



RADON

WILL YOU GET THE DRIFT? – Radon in basements can be a Party Wall issue

Basement conversion and radon gas specialist, proptertECO, highlights the need to consider radon under the Party Wall Act

Basement conversions have hit the headlines recently due to the increasing number of so-called ‘billionaire’s bunkers’ being created, particularly in affluent areas of London. According to a recent article in the Guardian newspaper, over 900 planning applications for basement conversions or extensions have been submitted over the past four years in the Borough of Kensington & Chelsea alone. But it’s not just in the City where this underground activity is rife; up and down the country property owners are turning to basements to increase their living space and maximise the value of their asset. Before any work can be done, even once building regulations and planning permission have been gained, consideration must be given to the Party Wall Act.

The Party Wall (etc.) Act 1996 was introduced to enable owners living in close proximity to one another to develop their properties without causing unnecessary inconvenience to their neighbours. When dealing with a terraced or semi-detached house, any works that involve either an existing cellar or the creation of a new basement will be covered by Sections 2 and 6 of the Act.

Section 2 relates to work directly to a party wall, including downward extensions of the wall, and Section 6 covers excavation work within three or six metres of a shared or neighbouring structure, including digging out a basement or excavating below a party wall.

Whilst most neighbours’ immediate concerns will be that of stability and potential disturbance for the duration of the works, not many will consider the impact that the works could have on the air quality within their building, namely radon gas levels.

Radon is a radioactive gas formed in the soil during the decay of naturally occurring uranium deposits. When radon escapes from the ground into the open air it is quickly diluted to a low concentration and poses no threat; however, if it enters a building and is allowed to accumulate to high concentrations a real risk to the occupants’ health is presented. Long-term exposure to high levels of radon can lead to lung cancer and, after smoking, it is the biggest cause of the disease. Over 2,000 people in the UK die from radon-induced lung cancer every year.

High radon concentrations can be found in properties anywhere in the country. Maps are available that predict the areas of the country most likely to be affected (termed ‘Affected Areas’; however, whenever a basement is involved these maps are irrelevant. Public Health England (previously the Health Protection Agency) advises that ‘high radon concentrations can be found in basements anywhere in the country, regardless of Affected Area status’. This is due to basements having several surfaces in communication with the soil through which the gas can permeate and the dynamics of low air pressure found in a basement actively drawing gas from the soil towards it.

So, if your neighbour has plans to convert a cellar or dig out a new basement, here are some points to consider:

Disturbance to ground could open up new pathways for radon

Radon levels can vary considerably from building to building and are largely dependent upon the underlying geology. Any construction works that involve disturbing the ground could significantly alter radon levels in nearby buildings (not just those directly above the basement) as new pathways for the gas to travel can be created. Similarly, existing pathways can be altered and where previously radon may have travelled harmlessly to the surface outside, it may now favour a route that leads it into a building.

Waterproofing techniques could displace radon to adjacent properties

When creating useable space below-ground, some form of waterproofing system will be required. There are several methods that are used for basement waterproofing, which include cementitious tanking and cavity drainage membranes. Whilst these are designed to exclude water from the basement, they can also have an effect on where soil gases travel. For instance, a cavity drain membrane creates an air gap between the wall and internal decorative finish of a basement so that water penetrating the walls can be drained away. What this can also do, however, is allow radon to accumulate in the gap and divert it to areas where it would not normally travel. Occupants of ground floor flats must be particularly mindful of this, as works to a flat in the basement below where a cavity drain membrane is being used could inadvertently funnel high levels of radon up to this accommodation.

Test before, test after

proptertECO advises all ‘Adjoining Property’ owners who have received notification of planned works to a basement, either an existing or newly created one, to ensure that their own property is tested for radon prior to any works commencing. This test should be carried out over a minimum period of one month and should be arranged through a Party Wall surveyor at the expense of the Building Owner (not Adjoining Property Owner). Testing should be repeated once the works to the basement are complete, including all fit-out and decoration elements, ideally for a period of three months. If the results show that radon levels within the Adjoining Property have increased and that a hazard has been created as a result of the basement works, the Building Owner should be called upon to meet the direct and associated ongoing costs of the installation and running of a radon remediation system.

proptertECO are radon specialists and can provide you with radon monitors to test your property and advice on remedial methods if the radon test reveals high concentrations are present.

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