



# European Radon Solutions Database

Prepared by  
: ERRICCA 2 *European Radon Research and Industry Collaboration Concerted Action*  
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## Existing Buildings

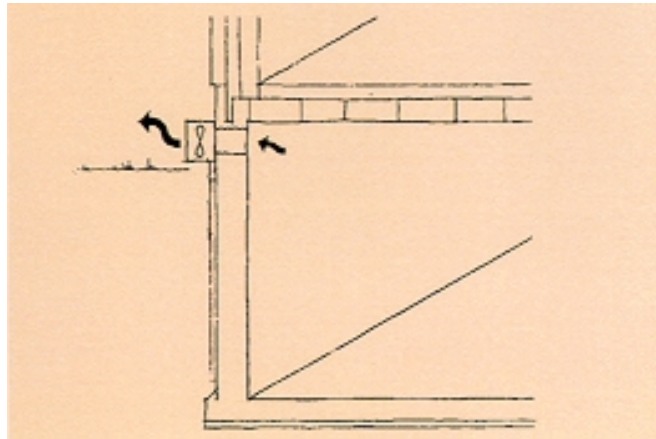
### Case Study

Sheet N°

**Type** Controlled ventilation (depressurization)

**Country** Switzerland

### Illustration



## Description

If the basement's ceiling is made of permeable material such as wood, hollow clay blocks, etc., the basement air is sucked through the ceiling into the spaces above. This natural underpressure can be balanced by extracting air from the basement.

There should be no large openings between basement and inhabited premises or the outside, so that a small fan is sufficient and there are no great heat losses.

## Selection

First condition: high radon concentration in uninhabited rooms in the basement, second condition: to have a non airtight ceiling (for. ex. wood ceiling).

## Pre-installation Diagnosis

Test it! Install a fan temporarily in the window and measure the radon concentration in the premises. It is better to effectuate this simulation in the cold period.

## Radon reduction achieved

Radon reduction from 800 Bq/m<sup>3</sup> down to 50 Bq/m<sup>3</sup>

## Problems

If there is a boiler or furnace in the basement in question or on the first floor, 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.

The exhaust vent should be at least 2 metres away from windows and doors, so that the severely contaminated air does not reinfiltrate the interior.

## System enhancements

Reduce the ceiling's permeability.

## 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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