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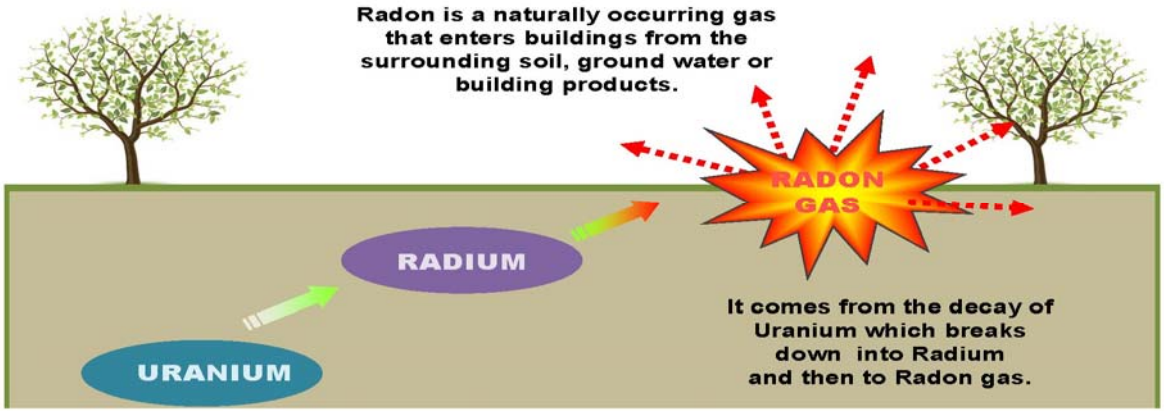
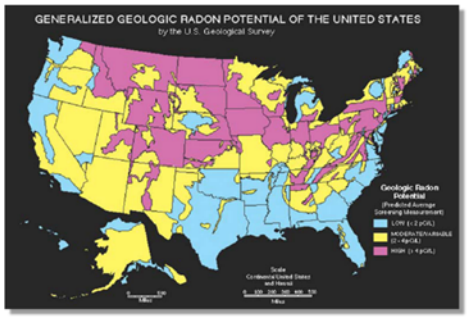
RADON GAS

Radon is an odorless, colorless radioactive gas. It is created by the natural breakdown of uranium or radioactive contaminated soil. Radon can be found in high concentrations in rock and soil that contains granite, shale, phosphate and uranium, or even fill soil containing industrial waste. Radon gas moves through the soil toward the earth's surface where it either safely dissipates in outdoor air or seeps into buildings through cracks and gaps in the building's foundation. Radon can also be introduced into a building or home through the water-supply, particularly if there is a private well. Certain building products, such as the stone used for a fireplace, can also be a source of radon gas.



Research indicates that once trapped inside a home, radon can accumulate to the point where it can be harmful to the occupants. Actually, it is the breakdown of radon into what is referred to as radon decay products (or radon daughters) that represents the greatest concern. These radioactive products become attached to airborne particles, which can be inhaled and ultimately cause lung tissue damage and cancer. Smokers are especially prone to the adverse effects of long term radon exposure.

The potential for radon in any particular home is dependent on a number of variable factors such as the underlying soil composition, the type of construction materials and methods used, weather conditions, and even occupant lifestyle. Radon concerns tend to be greatest in hilly or mountainous regions, and less of an issue in sandy coastal areas. The U.S. Environmental Protection Agency (www.epa.gov) and local health departments can provide information on radon and have maps identifying known radon hot spots. But pockets of radon-producing elements can be found almost anywhere.



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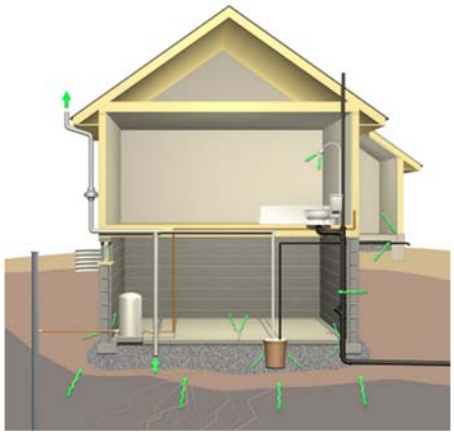
Radon levels may vary from season to season, day to day, or even by the hour, as pressure differences occur outside or within a structure. Dramatically different radon levels can be found in seemingly identical neighboring homes. Consequently, the only way to determine if there is a radon concern is to perform a test. While radon kits are available for consumer use, it is generally recommended that radon screening or testing be performed by a qualified radon specialist, especially for real estate transactions.

Even with professional testing, it can be difficult to readily determine average annual radon levels in a particular home. Radon levels tend to become elevated when the air pressure within a house is less than that of the radon gas in the soil. This type pressure imbalance can occur with the use of certain appliances and fans, particularly in relatively airtight structures. Fuel-burning appliances that require indoor air for combustion or draw in air for other purposes, lower indoor air pressure. This action can result in the radon gas being drawn into the building through sub-surface cracks and/or other openings. The adjacent illustration highlights the common radon entry points for a house.

Since radon gas is naturally occurring, it cannot be eliminated; but it can be controlled. Once the radon level in a particular house is quantified using one of several recognized radon-testing methods, steps can be taken to lower the radon level and the potential health concern. The EPA has established a continuous exposure level of 4(or more) picocuries per liter (pCi/l) as the action level for remediation.

This measurement does not necessarily represent a safe amount of radon; rather it is a guidance point to determine when remedial action is advisable. It is also deemed the point to which conventional radon remediation methods can be expected to lower radon levels in a building. Radon levels below 4 pCi/l are commonly measured in buildings and generally do not require any significant remedial action (subject to the specific situation or occupant concerns), as it may be difficult to achieve significantly lower levels even if a radon mitigation system is installed.

There are several methods that can be used to lower radon levels. These include ventilation systems, pressurization of the basement air, and block wall ventilation. However, the most commonly used and effective radon mitigation method is sub-slab suction. This method makes use of plastic piping, installed through the floor slab of a house, basement, or even crawlspace, and a low-volume, continuously operating fan to create a negative-pressure within the piping to draw in radon-laden air from below the house and vent it harmlessly to the exterior.



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