

## WHAT IS RADON?

**Radon** is a naturally occurring gas produced by the breakdown of uranium in soil, rock, and water. Radon cannot be detected by sight, smell, or taste and is estimated to cause 7,000 to 30,000 deaths from lung cancer per year. It can become a health risk when trapped indoors where it can build to high levels. Radon can enter a home or building through dirt floors; hollow block walls; and openings around floor drains, pipes, and sump pump.

Radon can enter and collect inside homes and other buildings that are not built with radon-resistant techniques. However, buildings constructed with radon-resistant techniques can ensure lower radon levels, energy-efficiency, and a safer home.

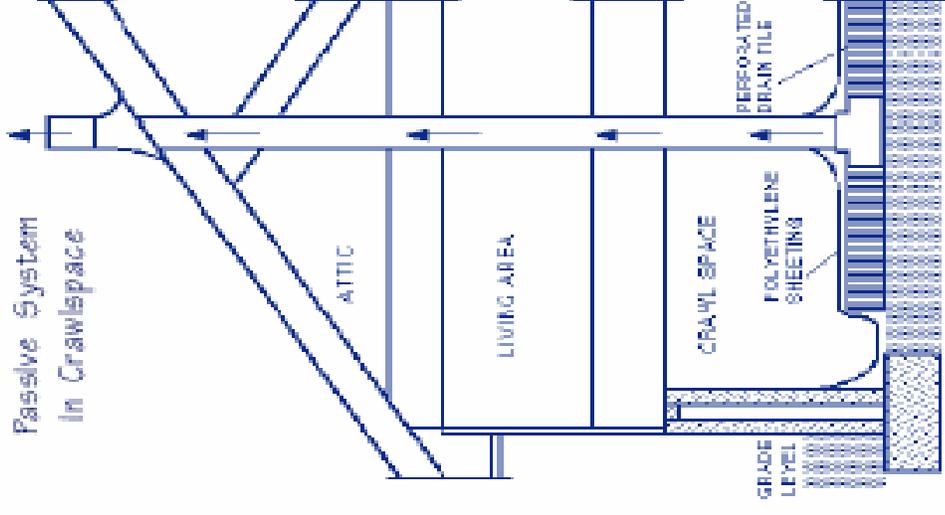
### RADON FACTS

- Cortland County has the highest Long-term Living Area results (39% of homes are greater than 4pCi/L) in NYS.
- Cortland County has the highest Short-Term Basement results (74% of homes are greater than 4pCi/L) of houses tested in NYS.
- Levels can vary widely, even from home to home in the same neighborhood.
- Radon is the second leading cause of lung cancer.

## WHERE CAN I GET MORE INFORMATION?

- EPS's Building Radon Out, available locally at the Cortland County Environmental Health division, 753-5035.
- For your free copy of EPA's Model Standards and Techniques for Control of Radon in New Residential Buildings, call 1-800-55RADON. Free architectural drawings of radon-resistant construction techniques are also available by calling 1-800-55RADON.
- The American Society of Testing and Materials (ASTM) has a Standard Guide (E 1465-92) on radon-resistant construction. It contains construction techniques similar to those in the EPA Model Standards. Call 215-299-5585 for more information on obtaining this Standard Guide.
- The national Association of Home Builders has information on radon-resistant techniques in their Energy and Home Environment Department (1-800-368-5242 ext. 244).

## RADON-RESISTANT CONSTRUCTION IN NEW HOMES



**PREVENTION**  
*It's a good idea!*

## WHY BUILD HOMES WITH RADON-RESISTANT TECHNIQUES?

### Makes Homes Safer from Radon!

These construction techniques help block radon from entering the home. The occupants will benefit from lower radon levels in their new home.

### Easy to Upgrade

If high radon levels are found, the techniques allow for easy and inexpensive installation of a fan for increased radon reduction in the home. Every new home should be tested for radon by the homeowner after occupancy.

### Cost-Effective for Home Buyers

It is more cost-effective to include radon-resistant techniques while building a home, rather than retrofitting an existing home.

Materials and labor cost

Radon-Resistant Techniques

\$350-\$500

vs.

Retrofitting an Existing Home

\$800-\$2,500

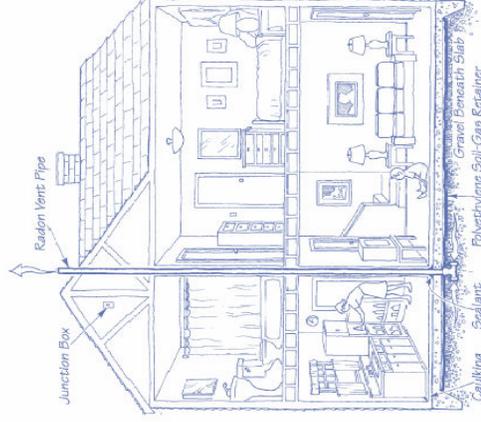
Some construction companies use this as a marketing advantage.

### Improves Energy-Efficiency

Radon-resistant construction techniques provide an average of \$65 per year in energy savings for the homeowner because it keeps moisture out.

There are five major parts to passive radon-resistant construction techniques:

1. A layer of gas permeable material under the foundation (usually 4" of gravel);
2. Plastic sheeting over that material;
3. Sealing and caulking all openings in the concrete foundation floor;



4. Installation of a gas-tight 3" or 4" vent pipe that runs from under the foundation through the house to the roof; and
5. A roughed-in electrical junction box for the future installation of a fan, if needed.

These features create a physical barrier to radon entry. The vent pipe redirects the flow of air under the foundation preventing radon from seeping into the house.

## IS THERE A GUIDE FOR BUILDING WITH RADON-RESISTANT TECHNIQUES?

- Model Standards and Techniques for Control of Radon in New Residential Buildings is available from your State Radon office or by calling 1-800-55RADON.
- These Model Standards, developed by the U.S. Environmental Protection Agency and the building industry, detail how to install radon-resistant techniques during construction of homes.
- The Model Standards are useful for builders, architects, prospective home buyers, realtors, building code officials, home inspectors, and others who have interest in new home construction.
- The radon-resistant techniques use common building materials and methods. The techniques are passive and easy to install.
- The Model Standards are supported by the National Association of Home Builders for areas of high radon potential.
- The American Society for Testing and Materials (ASTM) published a Standard Guide for Radon Control Options for the Design and Construction of New Low-Rise Residential Buildings (E 1465-92). The techniques are similar to those found in the EPA Model Standards.