

Improving the way you ventilate your house

How does it work?

By carefully increasing the ventilation in the occupied part of the house radon levels can be reduced by dilution and by reducing the stack effect (warm air rising through the house which draws radon into the building from the ground).

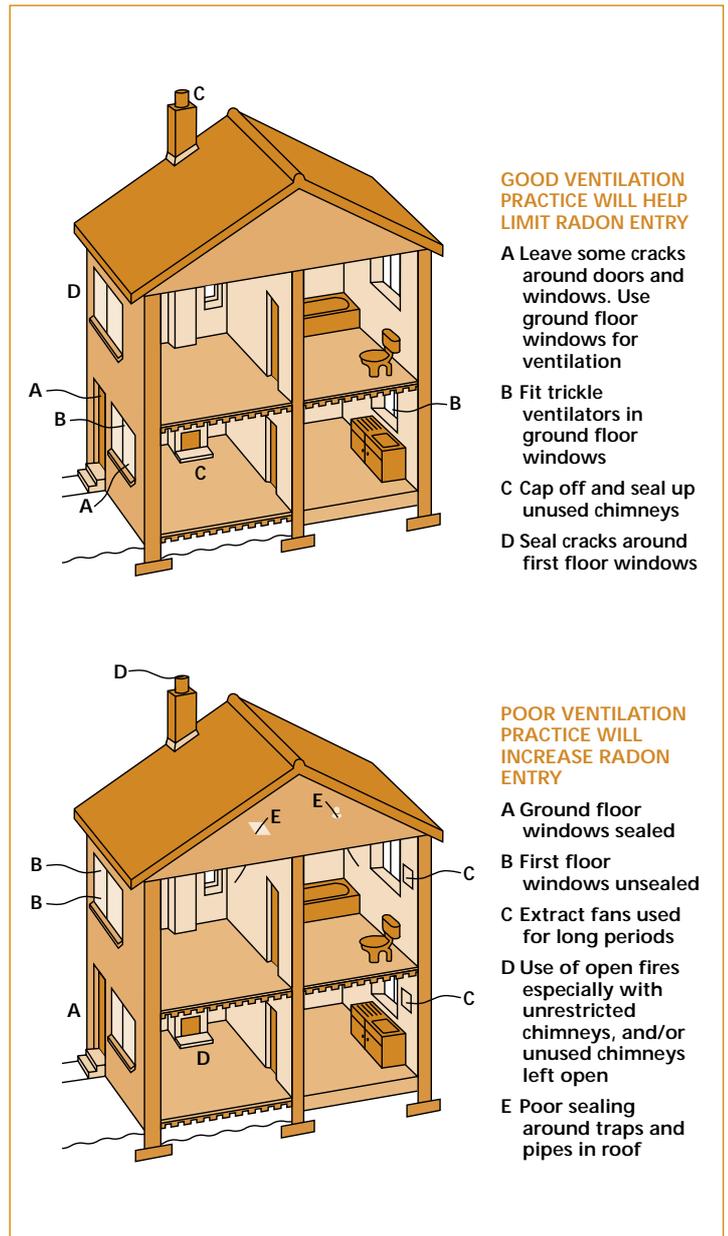
Likely radon reduction due to improved ventilation

It is important to recognise that in most cases the reduction in radon level that can be achieved by changing the way in which you ventilate your home will be small. It is **the least effective way of reducing radon levels** in a house, and should therefore **only be used if the radon level is very close to the action level (200-300Bq/m³) or if ventilation is combined with other methods**. To be successful changes to ventilation must be permanent. Simply opening windows to provide additional ventilation is not good enough. In fact just opening the upstairs windows can increase radon levels. Even though the radon reductions that can be achieved are poor compared with other solutions improving ventilation will have other benefits in terms of improving the general indoor environment. It is good practice to ensure that buildings are adequately ventilated.

How to improve ventilation

Measures can be used either singly or in combination;

- A. Cap-off and seal unused chimneys (but do provide some ventilation to the chimney itself to prevent condensation building up, BRE Defect Action Sheet 1 provides further advice on sealing up unused chimneys).



radon solutions



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B. If there is an open fire, gas, coal or oil fired heating discharging into a chimney there must be adequate fresh air supplied to the room from outside to ensure proper combustion. If ventilation has been provided by cutting a hole through a timber floor an alternative source of ventilation should be found such as ducting air to the fire or installing an air-brick in the outer wall of the room. If you are thinking of replacing an existing gas fired heating system, replacing it with a balanced flue is best, as no air is drawn from inside the house.

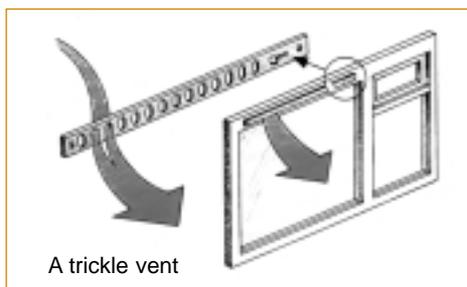
C. Any holes cut into a suspended floor can act as a major route for radon to enter. Holes should be sealed up (see also B above).

D. Draught-proof loft hatches and seal around pipes or ducts which pass through the ceiling.

E. Seal cracks around upstairs windows.

F. Avoid continuous use of extractor fans in kitchens, bathrooms and WCs. Fans

should only need to be used intermittently to clear odours or reduce condensation. If you find that you are having to run an extract fan for long periods to clear condensation you probably need to provide some additional ventilation to the room when the fan is running.



G. If you like to open windows upstairs make sure that you also provide some ventilation downstairs, perhaps by providing trickle ventilators in downstairs windows or fitting through the wall vents.

H. Install trickle ventilators into the downstairs window frames.

Extract fans in kitchens, bathrooms or WCs should be appropriately sized. There should be no need for an extract fan to run continuously.

Effect on energy use

Increasing the ventilation rate within a building may have an adverse effect on energy costs. This must be weighed against the benefits of implementing this measure to reduce radon levels.

Who can carry out this work

The works described here are all minor building works that can be carried out by any small builder or competent DIYer. Details of builders can be found in local business telephone directories. In addition the Radon Council maintains a list of contractors, suppliers and consultants offering advice and services involving remedial works for radon gas. Details can be obtained from:

**The Radon Council Limited,
PO Box 39, Shepperton,
Middlesex TW17 8AD**

Tel: 01932 221212

Fax: 01932 229779

References

1. Building Research Establishment, *Chimney stacks: taking out of service (Design)*, BRE Defect Action Sheet DAS93, Garston, BRE, 1987.

Further information

- for further practical advice about work to reduce radon levels
- for a list of companies known to supply suitable fans

Contact BRE Radon Hotline 01923 664707 www.bre.co.uk/radon

Disclaimer

It should be noted that BRE cannot guarantee that the measures described on this sheet will reduce the radon level in your home, however similar measures have regularly proven successful elsewhere in the UK.

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Other useful contacts

Defra 020 7082 8498
www.defra.gov.uk/environment/radioactivity/radon

NRPB 0800 614529 www.nrpb.org/radon

The Radon Council 01932 221212 www.radonhotline.org

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