Understanding Radon Testing for Your Home

If you own a home in York County, Pennsylvania, you have likely heard about radon gas. It is a naturally occurring radioactive gas that can seep into buildings from the soil beneath them. Because you cannot see, smell, or taste it, the only reliable way to know if your home has an elevated level is through testing. This article walks through what a home radon test involves, the different types of tests available, and how to interpret the results.

Why Radon Levels Matter

Radon gas breaks down into radioactive particles that can be inhaled. Over time, exposure to these particles increases the risk of lung cancer. The U.S. Environmental Protection Agency and the Surgeon General have identified radon as a leading cause of lung cancer after smoking. This is why testing is recommended for nearly every home, especially in areas like York County, where geology makes radon more common.

The key measure used is picocuries per liter, or pCi/L. The EPA action level is 4 pCi/L. If your home measures at or above this level, installing a mitigation system is strongly advised. Even levels between 2 and 4 pCi/L carry some risk, and many homeowners choose to reduce them anyway. The only way to know your level is to conduct a home radon test.

Short-Term vs Long-Term Tests

Radon tests fall into two main categories: short-term and long-term. A short-term test stays in your home from two to seven days. It gives a quick snapshot, which is useful if you need results fast, such as during a real estate transaction. The most common short-term device is an activated charcoal test. This small canister or bag contains charcoal that absorbs radon from the air. After the test period, you mail it to a lab, and they analyze the sample.



A long-term test remains in place for 90 days to a full year. Because radon levels can fluctuate daily and seasonally, a long-term test provides a more accurate average of your year-round exposure. An alpha track detector is the standard device for this type of test. It uses a special plastic film that records alpha particles released by radon decay. After the test period, the lab reads the track density to calculate the average radon level. Many experts recommend starting with a short-term test for a quick check and following up with a long-term test if you want a fuller picture.

How to Run a Test Correctly

Getting accurate results depends on following the instructions carefully. Place the test device in the lowest livable level of your home, such as a basement or first-floor room. Keep it away from drafts, direct sunlight, high humidity, and exterior walls. During the test, keep windows and doors closed as much as possible, except for normal entry and exit. Do not run fans or air conditioning systems that bring in outside air. These steps prevent dilution of the radon level, which could give you a falsely low reading.

For a short-term test, the typical instructions require closing all windows 12 hours before the test begins and keeping them closed for the whole test period. If you are using an activated charcoal test, be careful not to open the sealed package until you are ready to start. Once opened, the device begins absorbing radon immediately. After the test period ends, reseal it and mail it to the lab as soon as possible. Delays can affect the results.

What the Results Tell You

Once the lab analyzes your test, you will receive a report showing the radon level in picocuries per liter. If the level is below 2 pCi/L, your risk is relatively low, though no level is completely safe. Between 2 and 4 pCi/L, consider taking steps to reduce the level, even if it is not required. At 4 pCi/L or higher, the EPA recommends installing a radon mitigation system.

A common question is whether to retest after mitigation. Yes, you should always test again after a system is installed to confirm it is working. Many certified radon professionals include a follow-up test as part of their service. Also, if you make structural changes to your home, such as adding a new foundation or sealing cracks, retesting is a good idea because these changes can affect radon entry routes.



Hiring a Certified Professional

While you can buy a home radon test kit at a hardware store or online, there are times when hiring a certified radon professional makes more sense. For instance, if you are buying or selling a home, a professional test may be required by the lender or the buyer. Professionals use calibrated equipment and follow strict protocols, which can be important for official results. They can also perform a continuous radon monitor that records levels over time, giving more detailed data than a single charcoal canister.

In York County, several certified professionals offer testing and mitigation services. When choosing one, ask about their certifications, such as from the National Radon Proficiency Program (NRPP) or the Pennsylvania Department of Environmental Protection. A good professional will explain the process clearly, answer your questions, and provide a written report. They should never pressure you into unnecessary services.

What to Expect from a Professional Test

A professional will typically place a continuous radon monitor in your home for at least 48 hours. The monitor records radon levels every hour, so you can see how the level changes. The professional will also inspect your home for potential radon entry points, such as cracks in the foundation, sump pumps, or utility openings. This inspection helps them understand the best mitigation approach if one is needed.

After the test, you receive a detailed report with the average radon level and a recommendation. If the level is high, the professional will design a mitigation system. Common systems include sub-slab depressurization, which draws radon from beneath the concrete slab and vents it outside, or a crawlspace ventilation system for homes with crawlspaces. The cost of mitigation varies, but the peace of mind and health benefits are significant.

Maintaining a Healthy Home

Radon testing is not a one-time event. Because your home's radon level can change over time due to settling, renovations, or changes in the water table, the EPA recommends retesting every two years. If you have a mitigation system, check its manometer (the U-shaped gauge) regularly to ensure the fan is running. A failed fan can allow radon levels to rise again without you knowing.



Also, keep records of your test results and mitigation details. If you sell your home, buyers will likely ask for this information. Showing that you have tested and mitigated radon responsibly can be a selling point, as it signals that the home has been well cared for.

Final Thoughts

Radon is a serious health risk, but it is also a manageable one. Testing your home is straightforward and inexpensive compared to the potential long-term health costs. Whether you choose a do-it-yourself kit or hire a certified professional, the important step is to test. If your results call for mitigation, act on them promptly. By staying informed and proactive, you can protect your family and maintain the value of your home. The process starts with a simple home radon test, and the knowledge it gives you is worth the effort.