

## Radon In South Carolina

Radon is a naturally occurring, radioactive gas. It forms when uranium breaks down in soil, rock and water. It gets into the air you breathe indoors, primarily from soil under your home. You don't know it is there because it is colorless, odorless and tasteless. Radon can be found all over the U.S., including South Carolina. In fact, the S.C. Department of Health and Environmental Control (DHEC) has found elevated levels in almost every county in S.C.

## Radon Is Dangerous To Your Health

Radon is the number one cause of lung cancer in non-smokers and the second leading cause of lung cancer (*after tobacco*) in smokers.

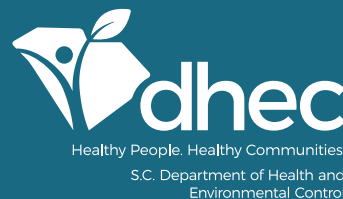
Radon is a risk because it decays into radioactive particles that can get trapped in your lungs when you breathe. These particles break down and release small bursts of energy that can damage lung tissue and lead to lung cancer. Your chances of getting lung cancer from radon depend mostly on how much radon is in your home, the amount of time you spend in your home, and if you smoke or have ever smoked.

## Contact DHEC For More Information

For more information on radon, radon resistance new construction, and radon testing, please contact DHEC.

[www.scdhec.gov/radon](http://www.scdhec.gov/radon)

[radon@dhec.sc.gov](mailto:radon@dhec.sc.gov)



# Building Radon OUT

What you need to know to keep you and your family safe

South Carolina Department of Health and Environmental Control

## Building Radon Resistant New Construction

Fortunately, your builder has built your home using radon resistant building techniques. While a home built with radon resistant new construction does not guarantee reduced levels, it is much more cost effective to install a radon-reduction system during construction than to go back and fix a radon problem identified later.

Radon resistant construction combines common building techniques and materials to seal entry points and route the gases outdoors, helping to prevent radon from entering the home.

## Testing After Occupancy

After occupancy, all homes should be tested for radon, even those built with radon-resistant features. The U.S. Environmental Protection Agency recommends that homes with radon levels at or above 4 picocuries per liter (pCi/L) be fixed. If high levels are found, homes with a passive system can be upgraded with the installation of an in-line fan to further reduce the radon level. This upgrade has also been found to reduce moisture in basements and crawlspaces.

There are several ways you can get a radon test kit:

- DHEC's Radon Program  
[www.scdhec.gov/radon](http://www.scdhec.gov/radon) or 1-800-768-0362
- National Radon Program  
[www.sosradon.org](http://www.sosradon.org) or 1-800-SOS-RADON
- Directly from certified labs such as AirChek or RTCA

## Features of Radon-Resistant Construction

### 1) Gravel:

Four inches of clean, coarse gravel is spread under all areas within the home's walls that will be covered by concrete slabs. Soil-gas collection mats or drainage mats can also be used.

### 2) Soil-gas retarder:

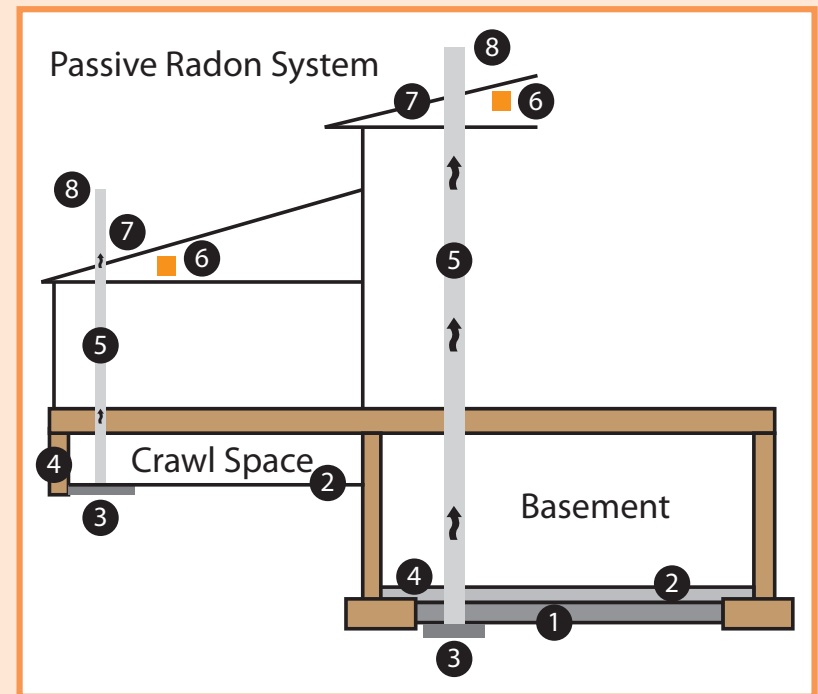
Heavy duty plastic sheeting (6 mil thick polyethylene sheeting) overlapped 12 inches at the seams, and fitted closely around all penetrations, is placed over the gravel. In a crawlspace, the sheeting is sealed to the foundation walls and interior piers and fit closely around any pipe or other penetration.

### 3) Vent pipe "T":

A "T" fitting made of 3-to-4 inch diameter PVC piping is inserted into the gravel under the slab, basement slab, or under a crawlspace's vapor barrier. The "T" pipe allows soil gases to enter with little resistance, and connects to the main vent pipe.

### 4) Sealing:

All potential soil gas entry points are sealed with caulking or expanding foam, including openings around bathtubs, showers, pipes, etc. All control joints, isolation joints, construction joints, and other joints in concrete or between slabs and foundation walls are sealed. In crawlspaces, openings around all penetrations through floors above the crawlspace are caulked.



### 5) Vent pipe:

The vent pipe runs vertically through the roof, directing the soil gases to the outdoors. The vent pipe is a 3-to-4 inch diameter PVC pipe that is connected to the "T" in the gravel. If the home has a drain-tile system, the vent pipe can be directly connected into the drain-tile loop.

### 6) Electrical junction box:

In the attic, an electrical junction box is roughed near the vent pipe. This power supply will be ready to use if the radon control system needs to be "activated" in the future with a fan.

### 7) Roof flashing:

Flashing must be installed around the vent pipe where it exits the roof to prevent leakage.

### 8) Vent pipe identification:

The vent pipe should be clearly labeled as a radon reduction system.