

World Radon Solutions Database

Existing Buildings

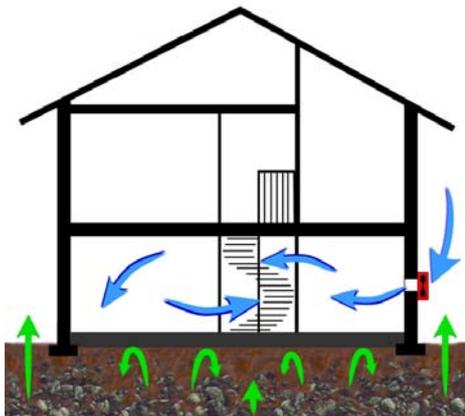
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Case Study | **Sheet N°** | IT/CS/02

Type | Active classroom pressurisation

Country | Italy/Bolzano

Illustration



Description

Code: BZ 75. A secondary school in hillside location. A house/room pressurization system has been realized in a classroom in the basement (area approx. 60 m²). In order to create a pressurization to prevent radon from entering into the classroom, a fan (power: 11 W) has been applied in the classroom. The fan blows outdoor air through a hole in the wall into the classroom.

The effectiveness of this technique is limited by house construction, climate, other appliances in the house, and occupant lifestyle. In order to maintain enough pressure to keep radon out, the doors and windows in the classroom must be closed, except for normal entry and exit.

Pre-installation Diagnosis

Radon concentration has been measured by track detectors (LR115) for six months and continuous monitoring (Alphaguard). The highest radon concentration was detected in a classroom in the basement (workroom: 1,600 Bq/m³ continuous monitoring).

Radon reduction achieved

Room	Radon concentration (Bq/m ³)(*)		Effectiveness (%)
	Remediation off	Remediation on	
Classroom in the basement	1,600	50	97
Fan was switched off during the night with a timer (same room)	1,600	120	93

- (*) = Highest radon concentration during the control measuring period of approx. two weeks in the winter: remediation off, on, off. Measuring instrument: Alphaguard.
- The room pressurization system was realized in 2004.

Problems

Noise and dust: use a device with a sound insulation to reduce the fan or outside noise and an air filter. In winter it could be necessary to heat the fresh outdoor air.

System enhancements

A maintenance agreement is necessary, so for example, the fan must be changed every two years.

Further Information

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