

Residential Radon Control Systems for New Buildings

Minnesota Rules 1303.2400



Radon occurs naturally in rocks and soil. It is a radioactive gas, posing health risks to people and pets. It can accumulate in the homes where we live and breathe. The Minnesota Building Code requires radon control systems in new residential buildings to mitigate accumulation of radon in homes.

Passive Radon Control Systems are required in the following residential occupancies:

- One & Two Family Dwellings
- Townhouses & Condominiums
- Apartment Buildings
- Multi-story & Mixed Occupancy Buildings that include residential occupancy
- Any addition to an existing dwelling that currently has a radon control system

A passive radon control system is not required in additions and alterations to existing buildings unless the building required a system at the time it was permitted.

A radon control system must be provided in the previous occupancies if:

- There is a basement slab or wood floor in contact with earth, or
- There is a crawl space within the building's conditioned space, or
- There is slab on grade construction, or
- There is any building configuration that allows radon gas to enter the dwelling unit.

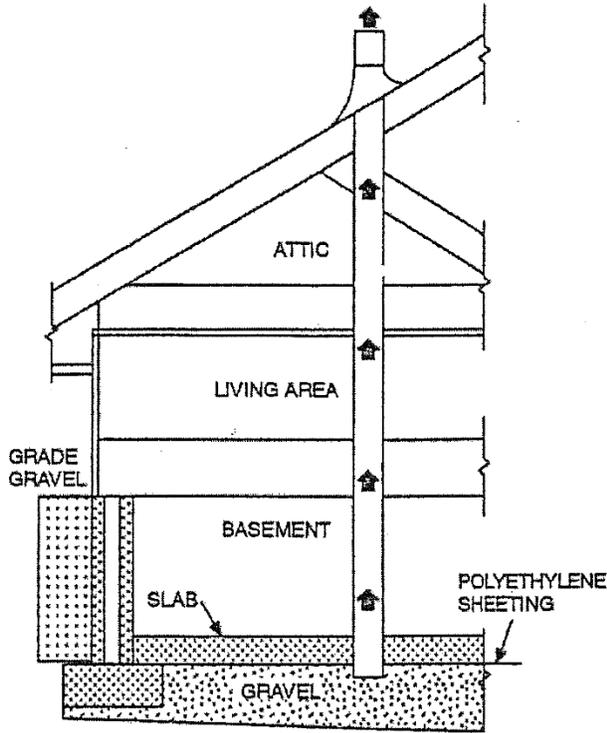
What can be used as a gas permeable under slab material?

- A uniform 4" layer of clean aggregate, the aggregate must pass through a 2" sieve and be retained by a ¼" sieve
- A uniform 4" layer of sand overlain by a layer or strips geotextile drainage matting designed to allow the lateral flow of soil gases
- Other professionally engineered materials, systems, or floor systems designed to provide depressurization under the soil gas membrane.

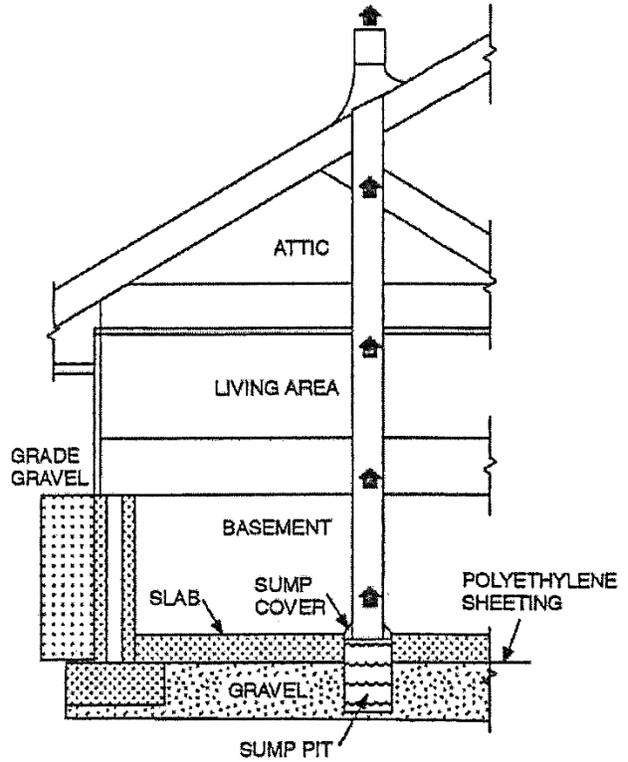
If a fan is installed on a passive system, creating an Active Radon Control System, the system must comply with the following:

