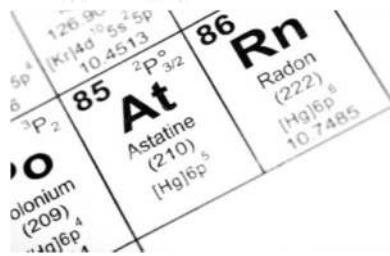


## Radon Gas : The Facts - From the Radon Gas Experts



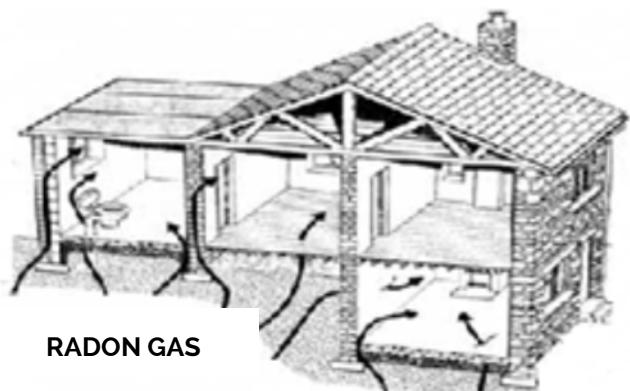
Meet '**The Expert**' - This man of mystery is an experienced consultant with a wealth of knowledge to share. In this article we look at **Radon Gas** and look in detail at this one of the least well known causes of cancer in the UK.

### Radon Gas - The Facts



**Radon** is a naturally occurring radioactive gas released through the decay of uranium which is present to some degree in all soils and rock. The amount of gas released varies greatly depending on where you live in the UK and is more likely to be found in areas where the geology features concentrations of granite and limestone. We all breathe in radon to some extent and it accounts for half of the radiation dosage each of us receives.

It is not possible to see, hear, smell or taste radon. Generally radon rises up through cracks in the earth and simply disperses into the atmosphere. Warm air inside houses draws the gas in through flooring and any gaps or cracks in a building's structure. Underground, radon can collect in caves and mines. High concentrations of radon can also accumulate in confined spaces such as basements.



Radon can find its way into a property through a variety of routes. Routes include cracks in walls and solid floors, cavities in walls, gaps around service pipes, gaps in suspended floors as well as cracks in walls below ground level.

Health data from nine European countries confirms that domestic exposure to radon increases the risk of lung cancer. In the UK between 1000 and 2000 deaths each year are estimated to be caused by exposure to radon. Smoking is said to increase the risk by a factor of 10.

Radon is measured in becquerels per cubic metre of air (Bq m<sup>3</sup>). The Health Protection Agency (HPA), a government department that protects UK public health, has set the UK Action Level for radon at 200 Bq m<sup>3</sup>. Most homes in the UK have radon of around 20 Bq m<sup>3</sup>. However, in certain locations in the UK the probability rises dramatically. A map showing the areas where homes are likely to be at or above the Action Level of 200 Bq m<sup>3</sup> can be viewed at [www.hpa.org.uk/radiation](http://www.hpa.org.uk/radiation).

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The Housing Health and Safety Rating System (HHSRS) - [www.communities.gov.uk/hhsrs](http://www.communities.gov.uk/hhsrs), a government assessment method that focuses on the health and safety hazards present in housing, provides guidance on how to address the potential risks to occupants in residential properties in England and Wales. Aimed at non-specialists the guidance explains the requirements under the Housing Act 2004 in relation to the HHSRS and helps those affected to identify the type of work that is needed on their properties to conform to the HHSRS requirements. Under the HHSRS, local authorities and landlords have a duty to ensure that radon hazards in their properties are reduced.

Fortunately, radon levels are measurable and where necessary radon can be reduced by making modifications to your property. That said, it is always advisable to use a specialist to ensure that remedial action is proven to be effective by testing radon levels both before and after remediation.

### Measuring radon

As radon levels in a property can vary significantly over time due to weather conditions and seasonal changes tests should run over several months. As such we recommend that a standard test should cover at least a three month period.



Usually the process begins with the installation of small passive radon monitors. The presence of radon causes invisible damage to the plastic inside the detectors and these changes can be measured and used to calculate the radon level. Analysis and the reporting of individual results are entirely confidential.

### Reducing radon

Several means to reduce radon are available today. Improving ventilation and sealing floors and walls can reduce the presence of radon by up to 50% and so are suitable for controlling low levels. Under-floor extract, mini sumps and positive pressure ventilation systems are best. In terms of effectiveness under-floor extract and mini sumps can reduce radon by 90%, while positive pressure ventilation systems decrease it by 50 to 60%.



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Under-floor extract and radon mini sumps work by creating lower pressure below floor level which reduces the ingress of radon gas into the building. This system uses an electrically powered radon sump fan that sucks the gas from underneath the floor of a house, either from an existing void under the floor or a new mini sump, and vents it into the atmosphere through a pipe. Developed primarily for houses with solid floors, radon sump pumps can be used in houses with suspended floors depending on the construction of the floor and existing airbricks.

Sump fans can be installed externally or internally.



Airflow under suspended floors also can be increased by installing vents. This method has been proven effective on radon levels of up to 700 Bq m<sup>3</sup> in some cases and can be improved by adding fans to create greater movement of air.

Positive pressure systems draw radon free air from the loft space or directly from outside, via a positive pressure ventilation unit installed in the loft space in a house, or on an internal wall in a flat, and dilutes the air throughout the property thereby reducing radon levels. These systems are effective for up to 500 Bq m<sup>3</sup> levels of contamination and work better in sealed environments. They also have the additional benefit of greatly improving air quality and reducing condensation problems.

Most new houses incorporate preventative measures that control radon and advice on appropriate action to minimise radon is often available from local councils in conjunction with the BRE (Building Research Establishment).

Timberwise offer professional radon protection and remedial services covering surveying, monitoring and detection through to the recommendation and installation of devices that reduce the presence of the gas.

***For Further information on Radon Gas and the solutions available visit [www.timberwise.co.uk](http://www.timberwise.co.uk) or call 0800 288 8661***

***Timberwise are Experts in Rising Damp, Damp Proofing, Basement Waterproofing, Condensation Control, Dry Rot, Woodworm, Radon Gas and all aspects of property care. With UK coverage you are never far from Timberwise! Call 0800 99 11 00 or visit [www.timberwise.co.uk](http://www.timberwise.co.uk)***