



## **Placement of Radon Detectors in the Workplace**

When deciding on a detector placement strategy the following considerations should be taken into account.

1. The primary purpose of the survey is to assess the level of radon to which workers are realistically liable to be exposed. Measurements, therefore, should be made at locations which are representative of actual or reasonably foreseeable worker occupancy. For this reason it will not be necessary to carry out measurements in areas such as corridors, washrooms, toilets etc. which are unoccupied or occupied infrequently. As a general rule, an infrequently occupied area is one where an individual is unlikely to spend more than 100 hours per year of their working time.
2. The main entry route for radon into buildings is through cracks and gaps in the floor. In general within a given building, basement and ground floor rooms are likely to have the highest radon concentrations. Normally, therefore, a workplace survey should be made in workspaces located on the ground floor and in sub-ground or basement levels, where these are frequently occupied.
3. At least two measurements should always be made in any workplace.
4. The recommended number of detectors per workplace is based the number of offices or on the floor area to be surveyed and on the workplace type. Recommended measurement densities are set out in Table 1 for different workplace types.
5. Where a workplace consists of a number of different work area types, each type should be considered separately for the purpose of determining the number of detectors. For example, in a factory the number of detectors to be placed in the offices should be determined by the number of offices in the ground floor or basement areas, while the number of detectors to be placed in warehouses or workshops should be determined independently on the basis of the area of these workspaces.
6. Experience has shown that radon levels can vary significantly between adjacent buildings. Radon concentrations in an adjacent or adjoining building should not, therefore, be taken as indicative of the levels in a particular workspace. Therefore, where a workplace is divided over a number of adjacent buildings it is necessary that each building be surveyed.
7. In the case of multi-storey buildings occupied by more than one employer, measurements made on the ground and basement levels would normally be sufficient for assessing compliance with the Reference Level for all workplaces in the building.
8. Where different employers are responsible for different floors of a multi-storey building, employers whose staff are located on upper floors should have radon measurements carried out unless they can confirm that the radon concentrations in the ground floor and basements workplaces do not exceed the Reference Level.



<b>Workplace type</b>	<b>Number of monitors</b>	<b>Examples</b>
Office-type accommodation	One detector per individual office	Government offices, Professional practices
Open plan office, and retail or workshop up to about 1000 m <sup>2</sup> , also public access areas	One per 200 m <sup>2</sup>	Administrative and call centres, light industry, hotel foyers
Areas up to 5000 m <sup>2</sup>	One per 400 m <sup>2</sup>	Warehouses, small supermarkets
Very large areas of several thousand m <sup>2</sup>	One for each distinct area with obviously different environmental conditions. Not less than 1 per 500 m <sup>2</sup>	Large manufacturing or process plants, large warehouses
Basements	One in each separate room, section or area irrespective of size, even if infrequently used. Changes in occupancy patterns might increase exposure and therefore a measurement should be carried out	Bank vaults, mechanical and/or electrical control centres

Table 1.