

# World Radon Solutions Database

## Existing Buildings

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### Existing Buildings

### Case Study

Sheet N°

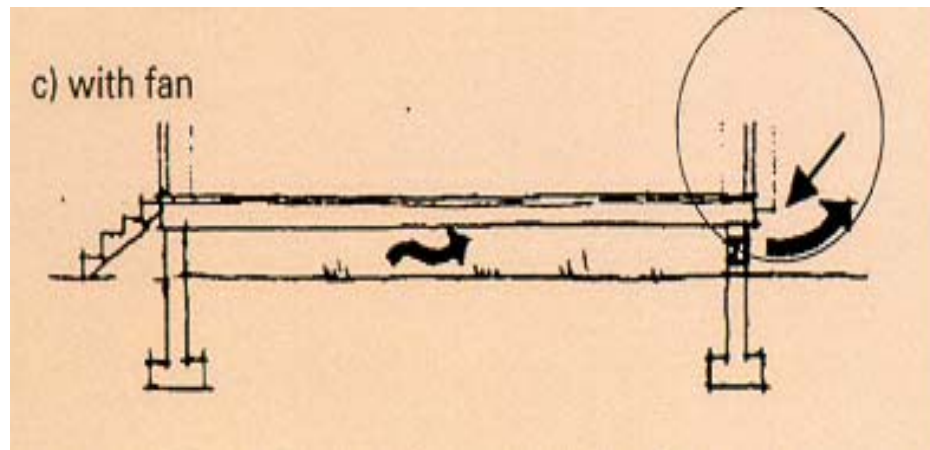
### Type

Depressurization of the crawlspace

### Country

Switzerland

### Illustration



## **Description**

Mechanical ventilation can also be applied in crawlspaces. This depressurises the basement, which prevents transport of the basement air into the upper storeys (only one opening).

Fans: Axial fan, 10 to 100 W with variable frequency controls.

The exhaust vent should be at least 2 metres away from windows or doors

## **Selection**

Building with existing crawlspace(s).

## **Pre-installation Diagnosis**

If it's possible measure the radon concentration in the crawlspace.

Check the crawlspace configuration. It's important to know if the crawlspace consists of several parts. Make a hole (only one for each part) through the external wall or the floor. Use a fan to create a depressurization in the crawlspace and measure the radon concentration with a continuous monitor in the inhabited rooms.

It is better to effect this simulation in the cold period.

## **Radon reduction achieved**

Radon reduction from 1200 Bq/m<sup>3</sup> down to 50 Bq/m<sup>3</sup>

## **Problems**

If there is a furnace above the crawlspace in question, there is a risk of poor combustion and thus carbon monoxide poisoning. This should be carefully checked; it may be necessary to use a CO detector.

Sealing: It's very important to seal around the tube to prevent air leakage.

## **System enhancements**

If the crawlspace consists of several parts, they must either be linked or ventilated separately.

Additional measure: If the crawlspace is accessible, sealing it with a foil may improve the situation. The foil, at least 0.5 mm thick, is laid on the soil, welded and sealed off from the walls.

The fan's energy consumption can be reduced (power and hours). Measure the radon concentration with a continuous monitor to find out the minimum capacity required to have a sufficient effect. The system can be possibly turned off in the summer and certain hours of the day.

## **Further Information**

More information about this system in the "Swiss Radon Guide" could be bought or downloaded from our website [WWW.CH-RADON.CH](http://WWW.CH-RADON.CH)

[www.bag.admin.ch/strahlen/ionisant/radon/pdf/d/Radonhandbuch-en.pdf](http://www.bag.admin.ch/strahlen/ionisant/radon/pdf/d/Radonhandbuch-en.pdf)

or direct from

Swiss Federal Office of Public Health

Division of Radiation protection

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