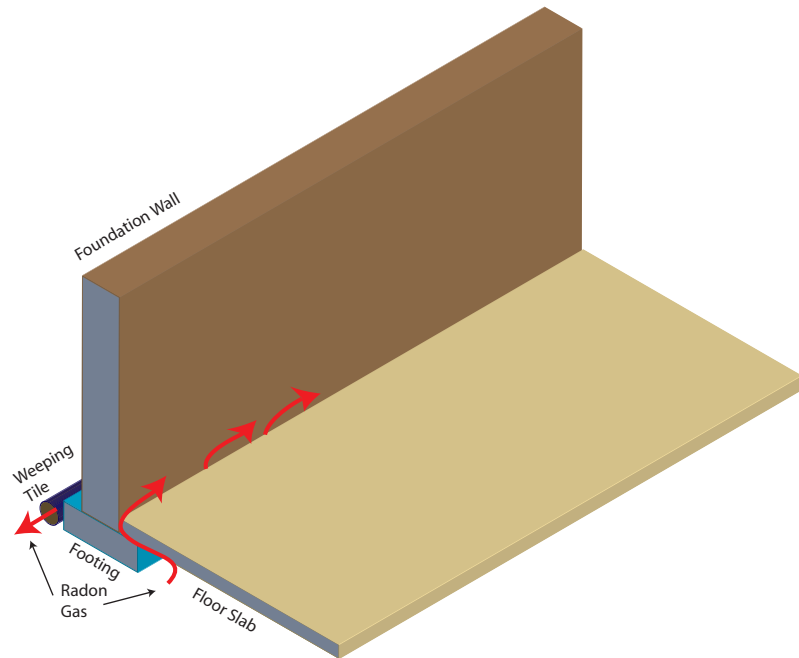


Radon Gas

Radon is a radioactive gas that exists naturally in the environment in very low concentrations. Radon comes from uranium in the soil. While uranium is not present in significant quantities in most geographical areas, traces of uranium in the soil exist everywhere. As uranium breaks down, it produces radon gas.

Radon is classified as a human carcinogen. Breathing radon gas is associated with an increased risk of developing lung cancer. The risk increases with increased concentration of radon in the air and exposure time. The concern is around radon levels that can build up inside a house. Even if you live in an area with fairly low environmental radon, you could still have significant levels in your home.



Radon testing

You can get a relatively inexpensive test to determine the radon levels in your home. Testing strategies fall into two general categories: short term testing, which may take only a few days; or long term testing, which could take several months. While long term testing gives you a better indication of the radon exposure, people often choose short term testing for faster results.

Understanding Radon Levels

Radon levels are reported in one of three different units of measure:

- The most common unit of measure in the United States is pico Curies per Liter (pCi/L)
- The most common unit of measure in Canada is Becquerels per cubic meter (Bq/m³)
- You may also see the term working levels (WL), common in scientific literature

The following numbers will give you an idea what to expect to see:

- Average outdoor level is 0.3 pCi/L or 10 Bq/m³
- Average indoor level is 1.2 pCi/L or 45 Bq/m³
- Indoor **action level** in the United States is 4 pCi/L or 150 Bq/m³
- Indoor **action level** in Canada is 5.4 pCi/L or 200 Bq/m³

Action level is the level at which you should take steps to reduce the radon gas entering your home.

Fixing a Radon Problem

If you have radon levels at or above the action level, you should take action. The most common remedial technique involves depressurizing the soil under your home. If your home has a basement or slab-on-grade, a suction pipe is inserted through the slab into the gravel below. Then suction is applied to the pipe to draw radon in the soil towards the pipe, effectively sucking the radon up and out of the home. The cost for a sub-slab suction system ranges from about \$1,000 to \$3,000.

In the past, remediation involved a trial-and-error approach. For example, a technician might try sealing all of the cracks in the basement, such as a gap between the floor slab and the foundation, and then conduct a re-test. If the re-test shows acceptable levels, you may get away with paying only a few hundred dollars for the fix. But if sealing the cracks does not solve the problem you will have to go to the next level of remediation. Today, most people feel that it is better to do a proper, comprehensive fix the first time.

You can also dilute radon by increasing the ventilation rate in your home. Adding a balanced ventilation system such as a heat-recovery ventilator brings fresh air into the home, discharges stale air outside, and swaps heat in the process to prevent heat-energy loss. But this approach does not sit well with everyone since it effectively lets in radon in order to deal with it.

Regardless of the remedial method you choose, getting your home tested is a good first step. Arming yourself with information about the various approaches is the next step and consulting an expert is always a good idea.

