

IRMA International Industrial Guideline

27 September, 2017

Industrial radon measurement guideline to get an overall view of the radon concentration in a workplace IRMA 0791-30

General measurement requirements:

- The measurements should be performed as long-term measurements meaning a measurement period of at least three months.
- The measurements should be analyzed by a laboratory which is accredited to the ISO 17025 or NELAC standards.

Rooms/areas considered for measurement:

- Rooms/areas which are occupied on a regular basis for more than 4 hours a day.
- All underground/basement rooms/areas and other rooms, where there is a significant risk of major radon entry, which could be used by individuals for more than 50 hours per year (about one hour per week).

Number of detectors to use:

- Basement and ground floor: Measure in all rooms/areas which fulfill the criteria above. For larger rooms and spaces, place at least on detector per 150 m².
- On higher floors: At least two detectors per floor and at least one detector per 250 m².

Other:

- A pre-study, to identify possible places where radon from the soil could leak into the building from below, should be performed before the actual measurement starts. In this pre-study, an understanding of pipe penetrations through the floor, ventilation and where any natural gamma radiation from building material is occurring should be identified to enable a more detailed plan to be made for the placement of detectors.
- Since employees usually get a higher radon exposure in their homes, it is recommended that employees are offered radon measurement in their dwellings in parallel with those being made in their workplace.
- Information about radon and the planned measurements should be distributed before the workplace measurements start.
- Measurements should be performed during the building heating season and with a measurement period which fulfills national requirements.
- The placement of the detectors within the rooms should follow national recommendations (actually quite similar from country to country).
- Detectors should be placed in a secure way. Meaning that detectors should be sealed units that can be fixed and attached in such a way that any tampering or move during the exposure period can be clearly established and results invalidated.
- Information concerning the amount of usage of a room/area may need to be logged, particularly basement areas that are infrequently occupied.