

What Are Radon-Resistant Features?

Radon-resistant techniques (features) may vary for different foundations and site requirements. If you're having a house built, you can learn about EPA's Model Standards (and architectural drawings) and explain the techniques to your builder. If your new house was built (or will be built) to be radon-resistant, it will include these basic elements:

Gas-Permeable Layer: This layer is placed beneath the slab or flooring system to allow the soil gas to move freely underneath the house. In many cases, the material used is a 4-inch layer of clean gravel. This gas-permeable layer is used only in homes with basement and slab-on-grade foundations; it is not used in homes with crawlspace foundations.

Plastic Sheeting: Plastic sheeting is placed on top of the gas-permeable layer and under the slab to help prevent the soil gas from entering the home. In crawl spaces, the sheeting (with seams sealed) is placed directly over the crawlspace floor.

Sealing and Caulking: All below-grade openings in the foundation and walls are sealed to reduce soil gas entry into the home.

Vent Pipe: A 3- or 4-inch PVC pipe (or other gas-tight pipe) runs from the gas-permeable layer through the house to the roof, to safely vent radon and other soil gases to the outside.

Junction Boxes: An electrical junction box is included in the attic to make the wiring and installation of a vent fan easier. For example, you decide to activate the passive system because your test result showed an elevated radon level (4 pCi/L or more). A separate junction box is placed in the living space to power the vent fan alarm. An alarm is installed along with the vent fan to indicate when the vent fan is not operating properly.