- A radon gas vent pipe fan must be installed rated for continuous operation that is capable of 50 cfm's at a ½" water column
- The fan must be installed outside, in the attic, or in the garage
- A system-monitoring device must be installed
- A switch-controlled luminaire and receptacle must be installed near the fan

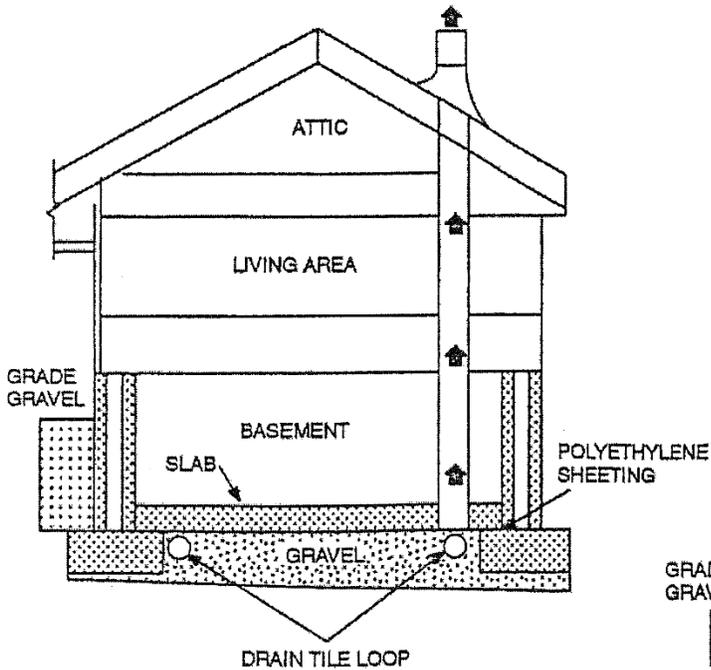
TYPICAL SUB-SLAB DEPRESSURIZATION
PASSIVE RADON SYSTEM



PASSIVE RADON SYSTEM VENTED
THROUGH SUMP



PASSIVE RADON SYSTEM USING
DRAIN-TILE LOOP



SUB-MEMBRANE DEPRESSURIZATION SYSTEM
FOR CRAWL SPACE

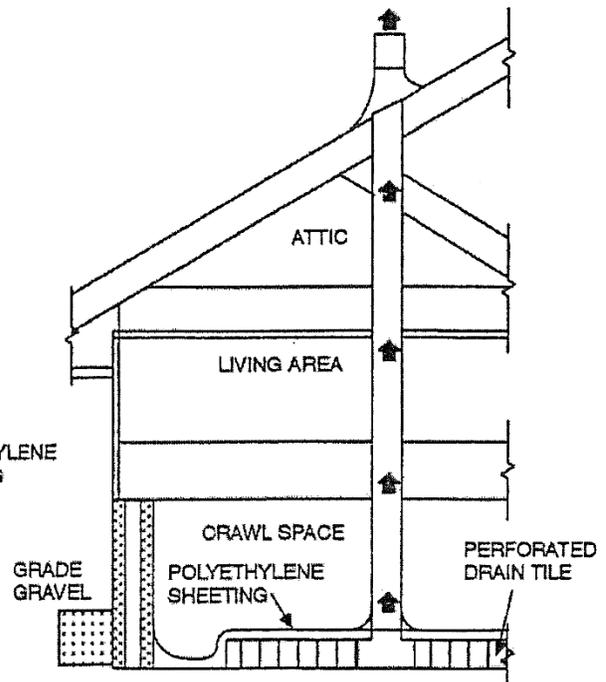


FIGURE AF102
RADON-RESISTANT CONSTRUCTION DETAILS FOR FOUR FOUNDATION TYPES