



Radon in Schools

Guidance & Templates

Information compiled by propertECO,
national specialists in radon gas testing and
management.

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propertECO
The Radon Specialists

1. Introduction

1.1 What is radon?

Radon is a naturally occurring radioactive gas and a source of indoor air pollution. It can affect properties of all types, ages, locations and uses. The gas is formed when uranium in the soil and rocks beneath us decays. When it permeates the ground into open air, it is quickly diluted to low concentrations, however if it rises into a building, it can become trapped and build to dangerous concentrations.

1.2 What risks are associated with radon exposure?

When indoor radon concentrations are high, the radioactive decay products are inhaled and some are deposited in the lungs, where they continue to emit radiation. Each year in the UK over 1100 people die from lung cancer developed as a result of exposure to radon. Radon exposure is the second leading cause of lung cancer, after smoking.

Exposure to radon during childhood increases the lifetime risk of developing lung cancer and, as such, particular attention should be paid to ensuring schools are not affected.

1.3 Where is radon found?

Properties that lie in certain areas of the UK are more likely to contain high levels of radon, due to the underlying geology and varying amounts of uranium present. Radon is found nationwide, and the indicative maps produced by the UK Health Security Agency (UKHSA) highlight areas where it is estimated that more than 1% of properties will contain high levels. These areas are classed as radon Affected Areas.



Buildings with basements are also more susceptible to high levels of radon accumulating. UKHSA advises that any property with a basement, regardless of whether it is in an Affected Area or not, will have an increased probability of containing high radon concentrations.

1.4 How do I know if there is radon in a school?



Radon is odourless, colourless and tasteless. To assess the level of radon in an existing building, specialist detectors must be placed in the property before being sent to a laboratory for analysis. Radon detectors are small and discreet, and the whole process including laboratory analysis is inexpensive. As radon levels fluctuate according to seasonal and occupational variances (e.g. amount of ventilation through opening windows), a three-month test period is recommended. The result is given in a unit called Becquerels and expressed as Becquerels per cubic metre of air (Bq/m^3).

The number of detectors required depends upon the size, layout and usage of the building, and proptECO can advise on this.

1.5 Is there legislation requiring schools to test for radon?

All schools fall under workplace legislation regarding radon. Under the Management of Health and Safety at Work Regulations 1999, employers must assess all hazards. Every school must therefore demonstrate that they have considered radon in their risk assessments. A basic radon risk assessment template can be found in Section 3 of this guide. The risk of high levels of radon being found in a building situated in an Affected Area or with a basement is significant, so in these instances a radon test must be completed to measure the hazard.

The Health & Safety Executive can and do enforce radon testing and have a team of Radiation Inspectors who visit workplaces to ensure that a radon risk assessment has been completed. In July 2023 a school was prosecuted by HSE for failing to protect staff and pupils from radon and fined £50,000.

1.6 What do the radon test results mean?

The Government has set guideline limits, called Action Levels, which are the point at which action should be taken to lower radon concentrations. There are different Action Levels for homes and workplaces.

The workplace Action Level is 300 Bq/m³ and if a non-domestic building contains levels higher than this, the Ionising Radiations Regulations 2017 (IRR17) apply. Under this legislation, the employer must take steps to reduce employees' exposure to the hazard. This can be achieved by either restricting access or, more practically, reducing the radon concentration via the installation of a radon mitigation system. A suitable Radiation Protection Adviser (RPA) must be appointed and consulted where the workplace Action Level is exceeded.

