# Are You Ready to Test?

This Technical Information Leaflet has been created to advise testers, contractors and building authorities about what stage a dwelling should be tested, and also show the common reasons for failing an air tightness test, ensuring a smooth testing process.

It has been proven that testing a dwelling closer to completion will give a better result. It is estimated that approximately 70% of dwelling tests fail due to the testing company being called in too early. This is often down to pressure being placed on the site managers to have the building ready for completion earlier than anticipated but is also often down to a lack of understanding about the air tightness testing process.

As test targets (Design Air Permeability's) get lower, more emphasis needs to be put on to the design of a property. The present system of applying caulk or mastic at the end of a build is not enough to consistently achieve the low targets. Statistics regarding the application of mastic at the end of a build are now being collected through ATTMA Lodgement with statistics being passed on to Building Control and the respective Home Nation Governments in order to raise awareness of the issue.

Design meetings (at the beginning of a project), early testing (typically 12 weeks before testing) and pre-test inspections (typically 20 and then 4-8 weeks prior to the test) are a great way to ensure you maximise your chances of passing. Testing a property early on will help you understand where your issues really are whilst you still have the time to put any issues right. Most testing companies will happily add this as part of the testing package, which is easily justified if you take their advice and pass your testing requirements first time.

Overleaf we discuss good and bad practice to ensure your air testing goes as smoothly as possible, from start to finish.

# About ATTMA

ATTMA, the Air Tightness Testing & Measurement Association, runs an authorised Competent Persons Scheme for air tightness testing.

ATTMA is a professional association dedicated to promoting technical excellence and commercial effectiveness in air tightness testing and air leakage measurement applications. It was formed in 2002 to promote the testing and measurement industry and supports its members by extending market awareness of the technology and the members' services.

All members of ATTMA are authorised to test to ATTMA TSL1 or EN 13829:2001 for Building Regulations purposes. All members are authorised to carry out testing for non-dwellings (commercial buildings) to ATTMA TSL2 or EN 13829:2001 only for buildings up to 4000$m^3$ volume.

Only testers certified at Level 2 are able to test buildings larger than 4000$m^3$ to ATTMA TSL2 or BS EN 13829:2001.

All ATTMA members are audited, insured and have calibrated testing equipment. All ATTMA members are required to lodge their data with ATTMA in order to receive an authorised test certificate. Only ATTMA Members are authorised to issue ATTMA certificates. The authenticity of any ATTMA certificate can be verified at www.attmalodgement.org or by contacting the ATTMA office

All ATTMA Members hold ID cards and have unique tester numbers. The status and level of a testers authorisation can be seen on the testers ID cards or by visiting www.bcta.group/attma/members

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Air Tightness Testing & Measurement Association

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# What you should do…

## Incorporate air tightness into your design

Air tightness testing can be straightforward. Adopting a 'Fabric First approach is much more reliable than relying on sealing components as per the 'common faults' section. If the design of the building is right, and constructed accurately, air tightness testing should be a 45 minute formality and not a whole day chore!

## Engage with the testing company

ATTMA members generally have had years of experience, carrying out thousands of tests. Member companies can come to the development early and use their experience to see what may go wrong before it is too late to fix the problem.

Listen to what the members have to say and most importantly, **follow through on their advice**.

## Be ready

Approximately 70% of failed dwelling tests are because the tester was called in ahead of other trades.

# What you should NOT do…

## Do not set the target too low

Although a low air test target (<4.00) will increase efficiency, the work that is required must not be underestimated. Low energy target properties must be designed correctly as retrofitting solutions is much more time consuming and therefore costlier than designing the building correctly in the first place.

## Do not fall into the temporary sealing / mastic trap

Fixing issues with temporary sealing or mastic (unless there is a valid reason for doing so) are short term solutions and will undoubtedly lead to problems later in the build (excessive heating bills, draughts, failed ventilation systems etc). Temporary sealing falsifies the results and is against the scheme rules. See TIL001—Temporary Sealing Guidance.

# Common Faults

## Dry-lining

A common issue, perhaps the most common, is air getting behind dry-lined plasterboard. Usually the entry point is along and under the skirting which inevitably gets a mastic seal to fix the issue. A prime candidate is behind kitchen units where no skirting is used which leaves a large cavity.

Ensuring a continuous ribbon at all sides of dry-lining and applying a flexible mastic behind the skirting are a belt and braces approach to minimising the leakage.

## Downlights

Downlights will often leak through gaps around the light and leak into the floor or ceiling void. Using downlights without gaps will help. If downlights are part of the design, consider raising the Design Air Permeability to suit.

## Bathrooms

Air will leak behind bath panels, vanity units and boxings leading between both. It is essential that air leakage paths are blocked before the bath panel, vanity unit covers and carpenters boxings are fitted. The aforementioned are not usually the point at which air is designed to be stopped.

## Cold Roof Construction

Traditional cold roofs are designed to leak air to ventilate the roof space and cavities. Any penetrations, such as MVHR, pipework or cabling that penetrates the ceiling will cause a leak directly to outside if the penetration is not backfilled.

## Access Doors

Access doors, such is internal doors to garages, loft hatches and access doors into storage voids (doors to areas outside of the building envelope under test), should be air tight and under no circumstances temporarily sealed for the test. Air tightness can be achieved by fitting appropriate seals.

# Common Faults

## Light Switches and Plug Sockets

Light switches and plug sockets must be fitted before the tester arrives as these must not be temporarily sealed and will leak behind the plasterboard.

## Low Specification Products

Low specification products can be detrimental to the air tightness performance of a house. Using the cheapest product may save money but may ultimately lead you to require re-testing which takes time and risks handover dates being missed.

## Windows & Doors

Windows and doors must be properly fitted before the test is carried out. Poorly fitted windows and doors will lead to failed tests. Windows and doors must seal tightly when closed with the seals remaining in contact for the entire perimeter of the opening edge.

## Boiler & Water Tank Cupboards

Boiler and water tank cupboards often hide leakage which is extremely tricky to put right retrospectively. Once the pipework is installed, ensure the gap between the pipe and the hole cut for it are backfilled. Ensure that air will not escape through any other penetrations or weaknesses where no skirting is installed.

## Flooring

Traditional floorboards will allow air to leak between the gaps and more often than not, find a way out of the floor void. Tongue and groove flooring will generally perform better. Where traditional flooring is specified, leakage paths below the floor should be sealed before the flooring is installed.

**For more information, or information on specific issues, please contact an ATTMA member who will be pleased to discuss this with you.**

Visit **www.bcta.group/attma/members** to find a member.