

# Air leakage testing

## Information sheet



Current Building Regulation Part L1a requirements for air leakage testing on new homes in England and Wales came into force in 2006. Test results are needed by Building control and the energy assessor completing the EPC for the property.

To pass an air leakage test, a dwelling must achieve an air permeability result of 10 or better (i.e. lower) as stated in the SAP requirements. To help you pass the test, NHBC has put together this simple reference guide and checklist.

### Checklist of activities prior to testing

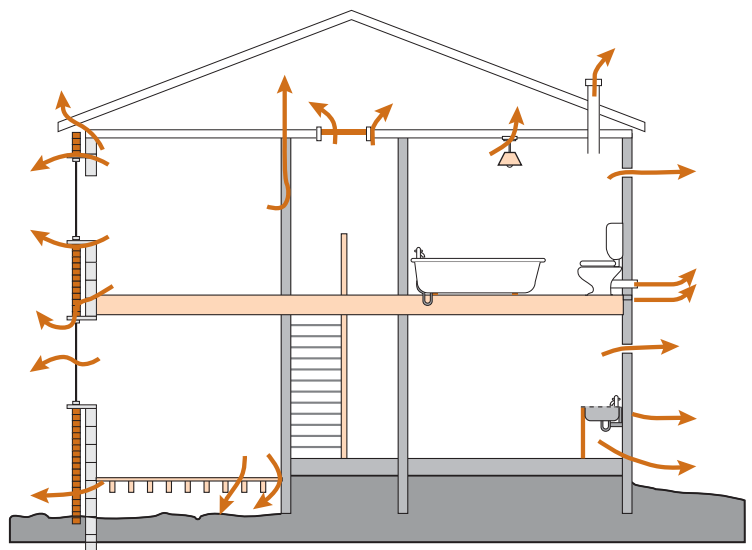
- |  |   |  |
|--|---|--|
| <input checked="" type="checkbox"/> SAP completed - this will set the target value for the air test  | <input checked="" type="checkbox"/> Internal and external doors hung and operable                                 | <input checked="" type="checkbox"/> All traps need to be filled with water for the test                        |
| <input checked="" type="checkbox"/> Sealant completed (often specified as part of air leakage barrier to doors frames, windows, skirting and services) | <input checked="" type="checkbox"/> Skirtings, socket/light switches, kitchen units and bathroom suites installed | <input checked="" type="checkbox"/> Walls in a completed state i.e. decorated/plastered/dry-lined              |
| <input checked="" type="checkbox"/> Loft hatch fitted  | <input checked="" type="checkbox"/> Windows fitted, including glazing and trickle vents                           | <input checked="" type="checkbox"/> Call NHBC on <b>0844 633 1000</b> and say 'air leakage' to book your test. |

### Top tips

- Keep construction details simple and easy to follow
- Ensure site staff know the importance of the air barrier and where it is
- Seal blockwork. Apply parge coat/plaster to external walls before studwork for partitions. Plan carefully as it may affect sequencing of work
- Dry-lining may need a continuous ribbon of adhesive/sealant around each perimeter and around penetrations such as light switches and sockets
- For timber frame, a separate vapour control layer (e.g. 500g polythene) is likely to be the air barrier. Ensure the membrane is lapped and sealed with tape or sealant - do repair tears & punctures
- Consider proprietary products, such as:
  - Joist end caps to intermediate floors
  - Top hats or collars to services
  - Suitable covers to recessed lighting
- Ensure an airtight seal between loft hatch and frame

### Common problem areas that need attention

- Service penetrations, especially in bathrooms and kitchens (e.g. hidden behind bath panel, above kitchen units/extracts)
- Partition junctions, particularly with external walls or ceiling
- Suspended floors, especially around perimeters
- Window and door surrounds
- Loft hatch
- Ceiling rose and downlights, especially just below a cold roof area
- Gaps in the air barrier within the roof area, especially around built-in storage rooms



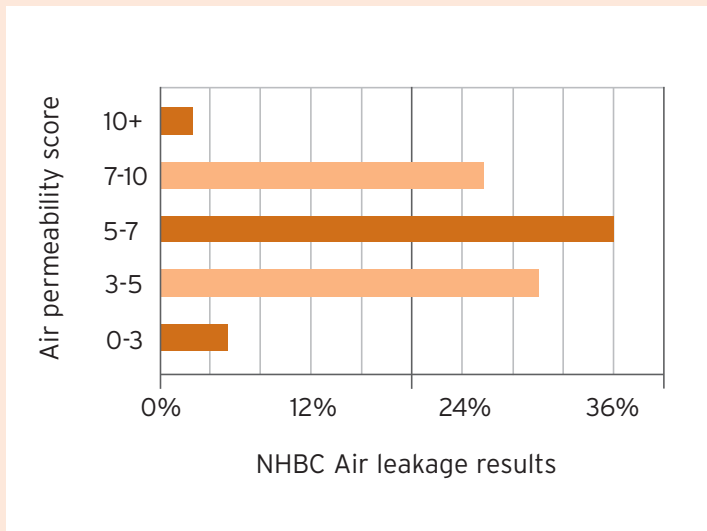
Ensure extra attention to the areas indicated to improve air test results

To book your Air leakage test, call NHBC on 0844 633 1000 and say 'air leakage'.

## NHBC results across England & Wales

NHBC has a wealth of experience and expertise in air leakage testing.

Of the many air leakage tests carried out by NHBC last year, we are pleased to report less than 3% failed to meet an Air Permeability result of 10.



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NHBC operates across England and Wales. It is UKAS accredited and is a member of ATTMA.

## Frequently asked questions

### What are the testing requirements?

The test takes place near the end of the build process. It identifies how much uncontrolled air leakage occurs in a dwelling. The air permeability score is a measure of the amount of leakage divided by the surface area of the dwelling.

Building Control typically specify the testing regime (number of tests required) in line with the building regulations.

### Is a result of 10 enough to pass?

The minimum standard for building regulations is a result of 10. However, the air permeability value used in the SAP might be lower - this lower value would be the air leakage target. A test would be classed as a fail if this was not achieved.

In the event of a failure, that property will need remedial work and should be retested.

The Approved document states:

'In addition to the remedial work on a dwelling that failed the initial test, one additional dwelling of the same dwelling type should be tested, thereby increasing the overall sample size.'

### Where can I find further information?

- ✓ Visit [www.nhbc.co.uk/alt](http://www.nhbc.co.uk/alt) or contact NHBC for practical advice, toolbox talks and more in-depth training
- ✓ NHBC Foundation report NF16: 'A practical guide to building airtight dwellings' - [www.nhbcfoundation.org](http://www.nhbcfoundation.org)
- ✓ Accredited construction details [www.planningportal.gov.uk](http://www.planningportal.gov.uk)
- ✓ BRE Good Building Guide 67 - 3 part series
- ✓ Air Tightness Testing and Measurement Association (ATTMA) - Technical Standard 1



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For further information, call 0844 633 1000 and ask for 'air leakage'.  
Email [airleakagetesting@nhbc.co.uk](mailto:airleakagetesting@nhbc.co.uk) or visit [www.nhbc.co.uk](http://www.nhbc.co.uk). Quote Ref: ALT0909  
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