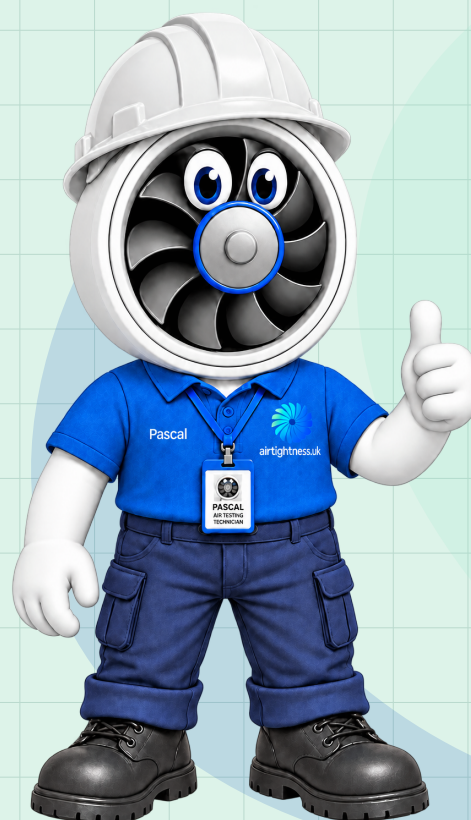


THE AIR TEST FIELD GUIDE

Good details.
Fewer draughts.
Less swearing.

START HERE

The two-minute jobs
worth doing early.



For homeowners, self-builders and site teams.

Suffolk office. Testers in Suffolk, Essex and Norfolk.
UK-wide support for larger projects.

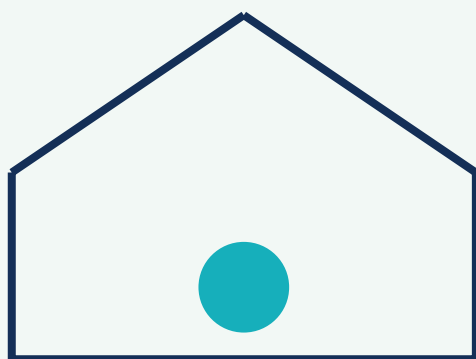
What does an air test measure?

An airtightness test measures uncontrolled air leakage through the building fabric: walls, roofs, floors and the joints between them. It is also called an air pressure, air permeability or blower-door test.

How it works

A calibrated fan is fitted into an external doorway. The tester creates a controlled pressure difference and measures the airflow needed to maintain it. Readings at several pressures are used to calculate the result.

Airtightness and ventilation work together. Reduce unintended leaks while retaining the designed supply of fresh air. An air test does not measure insulation quality or replace ventilation testing.



A fan creates a pressure difference.

What result do you need?

Use your project target

There is no single pass figure suitable for every project. Agree the required target with your energy assessor or design team before booking. The applicable regulations, project specification and certification route matter.

Air permeability: leakage per area

A common result is expressed as $\text{m}^3/(\text{h}\cdot\text{m}^2)$ at 50 Pa: the airflow per square metre of building envelope at the reference pressure. The envelope is the boundary of the space being tested, not simply the floor area.

Great news - you have passed your air test! Your target is 5.0 and your result is 4.2 in the same units. The result is below target, so the airtightness part of your energy assessment has met its target.

Air changes per hour: leakage per volume

Passivhaus and EnerPHit use n50, reported as air changes per hour at 50 Pa. This is a different measure from air permeability; compare like-for-like units. Confirm the required test and target with your certifier.

Lower leakage generally means a tighter envelope. The test pressure is a reference condition, not the pressure your home experiences continuously in everyday use.

Choose the right stage

New homes and developments

Plan airtightness early. For final testing, the building should represent its intended completed condition, with the envelope and permanent sealing finished. Leave enough programme time for investigation and corrections before handover.

Early diagnostic testing

An earlier test can reveal leakage while details are still accessible. Agree how complete the envelope needs to be and what the visit will establish. A diagnostic visit is not automatically a final compliance test.

