

ASTM E 1465 Highlights

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Goal of ASTM E 1465

New low rise residential buildings with radon concentration of less than 2 pCi/L; radon concentration demonstrated by radon test and documented before occupancy in all indoor occupiable spaces.

What is ASTM E 1465

ASTM E 1465 is a set of construction specifications for unobtrusive built-in radon control features that assure “acceptable radon concentrations” in new residential buildings.

Independent Radon Tests

Required before occupancy; recommended after occupancy.

Exception: radon test can be delayed until after occupancy when buyer agrees to such an arrangement; this provision was added to the standard because a buyer can face significant inconvenience and expense if his/her new house is not ready on time.

In ASTM E 1465 “acceptable radon concentration” means:

- 1) When agreed to by buyer and seller: the maximum allowable indoor radon before and after occupancy; concentration must be demonstrated and documented; radon must always be less than the U.S. EPA action level.
- 2) When not otherwise agreed to: indoor radon less than U.S. EPA recommended radon action level (currently 4 pCi/L.)

Two Pipe Route Choices

1. Fan-powered pipe route for greater radon reduction.
Fan installed only when necessary to obtain “acceptable radon concentrations.”
2. Passive pipe route for lower operating cost.
Passive pipe route allowed to operate as a passive system when piping is complete. Fan must be installed if “acceptable radon concentrations” are not obtained with passive system.

A Label for each of the Three Outcomes

- 1) Passive system that is operating, or
- 2) fan-powered pipe route (with no radon fan or monitor) that is not operating, or
- 3) fan-powered radon system (using a passive or fan-powered using pipe route) that has an operating fan and an operating radon system monitor.

Space for Radon Fan and Monitor Always Required

Space for a radon fan and radon system monitor must be provided for both passive and fan-powered pipe routes during construction and before occupancy.

Visual Table of Contents

A summary of ASTM E 1465’s technical content is in the attached Visual Table of Contents; it points to 28 important features including sub-slab aggregate (gas-permeable layers) in all sub-slab/membrane compartments within building’s footprint, sub-slab piping (the soil-gas collectors), sealed slab or membrane (ground cover) over all soil within building’s footprint, and a fan-powered or passive radon vent stack that is routed inside the building from the slab up through the roof and discharging at a place separated from openings into the building preferably above the ridge of the highest roof.