

Section 9.18. Crawl Spaces

9.18.1. General

9.18.1.1. Application

1) This Section applies to crawl spaces whose exterior walls have less than 25% of their total area above exterior ground level open to the outdoors.

9.18.1.2. Foundations

1) *Foundations* enclosing crawl spaces shall conform to Section 9.15.

9.18.1.3. Heated and Unheated Crawl Spaces

1) Crawl spaces shall be considered to be heated where the space

- a) is used as a hot air *plenum*,
- b) contains heating ducts that are not sealed and insulated to minimize heat loss to the space, or
- c) is not separated from heated space in accordance with Section 9.25.

2) Heating of heated crawl spaces shall conform to Section 9.33.

3) Insulation, an *air barrier system* and a *vapour barrier* shall be installed in the walls of heated crawl spaces in accordance with Section 9.25.

9.18.2. Access

9.18.2.1. Access Openings

1) An access opening of not less than 500 mm by 700 mm shall be provided to each crawl space where the crawl space serves a single *dwelling unit*, and not less than 550 mm by 900 mm for other crawl spaces.

2) Access openings shall be fitted with a door or hatch, except when the crawl space is heated and the access opening into the crawl space is from an adjacent heated space.

9.18.3. Ventilation

9.18.3.1. Ventilation of Unheated Crawl Spaces

1) Unheated crawl spaces shall be ventilated by natural or mechanical means.

2) Where an unheated crawl space is ventilated by natural means, ventilation shall be provided to the outside air by not less than 0.1 m² of unobstructed vent area for every 50 m² of *floor area*.

3) Vents shall be

- a) uniformly distributed on opposite sides of the *building*, and
- b) designed to prevent the entry of snow, rain and insects.

9.18.3.2. Ventilation of Heated Crawl Spaces

1) Heated crawl spaces shall be ventilated in accordance with Section 9.32.

9.18.4. Clearance

(See also Article 9.3.2.9.)

9.18.4.1. Access Way to Services

1) Where equipment requiring service such as plumbing cleanouts, traps and burners is located in crawl spaces, an access way with a height and width of not less than 600 mm shall be provided from the access door to the equipment and for a distance of 900 mm on the side or sides of the equipment to be serviced.

9.18.5. Drainage

9.18.5.1. Drainage

- 1) Except where it can be shown to be unnecessary, the ingress of water into a crawl space shall be controlled by grading or drainage.
- 2) Drainage of *foundation* walls shall conform to Article 9.14.2.1.
- 3) Drainage of the ground cover or floor-on-ground in the crawl space shall conform to Subsection 9.16.3.
- 4) Drains shall conform to Section 9.14.

9.18.6. Ground Cover

9.18.6.1. Ground Cover in Unheated Crawl Spaces

- 1) Where a crawl space is unheated, a ground cover shall be provided consisting of not less than
 - a) 50 mm of asphalt,
 - b) 100 mm of 15 MPa Portland cement concrete,
 - c) Type S roll roofing, or
 - d) 0.10 mm polyethylene.
- 2) Joints in sheet-type ground cover required in Sentence (1) shall be lapped not less than 100 mm and weighted down.

9.18.6.2. Ground Cover in Heated Crawl Spaces

- 1) Where a crawl space is heated, a ground cover consisting of not less than 0.15 mm polyethylene sheet conforming to CAN/CGSB-51.34-M, “Vapour Barrier, Polyethylene Sheet for Use in Building Construction,” shall be installed as part of an *air barrier system* in accordance with Subsection 9.25.3.
- 2) The ground cover required in Sentence (1) shall have its joints lapped not less than 300 mm, and
 - a) be sealed and evenly weighted down, or
 - b) be covered with concrete not less than 50 mm thick.
- 3) The perimeter of the ground cover required in Sentence (1) shall be sealed to the *foundation* wall. (See Notes A-9.13.4., A-9.25.3.4. and 9.25.3.6., and A-9.25.3.6.(2) and (3).)
- 4) All penetrations of the ground cover required in Sentence (1) shall be sealed against air leakage. (See Subsection 9.25.3.)

9.18.7. Fire Protection

9.18.7.1. Crawl Spaces as Warm Air Plenums

- 1) Only crawl spaces under 1-storey portions of *dwelling units* shall be used as warm-air *plenums*.
 - 2) Enclosing material in crawl spaces described in Sentence (1), including insulation, shall have a surface *flame-spread rating* not greater than 150.
 - 3) *Combustible* ground cover in crawl spaces described in Sentence (1) shall be protected beneath each register opening with *noncombustible* material.
 - 4) The *noncombustible* register protection described in Sentence (3) shall
 - a) extend not less than 300 mm beyond the projection of the register opening, and
 - b) have up-turned edges.
- (See Note A-9.18.7.1.(4).)