Commercial and phased projects

Send drawings, test boundaries, energy targets, access details and proposed handover dates. Larger or complex buildings may need multiple fans, coordinated zones and an agreed test strategy.

Existing homes and retrofit

Testing can help investigate draughts or compare leakage before and after improvements. Agree the purpose of the visit and a ventilation strategy before remedial work. A diagnostic result may not have a formal pass/fail target.

Booking tip: contact us around two weeks before your preferred visit, or earlier for complex programmes. Need a last-minute test? Ask about availability.

A two-minute fix. Or a headache later.

Airtightness is easier if you think about it at the right time. Sealing around a waste pipe might take two minutes during the build. Once it is boxed in, caulked, tiled and painted? Suddenly it is a much less entertaining job.

Check what you are trying to achieve before you try to achieve it. Check your SAP target, or send the report over and ask us. Honestly, it is no hassle.

Know your number

For a home aiming for air permeability around 3 to 5 m³/(h·m²) at 50 Pa, the basics on the next pages are a useful starting point. They are good habits, not a guaranteed result.

Below 3? Have the chat early.

Plan the air barrier and its junctions before they disappear behind finishes. You may need membranes, liquid airtightness coatings such as Passive Purple, suitable putty pads and airtight spotlight covers as part of the design.

Below 1? Now we are talking.

We are always up for talking about interesting projects. Give us a call early so the details, testing and ventilation can be planned together.

Fresh air still matters. Agree the ventilation design with your designer. MVHR may suit the project, but the airtightness number alone does not choose the system.

Keep the draughts out of the details



Cold floor. Cold feet.

Seal around joists where they meet the wall and cavity, maintaining the designed air barrier. Air getting into the floor void can cool it down. Nobody ordered that.

Windows, doors and cavity closers

Seal the frame-to-wall junction all the way round using the specified system. Detail the cavity closers before the frames go in. A bit of care now makes a massive difference later.

Pipes through floors

Those waste pipes coming through the screed? Check the gaps around them while you can still get at them. Join the seal to the floor air barrier using a suitable detail, rather than hoping the finished floor will sort it out.

Insulation: cut it to fit

Big gaps around rigid insulation? Why? Cut it properly and seal joints where the board forms part of the air barrier. If your old barn has curvy timbers, use a detail that actually fits them. Air bypassing insulation helps nobody.

Not rocket science: keep the air barrier continuous. Use compatible tapes, sealants, membranes or coatings for the detail. Foam alone is not a universal fix.

Sparky, Bricky and the hidden tunnels

Dot and dab: stop the air motorway

Follow the drylining system detail, including continuous adhesive ribbons at the perimeter and around openings where required. Random blobs can leave air travelling behind the boards. Seal the substrate as the design requires too.

Sockets and cable routes

Porous blocks and gaps in Des the Bricky's mortar can feed air into the void. Do not let sockets become little cold-air vents. Detail the back boxes and cable routes; suitable putty pads can help where specified.



A 50 mm hole. A 20 mm cable.

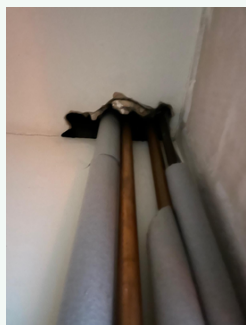
That spare space is not a ventilation strategy. Seal incoming electricity and water services at the air barrier with the appropriate penetration system.

The bottom of the boards

Before skirtings hide everything, check the wall-to-floor junction and seal it to the designed air barrier. The finished carpet is not your airtightness detail.

Stop the draughts. Seal the gaps around cables and sockets with suitable products. We are stopping draughts, not blocking the vents that are meant to be there.

Do it before Matt hides it



Plumber been in?

Check the water and waste holes through the walls. Seal them at the air barrier before the boxing goes on. It is much easier while you can still see them.

Trust me: you will be calling Matt the plumber all sorts of names if the leak is behind a beautifully finished concealed cistern.

Lots of spotlights?

Every opening through an airtight ceiling needs a detail. Suitable airtight downlight covers, such as appropriate Thermahood products, may help. Match the cover to the light, insulation and fire requirements; follow the product instructions.

