Understanding Radon Risks and Radon Testing in York, PA

Why Radon Is a Concern for York Homeowners

Radon is a naturally occurring radioactive gas that comes from the decay of uranium in soil, rock, and water. It is invisible, odorless, and tasteless, making it impossible to detect without proper testing. In York, Pennsylvania, the geology includes significant amounts of granite, shale, and limestone, which can release radon as they break down. This gas can seep into homes through cracks in foundations, gaps around pipes, and other openings. Long-term exposure to elevated radon levels is the second leading cause of lung cancer in the United States, according to the Environmental Protection Agency. For residents of York, understanding radon risks and taking steps to test and mitigate them is essential for maintaining a healthy indoor environment.

How Radon Enters a Home

Radon moves from the soil into a house through several pathways. It can enter through dirt floors, cracks in concrete slabs, gaps around service pipes, floor drains, and construction joints. The pressure inside a home is usually lower than the pressure in the soil around the foundation, which creates a vacuum effect that draws radon indoors. This is especially pronounced in winter, when homes are sealed tight and heated, increasing the stack effect that pulls air from the ground up through the building. Once inside, radon can accumulate to dangerous levels, particularly in basements and lower floors where ventilation is limited. The only way to know if your home has a radon problem is to test for it, because the gas gives no warning signs.

Common Mistakes People Make With Radon Testing

Getting an accurate radon reading requires careful planning and execution. Many homeowners make simple mistakes that can compromise test results. One of the most frequent errors is placing the test device in the wrong location. Radon detectors should be set up in the lowest livable area of the home, such as a basement or first-floor room, at least 20 inches above the floor and away from drafts, heat sources, and exterior walls. Putting the device in a closet, near a window, or in a bathroom can lead to readings that are not representative of the air you actually breathe.

Another common mistake is testing during the wrong season or for too short a period. Short-term tests, which last two to seven days, can be useful for a quick screening, but they may miss fluctuations caused by weather or changes in ventilation. Long-term tests, which last 90

days to a year, give a much better picture of average radon levels because they capture seasonal variations. Many people opt for a short test when their home is closed up for the winter, but they forget to maintain closed-house conditions for the full test period. Opening windows and doors, running exhaust fans, or operating whole-house fans can dilute the radon concentration and produce a false low reading. The EPA recommends keeping windows and doors closed at least 12 hours before starting the test and throughout the testing period, except for normal entry and exit.

View the location on Google Maps

Using the wrong type of test kit is also a pitfall. There are passive devices, such as charcoal canisters and alpha-track detectors, and active devices that continuously monitor radon levels. Each has its strengths and limitations, and choosing one that is not appropriate for the testing goals can lead to unreliable data. For example, a charcoal canister is sensitive to humidity and must be returned to a lab promptly after the test period, while an alpha-track detector is more robust for long-term testing. Not following the manufacturer's instructions for placement, timing, and shipping can invalidate the results entirely.

Finally, many homeowners fail to test after major renovations or changes to the home's structure. Adding a new foundation, sealing cracks, or finishing a basement can alter how radon enters and moves through the house. Even if a previous test showed safe levels, a renovation may create new pathways for radon to enter. Testing after any significant work is a prudent step that is often overlooked. Local businesses such as York PA Radon Pros can help with testing and mitigation guidance, ensuring that the process is done correctly and the results are reliable.

Understanding Radon Test Results

Radon levels are measured in picocuries per liter (pCi/L). The EPA recommends fixing any home with a radon level of 4 pCi/L or higher. Levels below 4 pCi/L still pose some risk, and the agency suggests considering mitigation for levels between 2 and 4 pCi/L. However, these numbers are not hard thresholds of safety. There is no known safe level of radon, so any reduction in concentration lowers your risk. When you receive your test report, pay attention to the average level over the test period and whether the reading is a short-term or long-term average. A single high spike may be less concerning than a consistently moderate level that stays above the action level over months.

If your test shows an elevated result, do not panic. High radon levels can often be reduced with relatively straightforward mitigation techniques. The most common approach is sub-slab depressurization, which involves installing a pipe and fan system that pulls radon from beneath the foundation and vents it safely outside. Sealing cracks and openings in the foundation is

also important, but sealing alone is rarely enough to bring levels down significantly. Other methods include improving ventilation in crawl spaces, installing a radon sump, or using a heat recovery ventilator to dilute indoor air. The right solution depends on the construction of your home and the source of the radon entry. A qualified radon mitigation professional can assess your situation and recommend the most effective strategy.

Mitigation: What to Expect

Radon mitigation systems are designed to lower indoor radon levels to below 4 pCi/L, and ideally below 2 pCi/L. The process usually starts with a thorough inspection of the home's foundation, crawl space, and basement to identify entry points. The contractor will then decide on the best system, often involving a vent pipe that runs from the soil or gravel under the slab up through the roof, with a fan that creates negative pressure to draw radon out. The fan must be installed outside the living space, typically in an attic or on an exterior wall, to avoid pulling radon into the house. After installation, a follow-up test is essential to confirm that the system is working and that radon levels have dropped to an acceptable range. Homeowners should also be aware that mitigation systems require occasional maintenance, such as checking the fan and ensuring the vent pipe is not blocked.

Choosing the Right Approach

Deciding how to handle radon in your home involves weighing several factors. The cost and complexity of mitigation depend on the home's design, the soil type, and the radon levels found. For new construction, builders can incorporate radon-resistant features such as gravel layers, vapor barriers, and vent pipes, which are much cheaper to install during building than after. For existing homes, the cost of mitigation varies widely, but it is generally a worthwhile investment in health and property value. Some homeowners opt for a do-it-yourself approach using sealants and caulking, but these measures are typically insufficient on their own. Professional mitigation is recommended for any home with levels above 4 pCi/L, as the system must be designed to handle the specific conditions of the site.

Radon in Water

In York, some homes rely on private wells for their water supply. Radon can also dissolve into groundwater, and when that water is used for showering, washing dishes, or other household activities, the radon can be released into the air. Airborne radon from water is generally a smaller risk than radon entering from the soil, but it can still contribute to overall exposure. Testing a private well for radon is straightforward with a water test kit. If the water contains high levels of radon, a point-of-entry treatment system, such as granular activated carbon filtration or aeration, can remove the gas before it enters the home. Municipal water supplies

are typically treated to reduce radon, but it is wise to check with the local utility if you are concerned.

Staying Informed and Taking Action

Radon testing is not a one-time task. Levels can change over time due to shifts in the ground, changes in the home's structure, or alterations in heating and ventilation patterns. The EPA recommends testing your home every two years, or after any major renovation. Real estate transactions in Pennsylvania often include radon testing as part of the home inspection, and many buyers and sellers choose to test for peace of mind. If you are buying a home in York, consider including a radon test in your inspection contingency. Sellers may also benefit from testing before listing, as a pre-tested home with low radon levels can be a selling point.

Radon is a serious health risk, but it is a manageable one. With proper testing and mitigation, you can significantly reduce your exposure and protect your family's health. For residents of York, Pennsylvania, being proactive about radon means understanding the local geology, using correct testing methods, and working with qualified professionals when needed. One local option is York PA Radon Pros, which can provide guidance on testing and mitigation for homes in the area. If you are unsure about the process or need help interpreting results, it is worth confirming with whichever professional you choose about the specific steps they recommend for your home.

York PA Radon Pros is located at 867 Clare Ln, York, PA 17402, and can be reached at +17178075245 for more information about radon testing and mitigation services.