

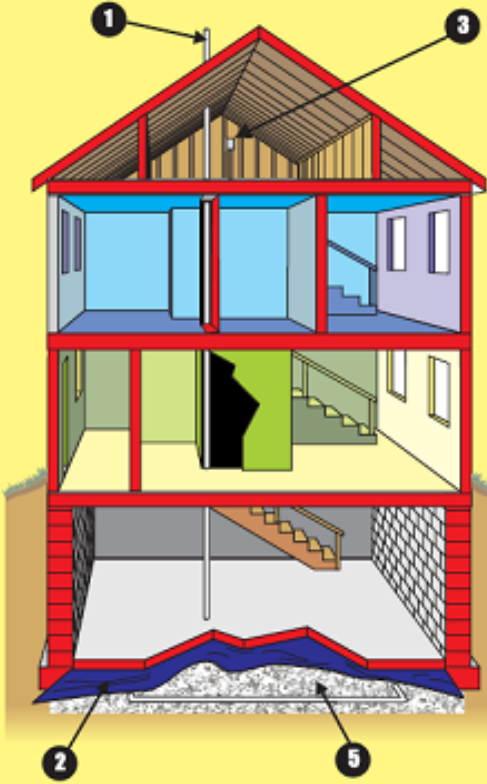
Radon Resistant New Construction (RRNC)

What is Radon?

Radon is a tasteless, colorless, odorless gas that can cause lung cancer. It comes from uranium and radium that are naturally occurring in rocks and soil throughout the world. Radon is in the soil and air everywhere in varying amounts but it can become concentrated in homes and other structures as radon enters through cracks and joints in concrete or through exposed soil in crawl spaces. The amount of radon is indicated by classification of Zones. Zone 1 has the highest average levels, Zone 3 the lowest. Iowa has the unfortunate distinction of being the only state in the US with all of its counties in Zone 1, therefore reducing radon in structures is an important health issue. Radon is reduced in new homes and additions using Radon Resistant New Construction (RRNC) techniques.

RRNC Requirements

RRNC is required for all new homes and residential additions in Linn County. The basic principles are outlined below. All details of RRNC are located in Appendix F of the International Residential Code.



1 PVC Pipe carries radon from under the slab to above the roof.
A straight run of piping reduces friction losses. Piping MUST NOT be in an exterior wall; interior locations allow the thermal conduction of heat to cause air in the pipe to rise. Attic section needs space for the fan if required. Proper venting requires the pipe to extend above the roof. Four inch PVC pipe is best for system quietness and efficiency.

2 Plastic Sheetting is placed on top of the crushed stone. The plastic is part of an air barrier between the basement and the subslab, and also is a moisture blocking layer.
Ensure plastic is not punctured during pouring or working of concrete.

3 Electrical Junction Box in case a radon fan is needed later.
NEC requires a plugged fan to be within 6 feet of an outlet. Vent pipe and junction box placement need to account for this.

4 Seal and Caulk all openings in the concrete floor.
As part of an air barrier between the subslab and the basement, seal the floor-wall joints and control joints with urethane caulking, and the sump lids with silicon caulking. If a fan needs to be installed after testing, this barrier will prevent basement air from being drawn under the subslab.

5 Crushed Stone under the slab allows radon to move freely underneath the house.
Four to six inches of washed and clean 2B stone is best.

Important. After the home is occupied, only home owners or state certified radon contractors may install fans or work on the radon system.