Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

RADON IN WORKPLACES

What is it?
What harm can it do?
What are an employer's responsibilities?



What is radon?

Radon is a radioactive gas formed in the ground by the radioactive decay of uranium which is present in small quantities in all rocks and soils. You cannot smell it, see it or taste it and it can only be measured with special equipment.

In Ireland, the Environmental Protection Agency (EPA) is the national organisation which provides advice on and regulates radon in workplaces.

Why is radon harmful?

Radon can cause lung cancer and is in the same group of carcinogens as asbestos and tobacco smoke. In the air, it decays quickly to produce radioactive particles that, when inhaled, are deposited in the airways and on lung tissue to give a radiation dose that can cause lung cancer. Radon is not linked to other types of respiratory illnesses or other types of cancer.

What are the risks from radon?

Around 350 lung cancer cases in Ireland every year can be linked to radon. Of these, over 90% will be smokers and ex-smokers. The risk from radon is 25 times greater for active smokers than for lifelong non-smokers exposed to the same concentrations of radon. This is in addition to the lung cancer risk due to smoking itself. Ex-smokers remain at increased risk from radon for a number of years after they have stopped smoking.

How does radon get into workplaces?

Because it is a gas, radon can move freely through the soil and enter buildings – mainly through small cracks in floors or gaps around pipes or cables – and it can sometimes build up to harmful concentrations. Radon which surfaces outdoors quickly dilutes to harmless concentrations. Minor amounts may also come from building materials and water supplies.

What are an employer's responsibilities under legislation governing radon in the workplace?

Regulation 66 of the Radiological Protection Act, 1991 (Ionising Radiation) Regulations, 2019, (SI No 30 of 2019), places a general duty on employers in *High Radon Areas to test for radon where the workplace is:

(a) underground, including mines and show caves;

(b) on the ground floor or basement level in high radon areas;

(c) one identified by the EPA as being liable to have radon concentrations above the Reference Level.

This regulation sets the Reference Level for radon in workplaces at 300 Becquerels per cubic metre (Bq/ m3), as measured in accordance with guidelines issued by the EPA.

The **Safety, Health and Welfare at Work Act 2005** also requires employers to identify all hazards in their workplace, including radon, to assess the risk to health and safety from these hazards and to put in place measures to eliminate or reduce the risk. Section 8(2)(d) of the Act requires that the employer ensures, so far as it is reasonably practicable, the safety and the prevention of risk to health at work of his or her employees relating to the exposure to ionising or other radiations.

Further information regarding employer's responsibilities is available at **www.radon.ie.**

* A High Radon Area is an area where the EPA predicts that more than 10% of dwellings will have radon concentrations above 200 Bq/m^3.

Is radon an issue only in High Radon Areas?

No. Workplaces with high radon concentrations can be found anywhere in the country. Mines, show caves and other underground workplaces are particularly at risk and should be measured for radon. For other workplaces not located in a High Radon Area, employers are urged to take a proactive approach and consider having radon measurements carried out.

How is radon in the workplace measured?



Radon measurements should be carried out by a registered measurement service. A list of registered measurement services is available at **www.radon.ie.** Radon concentrations should be measured in all workspaces located on the ground floor or basement levels in which workers spend greater than 100 hours per year.

Areas that are occupied infrequently such as corridors, washrooms, toilets, storerooms, stairwells, etc. need not be measured for radon.

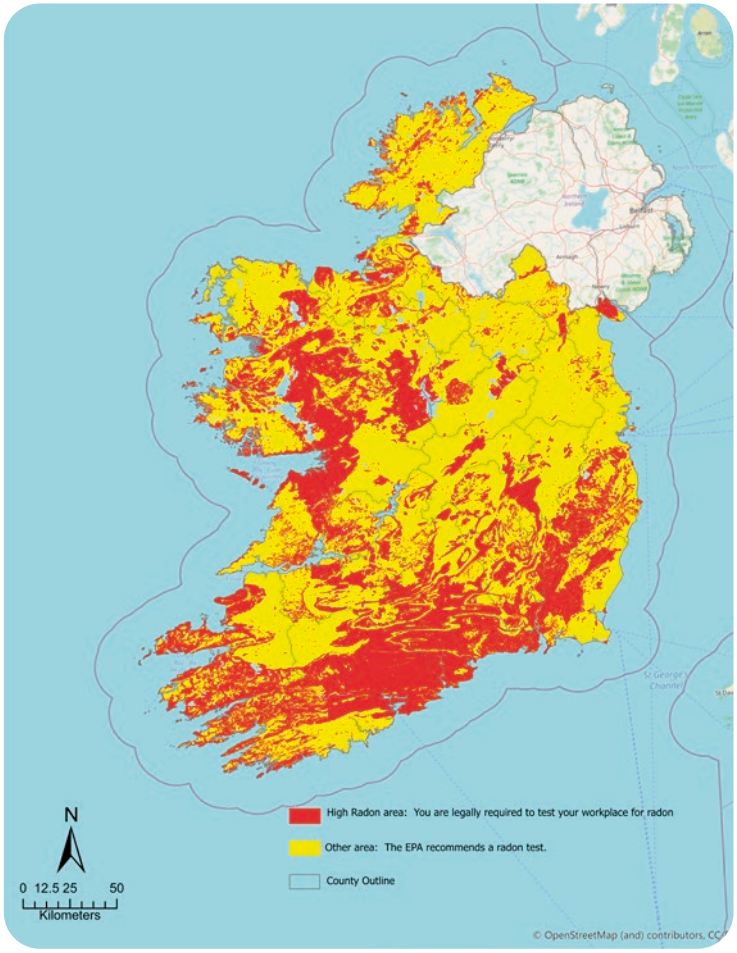
How many detectors are required for a workplace survey?

