

How Housing Matters

Eliminate radon for a healthy home

Virginia Cooperative Extension



Radon Hazards

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Radon is a colorless, odorless, tasteless radioactive gas. It is dangerous because we cannot notice it with our senses. Radon can come into homes through cracks in basement floors or foundations, cracks around service pipes, floor drains, and dirt floors.

Where Can Radon Be Found?

- Radon comes from the natural radioactive decay of radium and uranium found in the soil beneath the house and in groundwater. Permeable soil allows radon to enter through building foundations, cracks, holes, and construction joints. When the air pressure inside the home is less than outside — called negative air pressure — radon will be drawn from the soil into the home.
 - One in 15 American homes could have high radon levels.
 - For a map of Virginia radon zones, visit the U.S. Environmental Protection Agency website: www.epa.gov/radon/states/virginia.html. The mountain and Piedmont regions of Virginia (red area of the map) are at greatest risk.
 - Radon can also be found in groundwater and can enter your home in running water.

What Are the Health Effects of Radon?

Radon is the second leading cause of lung cancer. Smokers face the greatest risk of getting cancer from radon.

When Should You Test for Radon?

- Radon gas can be found in any new or old home. The EPA advises testing every four years during the winter months.
- Radon levels should be tested when buying or selling a home.
 - Buyers should ask for a new radon test. This is especially important if a previous radon test is more than two years old, the home has been remodeled, or you plan to convert other rooms into bedrooms.
 - Sellers should tell buyers about previous radon testing.
 - Testing should be a part of the home inspection process. The U.S. Department of Housing and Urban Development includes this on the home inspection form for all insured mortgages.

What Kinds of Tests Are There?

- Tests can be administered by certified radon professionals, and this is what is needed during the home buying process. (This can cost \$200 or more.)
- Do-it-yourself test kits can be found in hardware or home improvement stores. Make sure to buy approved tests from National Environmental Health Association's National Radon Proficiency Program.
- There are two kinds of tests: short term and long term. Short-term tests last from two to 90 days. Two short-term tests are needed to give a correct reading of radon level. Long-term tests last longer than 90 days and are good to show seasonal changes in radon levels.



How Do You Administer a Radon Test?

- Testing is time-sensitive.
 - If you are doing two short-term tests, they should be done within 48 hours of each other.
- Doors and windows must be closed as much as possible, beginning 12 hours before testing. Do not place the test next to exhaust or ventilation fans, ceiling fans, floor drains, cracks, sump pumps, or where there is a draft. Do not move the test once it has started.
- Avoid testing during windy or stormy weather.
- Test on the lowest level of your home but avoid moist places (kitchens, bathrooms, and laundry rooms). When the test is complete, send it to the lab. Mailing packages are usually provided with the test.

What Is an Unsafe Level of Radon?

- Radon is measured in picocuries per liter of air. The average radon level indoors is 1.3 picocuries per liter.
- For the lowest risk of lung cancer, the radon level in your house should be no more than 4 picocuries per liter of air. If the results come back at 4 picocuries per liter of air or more, you should retest.



What Should I Do if the Tests Are Above Average?

- If radon levels are still high after a second test, you will have to do something to decrease radon levels.
- Installing a radon reduction system (\$800 to \$2,500) is the best way to reduce the radon levels in your home. Sealing cracks and leaks is not enough.
- The system you install will vary, depending on whether your house has a basement, crawl space, or slab foundation.
- A radon reduction system pulls radon gas out of the ground and vents it outside of your home. This prevents the radon from being drawn into your house by negative air pressure. If it is not pushed outside, radon could get into your house.

Where Can I Find a Professional to Test or Reduce Radon in My Home?

Contractors must comply with nationally recognized standards.

Radon contractors are listed with:

- National Environmental Health Association – www.neha.org/research/radon_IAQ.html
- National Radon Proficiency Program – <http://radongas.org/>
- National Radon Safety Board – <http://nrsb.org/>
- U.S. Environmental Protection Agency – www.epa.gov/radon
- Virginia Department of Health, Division of Radiological Health – www.vdh.state.va.us/epidemiology/radiologicalhealth/Radon/

www.ext.vt.edu