Tighter target? Join it all up.

Membranes, liquid coatings and service seals work as a system. Join floors to walls, walls to roofs, and every penetration to the air barrier. Adding a clever product to one gap will not fix the gaps next door.

Told you - not rocket science. A little preparation can make the test less painful and the home more comfortable. Spend the effort while the details are easy to reach.

Water in the traps. Or a stinking result.

U-bends need water in them to work. If they are dry, the airtightness fan can suck smelly air from the drains into the house. So the house will stink, and your airtightness result could be stinking too.

Water on? Fill the traps in sinks, basins, showers, baths and any floor drains. Make sure the toilets have water in them too.

No water supply yet? Have some buckets ready and water nearby so the traps can be filled before testing. A small job. A much nicer smell.



Water forms a seal that stops air coming through the drain.

Get ready for the visit

1. Share the essentials

Send your postcode, building type, drawings, target and project stage. Tell us about occupied areas, unfinished work and access restrictions.

2. Complete permanent sealing

Finish the air barrier, junctions and service penetrations. Fit doors, windows and relevant fittings. Do not rely on carpet or final decoration to hide leakage.

3. Arrange safe access

Provide suitable power, clear access to the fan location and safe routes around the building. Coordinate other trades so doors and windows stay in the agreed condition.

4. Agree test conditions

We advise how ventilation, drainage traps, access hatches and building systems must be prepared for the applicable test method. Tell us about combustion appliances before the visit.

5. Have someone available

A site contact who knows the building can answer questions and help coordinate any practical next steps.

Do not tape over every gap. Temporary sealing must follow the test method. Permanent defects need suitable lasting repairs; intentional ventilation must be restored after testing.

From setup to certificate

Check and set up

We review the agreed boundary and conditions, install the fan and pressure equipment, and record the information needed for the test.

Measure and explain

We take readings and explain the measured result against the agreed target. Weather, access, building size and readiness can affect the visit.

Investigate where agreed

If leakage is high, we discuss likely paths and the investigation included in your booking. Smoke testing and thermal imaging may be useful where conditions and scope allow.

Report the result

You receive the relevant report or certificate for the work completed. Confirm plot references, reporting needs and deadlines before booking.

Allow enough time. A straightforward test can take around 45 minutes. Complex buildings, additional preparation and detailed leak investigations take longer.

Certificate timing: we normally provide certification the next day once the required project information is complete.

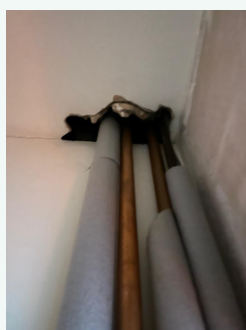
An air test records measured performance. It is not an overall guarantee of Building Control approval.

Where do buildings leak?

Look closely at junctions and penetrations. The visible draught may be some distance from the original opening.



Service penetrations
Check continuity around pipes and cables through the air barrier.



Hidden voids
Boxing and inaccessible spaces can conceal unsealed routes.



Building junctions
Inspect interfaces between materials and structural elements.

Site photographs: examples of locations to investigate; photographs alone do not quantify leakage.

If the result falls short

Find the leaks

We investigate the likely leakage paths within the agreed scope. Our construction experience helps relate findings to the building details.

Explain the fixes

We give practical guidance to the people carrying out the work. Repairs should be durable and compatible with the air barrier, moisture design and ventilation requirements.

Retest when ready

If leaks can be corrected during the visit, we can often retest the same day. Larger repairs or further investigations may require another visit; agree the scope and costs first.

Ready to book? Send your site postcode, building type, number of properties, project stage, drawings and target if available.

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www.airtightness.uk/airtightness

Useful links and guidance

Further reading

[GOV.UK - Approved Document L](#): check the edition and transition rules for your project.

[ATTMA - Are You Ready to Test?](#)

[ATTMA - Temporary Sealing Guidance](#)

[Passivhaus Trust - Airtightness guidance](#)

General customer guidance, October 2026. Project-specific instructions and the applicable test standard take precedence. Regulatory requirements vary across the UK.

