.**

For further information: IRC 2009 Appendix F, or Pa. Dept. of environmental Protection, Radon Division, or [www.state.pa.us](http://www.state.pa.us) PA Keyword: radon or 1-800-23RADON