LEED BD+C: Homes | v4

Radon-resistant construction

Required

Glossary

Intent

To reduce occupants' exposure to radon gas and other soil gas contaminants.

Requirements

Case 1. New Construction

If the building is in EPA radon zone 1 (or local equivalent for projects outside the United States), design and build with radon-resistant construction techniques, as prescribed by American Association of Radon Scientist and Technologists (AARST), Reducing Radon in New Construction of 1 & 2 Family (RRNC 2.0); EPA Building Radon Out; NFPA 5000, Chapter 49; International Residential Code, Appendix F; CABO, Appendix F; ASTM E1465; or a local equivalent, whichever is more stringent. Follow all the requirements listed in Indoor airPLUS, 2.1:

- Provide a capillary break per the Indoor airPLUS specifications.
- Provide an electrical outlet near vent piping in the attic to facilitate future fan installation.
- Install a 3- or 4-inch (or approximately 80- or 100- millimeters)diameter gas-tight vertical vent pipe with no bends greater than 45 degrees, connected to an open T-fitting in the aggregate layer, extending up through the conditioned spaces and terminating at least 12 inches (300 millimeters) above the roof opening./li>

The requirements for radon protection are automatically satisfied if the building is elevated by at least 2 feet (600 millimeters), with open air space between the building and ground. An enclosed vented crawlspace does not qualify. A garage under a building is an acceptable alternative.

For mixed-use buildings, nonresidential space is exempted.

Case 2. Renovation of Existing Building

If the building is in EPA radon zone 1 (high risk), and if no slab work is being performed (i.e., an existing slab is not being demolished, and no new slab floor is being built), test the building for radon. If the results are greater than 4 pCi/L, install an active ventilation system. If the results are less than 4 pCi/L, no radon-resistant construction techniques are required.
Projects that earn the EPA Indoor airPLUS label automatically meet the requirements of this prerequisite.