The recommended number of detectors per workplace is based on the total floor area to be surveyed and on the workplace type.

- For individual office type workplaces, one detector per office
- For open plan office type workplaces, one detector for every 200 m^3
- For large workplaces such as warehouses or workshops, one detector for every 400 m^3

Information on planning radon surveys in large or complex workplaces can be found at **www.radon.ie.**

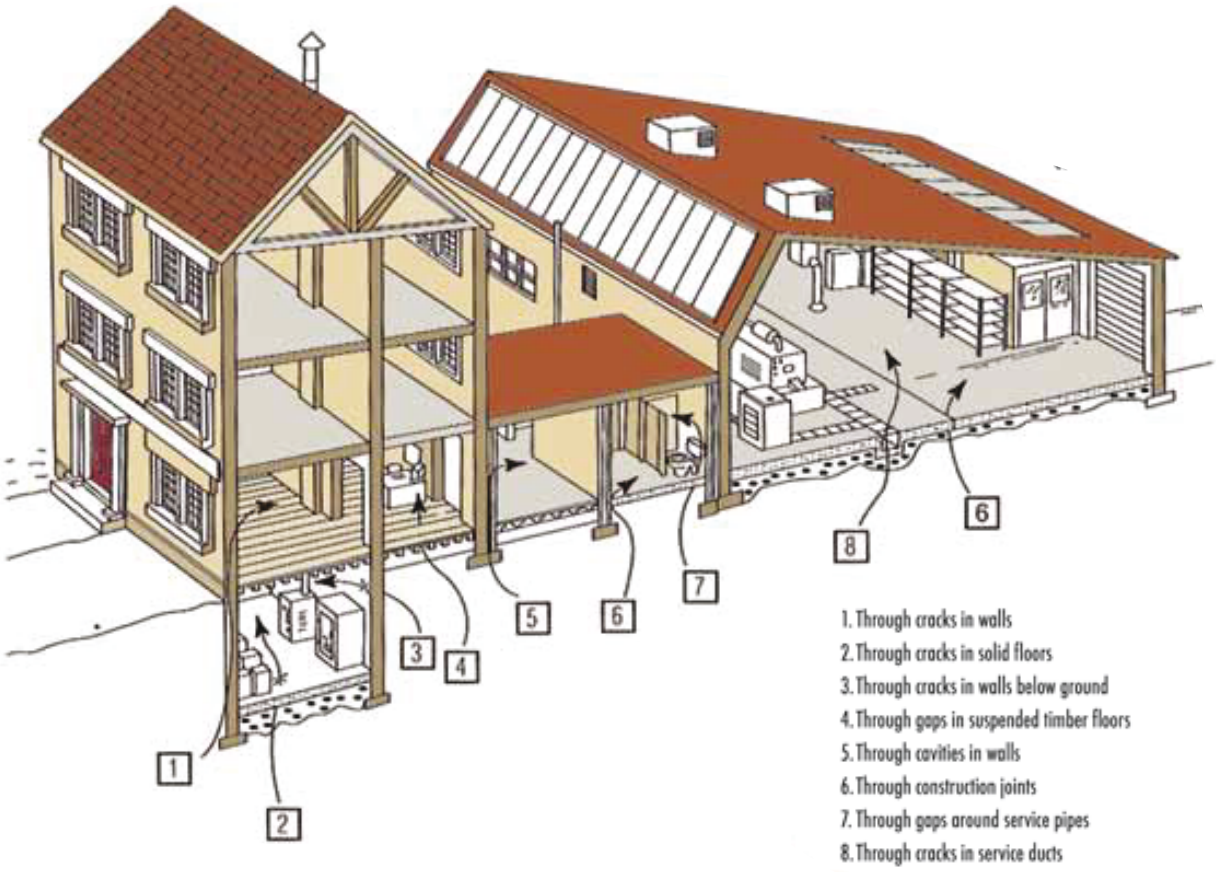
Radon Map for Workplaces



What must an employer do if the radon concentration in a workplace exceeds the 300 Bq/m3 Reference Level?

For results above 300 Bq/m3, the employer must take remedial measures as soon as is practicable to protect the health of workers. Following remedial measures, retesting must be carried out as soon as is practicable. Remedial and retesting work must be completed within 12 months. Where the remedial measures are unsuccessful, the employer should contact the EPA for further advice.

Typical Entry Routes into a Building



Our Purpose

To protect, improve and restore our environment through regulation, scientific knowledge and working with others.

Environmental Protection Agency,
PO Box 3000, Johnstown Castle Estate,
Co. Wexford Y35 W821
Email - radon@epa.ie
Radon freephone line - 1800 300 600.

September 2026