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## Design of ventilated cavity

What is described herein is based on experience with a large number of ventilated facades built over the past 50 years in Switzerland and elsewhere.

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### 1. Ventilation cavity and vent gaps

- 1.1 The natural ventilation by thermal action functions due to gaps at bottom and top of the cladding, and at sills and heads of windows.
- 1.2 It is recommended to close the vent gaps by perforated screens or mesh especially at the bottom of the cladding against ingress of rodents.

### 2. Pressure equalised cavity

- 2.1 There is no negative pressure in the cavity that could attract rain water, as the ventilation gaps provide direct connection to the natural environment conditions, thus the cavity is pressure equalised.

### 3. Compartments

- 3.1 Panel support profiles must run vertically so as to allow the natural air flow by thermal action in vertical direction.
- 3.2 Swiss building code does not require the cavity to be compartmentalised horizontally provided that all materials used are non-combustible.
- 3.3 The building code in some countries might call for horizontal fire barriers in which case vent gaps must be located on top and underneath such barrier.

### 4. Thickness of cavity

- 4.1 Recommended minimum cavity thickness as follows:
  - 20 mm for buildings up to 6 m high
  - 25 mm for buildings up to 15 m high
  - 30 mm for buildings up to 25 m high
  - 40 mm for buildings up to 50 m high
  - 50 mm for buildings up to 75 m high
  - 75 mm for buildings up to 100 m high
- 4.2 It is good practice to design the cavity from bottom to top in one run, regardless of the building height.

### 5. Ventilation cavity inner wall finish

- 5.1 Outer face wall substrate or thermal insulation should be water repellent or at least not water absorbing.
- 5.2 Where wind or moisture barriers are used, those should have a high vapour transmission coefficient.
- 5.3 Thermal insulation to be fastened so as not to obstruct the air flow.