Radon Factsheet

Radon is a harmful naturally occurring gas which can build up in our homes. It cannot be seen, smelt or felt but it can be measured and reduced.

What is Radon & what is the risk?

Radioactive decay of Uranium and Radium found in soils and rocks produces naturally occuring Radon gas. The word 'Radon' is generally used where the risk is from radon gas and its progeny, which are solids. These solids can be deposited in the lungs which can lead to an increased risk of cancer. For smokers this risk is increased ten times that of non-smokers.

Originally observed and considered only a risk to mine workers, in the 1970's evidence of the increased risk from radon in buildings was identified.

Where it can be found?

Radon gas can be found in all countries at various levels. In the UK the higher levels can be found in Devon, Cornwall, parts of Somerset, Derbyshire, Northamptonshire and Leicestershire. There are also lower level "pockets" in a number of other areas around the country. The Health Protection Agency carries out periodic surveys across the UK to ascertain the levels.

How it is measured?

Radon can be, and is, measured and is reported in units of activity per cubic metre of air: Bq/m^3.

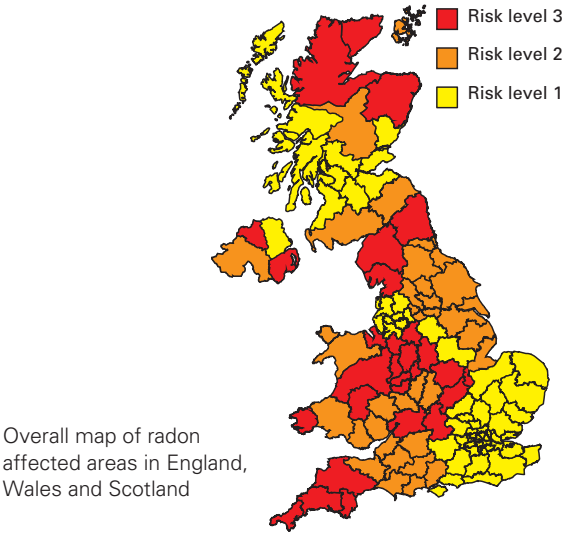
The average level in the UK is around 20 Bq/m^3; with levels as high as 10,000 Bq/m^3.

There are required UK Action Levels; simply put these are:

- 200 Bq/m^3 in residential properties
- 300 Bq/m^3 in occupational facilities

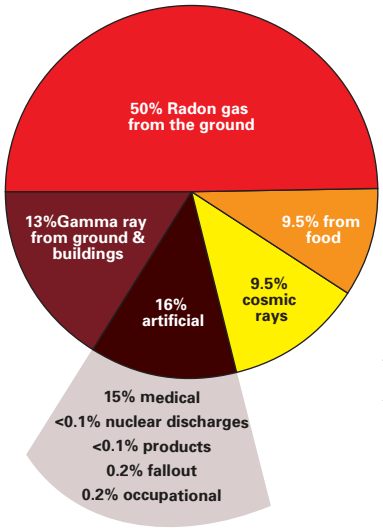
Where the levels are above these, mitigation measures must be put in place to bring them below the Action Levels. The processes to reduce levels can be very simple.

Radon affected areas in the UK



Overall map of radon affected areas in England, Wales and Scotland

Radon affected areas in the UK



The Health Protection Agency has produced a report recording the data of radon measurements in over 400,000 homes in England and Wales.

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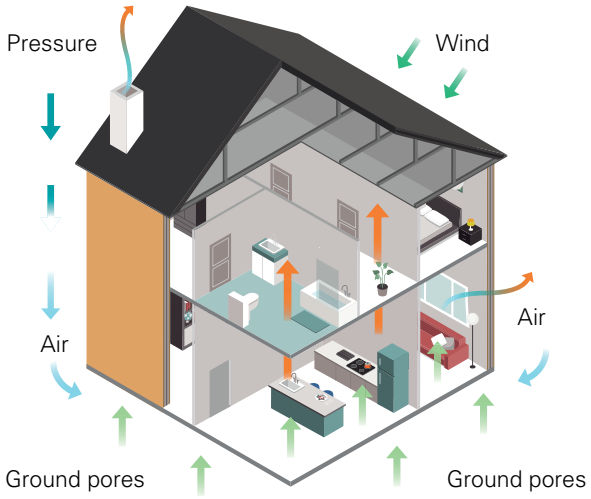
Radon Migration

Radon gas penetrates through cracks and fissures in the ground and properties.

