

Knox County Code Administration & Inspection

IRC – Under-Floor Space Information

REV. 022019



SECTION R408 UNDER – FLOOR SPACE (Partial readings of code section)

R408.1 Ventilation

The under-floor space between the bottom of the floor joists and the earth under any building (except such space occupied by a basement) shall have ventilation openings through foundation walls or exterior walls. The minimum net area of ventilation openings shall not be less than 1 square foot for each 150 square feet of crawl space area, unless the ground surface is covered by a class 1 vapor retarder material. Where an approved vapor retarder is used, the minimum ventilation shall be 1 square foot of ventilation per 1500 square feet of under floor space area. One such ventilating opening shall be within 3 feet of each corner of the building.

R408.2 Openings for Under-floor Ventilation

Ventilation openings shall be covered for their height and width with any of the following materials provided that the least dimension of the covering shall not exceed ¼".

1. Perforated sheet metal plates not less than 0.070 inch thick.
2. Expanded sheet metal plates not less than 0.047 inch thick.
3. Cast iron grill or grating.
4. Extruded load bearing brick vents.
5. Hardware cloth of 0.035 inch wire or heavier.
6. Corrosion Resistant wire mesh, with the least dimension being 1/8 inch.

R408.3 Unvented Crawl Space (Requires approval of submitted plans)

Ventilation openings are required where one of the following are provided:

1. Exposed earth must be covered with a continuous vapor retarder with joints overlapped by 6" and sealed or taped. The vapor retarder must extend at least 6" up the stem wall where it must be attached and sealed to the wall.
2. One of the following is provided for the under-floor space:
 - 2.1. A continuously operated mechanical exhaust ventilation at a rate of 1 cfm for each 50ft² of crawl space floor area, including an air pathway to the common area, and the perimeter walls insulated.
 - 2.2. Conditioned air supply sized to deliver a rate equal to 1 cfm for each 50 sf of under –floor area, including a return air pathway to the common area (by a duct or grill), and perimeter walls insulated.
 - 2.3. Plenum complying with section M1601.5, if the under-floor space is used as a plenum.
 - 2.4. Dehumidification sized to provide 70 pints of moisture removal per day for every 1000 sf of crawl space floor area.

R408.4 Access

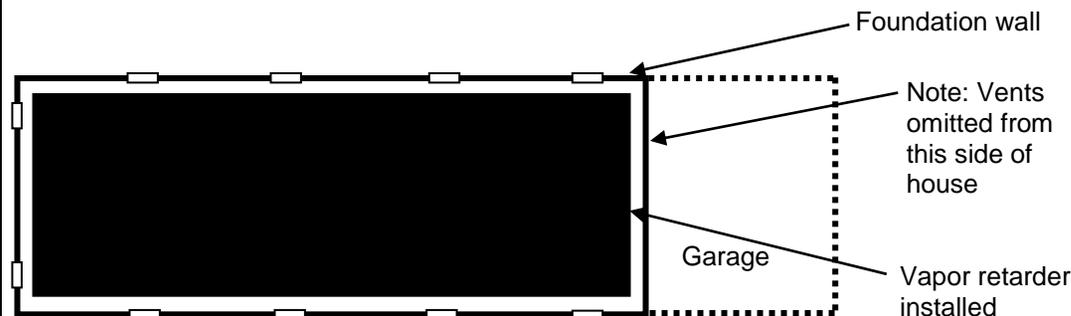
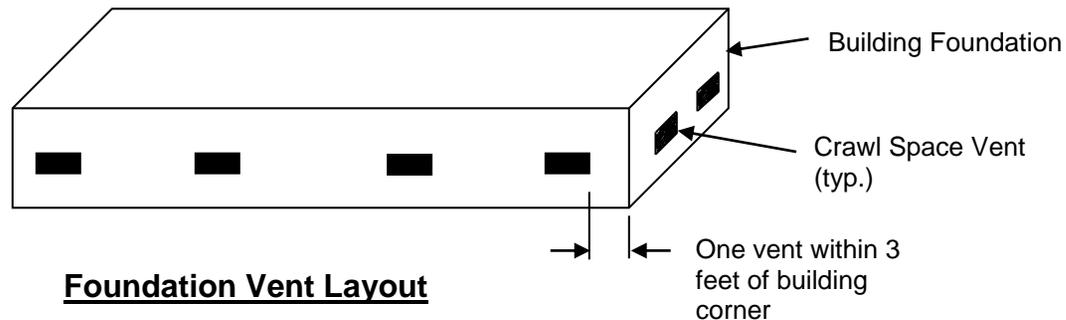
Openings through the floor shall be not less than 18"x24". Access openings through the wall shall be not less than 16"x24". Through wall access openings shall not be located under a door to a residence.

R408.5 Removal of Debris

The under-floor grade shall be cleaned of all vegetation and organic material. All wood forms used for placing concrete shall be removed before a building is occupied or used for any purposes. All construction materials shall be removed before a building is occupied or used for any purpose.

R408.6 Finish Grade

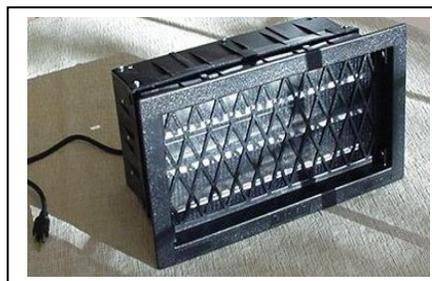
Grade may be located at the bottom of the footings; however, if there is evidence that the groundwater table can rise to within 6" of the finished floor (and does not readily drain, the grade of the under-floor space shall be as high as the outside finished grade unless an approved drainage system is provided.



Foundation Plan View

Because of the recent awareness of fungus growth issues in crawl spaces and due to the lack of good airflow within them, a mechanical humidistat controlled fan(s) may be required by the Knox County Code Administration & Inspection Department.

Call the codes office for details of installation.



Example of a mechanical power vent for a crawl space. Needs to be controlled by a humidistat or comparable means.