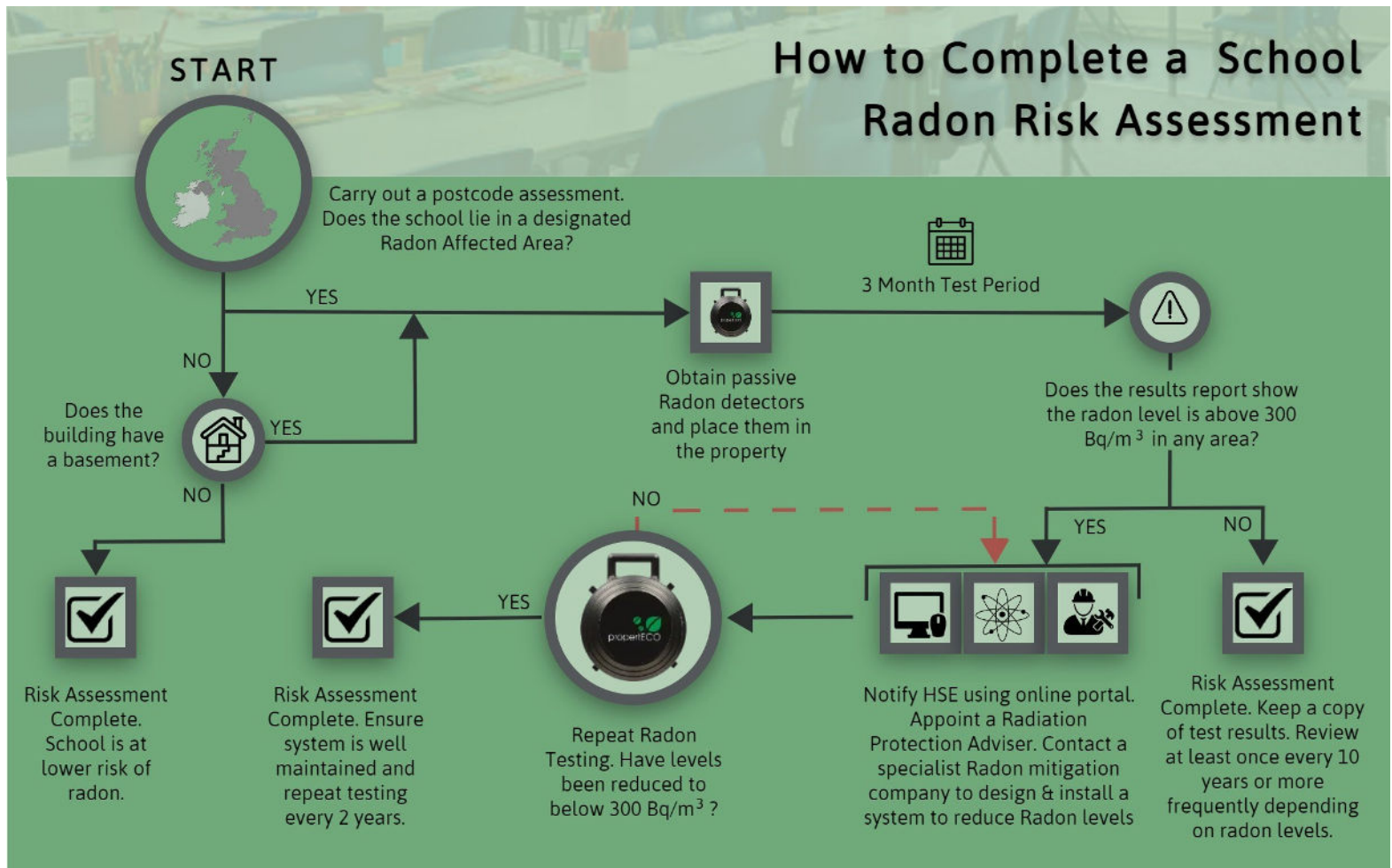
1.7 What is a radon mitigation system?

The two main methods of reducing high radon levels are radon sumps and positive pressure systems. A survey is required to determine which system will be the most appropriate and effective. When installing a radon mitigation system in schools, care should be taken to place fans and electrical items out of reach of children and ensure that there will be no noise disturbance in classrooms.



proptECO work with local authorities, academy trusts and independent schools across the country to assist with radon compliance. Our 'place and collect' test service ensures that an appropriate number of detectors are placed around the school, secured in a suitable location, and collected after three months' exposure before being analysed in the laboratory. When elevated levels are detected, our expert surveyors are experienced in designing effective radon mitigation systems whilst overcoming the challenges of a installing such equipment in a school environment.

2. Steps to Complete a School Radon Risk Assessment



3. Template Basic* Radon Risk Assessment

Radon Risk Assessment for

(school name)

School Address	
Affected Area Status as per UKHSA map	<input type="checkbox"/> <1% – no further action required unless you have basement/subterranean areas <hr/> <input type="checkbox"/> 1–3% – further action required <input type="checkbox"/> 3–5% – further action required <input type="checkbox"/> 5–10% – further action required <input type="checkbox"/> 10–30% – further action required <input type="checkbox"/> >30% – further action required
Building levels	<input type="checkbox"/> Basement <input type="checkbox"/> Ground Floor <input type="checkbox"/> First Floor <input type="checkbox"/> Second Floor & Above
Radon Testing Status	Based upon the above factors, <input type="checkbox"/> The property is at low risk of containing elevated radon levels <input type="checkbox"/> The property is at increased risk of containing elevated levels and so radon testing will be carried out
Radon Test Results (if applicable)	<input type="checkbox"/> Results for all areas of the property tested are below 300 Bq/m ³ <input type="checkbox"/> Results for one or more area tested exceed 300 Bq/m ³
Radon Protection Advice & Further Action (if applicable)	Consultant details & plan of action:
Review due:	Date:

**If radon concentrations above 300 Bq/m³ are present, a more detailed radiation risk assessment will need to be completed by a qualified Radiation Protection Adviser*

4. Instructions for notifying HSE if elevated radon levels are found

If annual average radon concentrations in excess of 300 Bq/m³ are found within a workplace, it is the responsibility of the employer to notify HSE. This is now done via an online portal.

- Visit <https://services.hse.gov.uk/bssd/>
- Click 'Apply Now' and you will then be asked to register for an online account – complete steps & verify email address
- Step 1 – Employer Details: enter company & contact details
- Step 2 – Choose Notify and tick the box that says you have employees working in an area with radon concentrations over 300 Bq/m³ (ignore everything else)
- Summary of activities applying for is listed; click 'Notify' to complete further details (Finish Application button will not work until you've done this)
- Choose the appropriate radon level bracket that applies, click save & continue
- Click Finish Application and you can then download a PDF copy of the application for your records

The Notification is for your entire organisation and not a specific site, so if you operate from multiple sites you only need to do this process once (unless you subsequently find another premises with much higher levels and then have to re-Notify choosing a higher radon level bracket from the penultimate step).