A combination of factors can affect the amount of radon that enters the structures.

Heating and certain ventilation flows can result in a reduction in the air pressure within the building. This in turn can draw radon in from the ground into the room. Lack of ventilation can result in the radon remaining in the room. The level of radon in a property varies over time; by day and month. The level will also alter between basements and upstairs rooms.



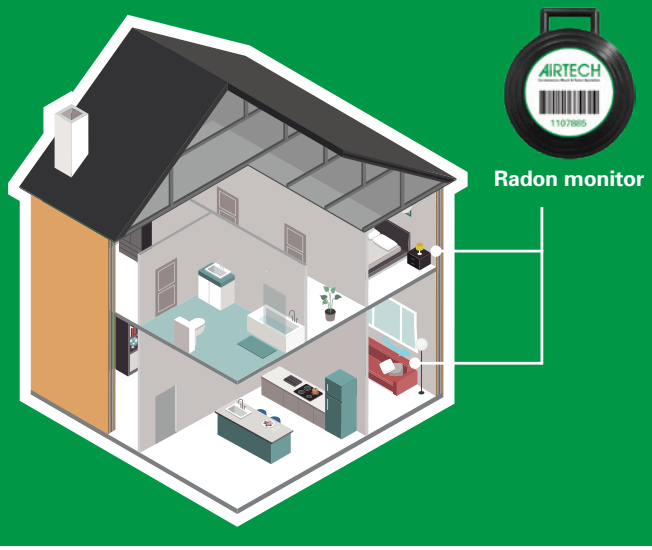
Radon Solutions

If Radon levels are high enough to require remediation Airtech may recommend installing positive input ventilation (PIV), or an active Radon sump fitted with a fan to help reduce indoor Radon concentrations.

Radon Detection

Airtech recommends testing using Radon detectors which are small unobtrusive pods placed in a property.

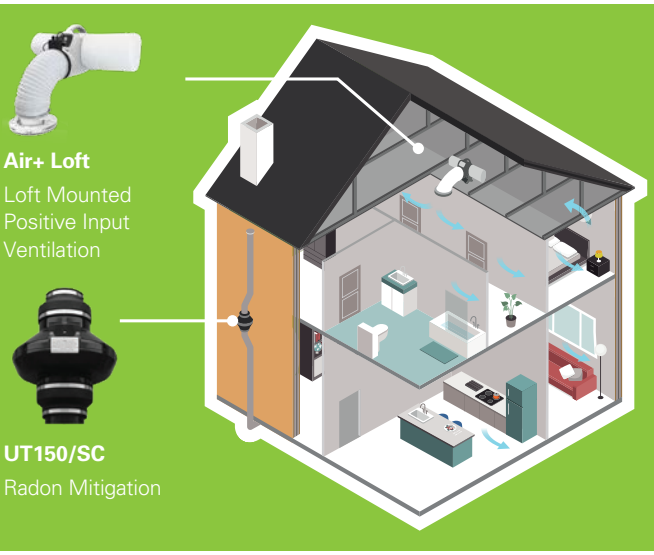
These detectors are left in place, usually in the lounge and master bedroom, for three months. Once collected the small piece of plastic inside the device is processed and the level of Radon is assessed expressed in Becquerels per cubic metre (Bq/m^3). If a home is above 200Bq/m^3 then remediation measures should be taken.



Radon Control

The type of remediation measures will vary by location and level detected. This may result in one property being fitted with a simple vent whilst an adjacent property may require a comprehensive system of a sump with pump.

Specialist knowledge is required for the choice of appropriate measure.



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