

9.10 CRAWL SPACE VENTILATION

Before taking steps to improve crawl-space ventilation, comply with these requirements.

- ✓ The crawl space should have an access hatch or door that is adequate for a worker or resident to enter or exit.
- ✓ Correct grading, drainage, and gutter-and-downspout problems related to crawl-space moisture problems as specified in *“Ground-Water Drainage” on page 38*.
- ✓ Install a ground-moisture barrier as specified in *“Ground-Moisture Barriers” on page 43*.
- ✓ Install a sump pump with its discharge drained to daylight or a French drain to drain persistent standing water.

9.10.1 Naturally Ventilated Crawl Spaces

When insulating the floor, the crawl space is usually ventilated naturally through passive vent openings in the foundation wall. A ground-moisture barrier protects the floor insulation and other building materials from moisture. The vent openings can remove small amounts of moisture from the crawl space. Two specifications apply to ventilated crawl spaces.

1. A crawl-space with a ground-moisture barrier may have vent openings equal to 1 square foot of vent area to 300 square feet of crawl-space floor area. A minimum of two vents should be installed on opposite corners of the crawl space.
2. In a dry crawl space with a ground-moisture barrier, ventilation openings may be minimized to one square foot of net free ventilation area for every 1500 square

feet of crawl-space floor area, according to the 2012 IRC.

9.10.2 Power-Ventilated Crawl Spaces

The IRC allows you to seal the crawl-space vents completely when you insulate the foundation walls and power-ventilate the crawl space. These three specifications apply to power-ventilated or conditioned crawl spaces.

1. Remove moisture sources like standing water and install a seam-sealed and edge-sealed ground-moisture barrier, before sealing the foundation vents.
2. The IRC requires 1 CFM per 50 square feet of crawl space floor area in continuous powered exhaust ventilation. The IRC requires openings from the crawl space into the home so that make-up air comes from the living space. Some installers depend on floor air leakage to provide make-up air instead of intentional openings between the home and crawl space.
3. An acceptable alternative to option 2 is controlling the exhaust fan with a dehumidistat (moisture sensitive control). Such an exhaust fan typically operates continuously until the crawl space is dry and then intermittently after that. This option isn't IRC-approved.

9.10.3 Conditioned Crawl Spaces

The IRC requires 1 CFM per 50 square feet of crawl space floor area in conditioned supply air from a forced-air system. The IRC requires openings from the crawl space into the home for this option. The conditioned option requires code-compliant level of foundation insulation appropriate for the home's climate.

The conditioned crawl space, although allowed by the IRC, may be an ineffective moisture-and-energy solution for existing crawl spaces, especially in dry locations. In humid climates with

damp crawl spaces, the conditioned crawl space has succeeded in reducing moisture problems and even energy costs, when combined with an airtight ground-moisture barrier and foundation insulation.



SATURN
RESOURCE MANAGEMENT