

standard

3.2

mandatory

Every *building* must be designed and *constructed* in such a way that there will not be a threat to the health of people in or around the *building* due to the emission and containment of radon gas.

3.2.0 Introduction

Radon is a naturally occurring, radioactive, colourless and odourless gas that is formed where uranium and radium are present. It can move through cracks and fissures in the subsoil, and so into *buildings*. The amount, or activity, of radon is measured in becquerels (Bq). Where this gas occurs under a *dwelling*, the *external walls* contain it and the containment of radon can build up inside the *dwelling* over the long term posing a risk to health.

Breathing in radon gas for long periods increases the risk of developing lung cancer and since people spend a high proportion of their time at home, concentration levels in *dwellings* are very important. Although the risk is relatively insignificant for people visiting or living for short periods in a *dwelling* with high levels of radon, long-term exposure can increase the risk to the point where preventative action is necessary. To reduce the risk, all new *dwellings*, extensions and alterations, built in areas where there might be radon concentration, may need to incorporate protective measures.

Health Protection
Agency

The Health Protection Agency (HPA) recommends that radon levels in homes should be reduced if the average is more than 200 becquerels per cubic metre (Bq/m³). Further information relating to radon levels, testing, sources and effects can be accessed on the HPA website at www.hpa.org.uk/radiation.

Conversions

In the case of *conversions*, as specified in regulation 4, the *building* as *converted* shall meet the requirements of this standard in so far as is *reasonably practicable*, and in no case be worse than before the *conversion* (regulation 12, schedule 6).

3.2.1 Radon affected areas

Action level “Radon affected areas” have been designated by testing *dwellings*. Where tests on existing *dwellings* show that 1% of the *dwellings* in that area are likely to have a radon concentration above 200 Bq/m³ (the action level) the area is designated as a ‘radon affected area’.

Radon maps The Health Protection Agency (HPA) and the British Geological Society jointly worked on detailed mapping in Scotland of radon potential. The report providing an overview of this work, titled “Indicative Atlas of Radon in Scotland”, was published in July 2011 and is available to view or download from the [HPA website](#). The resulting high definition digital map indicates areas in Scotland with elevated radon potential. The new map provides a more accurate picture of areas of the country where radon levels are likely to be higher. The map also indicates a greater number of local authority geographical regions that are now shown to have ‘radon affected areas’.

radon risk report The atlas presented in the HPA report contains simplified maps that are indicative rather than definitive with each 1-km grid square coloured according to the highest radon potential found within it. A risk report giving the estimated radon potential for an individual *dwelling* or *site* can be obtained through the HPA radon website www.UKradon.org.

3.2.2 Protection from radon gas

If a *dwelling* is to be located or extended on ground designated as a ‘radon affected area’, or on ground where radon is known to exist, protective *work* should be undertaken to prevent excessive radon gas from entering the *dwelling*.

Radon protective measures should be provided in accordance with the guidance contained in BRE publication BR 376 – ‘Radon: guidance on protective measures for new *dwellings* in Scotland’. Note that the maps shown in the BRE document are now superseded. Instead, the HPA updated radon potential maps identified in clause 3.2.1 should now be used.