

Section 9.16. Floors-on-Ground

9.16.1. Scope

9.16.1.1. Application

- 1) This Section applies to floors supported on ground or on granular *fill* that do not provide structural support for the superstructure.

9.16.1.2. Structural Floors

- 1) Floors-on-ground that support loads from the superstructure shall be designed in conformance with Part 4.

9.16.1.3. Required Floors-on-Ground

- 1) All spaces within *dwelling units*, except crawl spaces, shall be provided with a floor-on-ground, where
 - a) access is provided to the space, and
 - b) a floor supported by the structure is not provided.

9.16.1.4. Dampproofing and Waterproofing

- 1) Dampproofing and waterproofing shall conform to Section 9.13.

9.16.2. Material beneath Floors

9.16.2.1. Required Installation of Granular Material

- 1) Except as provided in Sentence (2), a drainage layer shall be installed beneath floors-on-ground. (See Note A-9.16.2.1.(1) and see also Subsection 9.13.4. and Note A-9.13.4.)
- 2) The drainage layer required in Sentence (1) need not be installed beneath
 - a) slabs in garages, carports or accessory *buildings*, or
 - b) *buildings* of *industrial occupancy* where the nature of the process contained therein permits or requires the use of large openings in the *building* envelope even during the winter.

9.16.2.2. Support of Floors

- 1) Material that is susceptible to changes in volume due to variations in moisture content or chemical-microbiological oxidation shall not be used as *fill* beneath floors-on-ground in a concentration that will damage the *building* to a degree that would adversely affect its stability or the performance of assemblies. (See also Article 9.4.4.4. and Note A-9.4.4.4.(1).)
- 2) Material that is susceptible to changes in volume due to freezing shall not be used as *fill* beneath floors-on-ground that will be subjected to freezing temperatures. (See also Article 9.4.4.4. and Note A-9.4.4.4.(1).)
- 3) Except as provided in Sentence (4), *fill* beneath floors-on-ground shall be compacted.
- 4) *Fill* beneath floors-on-ground need not be compacted where the material is coarse clean granular material containing not more than 10% of material that will pass a 4 mm sieve.

9.16.3. Drainage

9.16.3.1. Control of Water Ingress

- 1) Except as provided in Article 9.16.3.2. or where it can be shown to be unnecessary, ingress of water underneath a floor-on-ground shall be prevented by grading or drainage.

9.16.3.2. Hydrostatic Pressure

- 1) Where *groundwater levels* may cause hydrostatic pressure beneath a floor-on-ground, the floor-on-ground shall be
 - a) a poured concrete slab, and
 - b) designed to resist such pressures.

9.16.3.3. Floor Drains

- 1) When floor drains are required (See Section 9.31.), the floor surface shall be sloped so that no water can accumulate.

9.16.4. Concrete**9.16.4.1. Surface Finish**

- 1) The finished surface of concrete floor slabs shall be troweled smooth and even.
- 2) Dry cement shall not be added to the floor surfaces to absorb surplus water.

9.16.4.2. Topping Course

- 1) When a topping course is provided for a concrete floor slab, it shall consist of 1 part cement to 2.5 parts clean, well graded sand by volume, with a water/cement ratio approximately equal to that of the base slab.
- 2) When concrete topping is provided, it shall not be less than 20 mm thick.

9.16.4.3. Thickness

- 1) Concrete slabs shall not be less than 75 mm thick exclusive of concrete topping.

9.16.4.4. Bond Break

- 1) A bond-breaking material shall be placed between the slab and footings or *rock*.

9.16.5. Wood**9.16.5.1. Wood-Frame Floors**

- 1) Floors-on-ground constructed of wood shall conform to CSA S406, “Permanent Wood Foundations for Housing and Small Buildings.”