wightairtight

airtightness testing

Information pack

BINDT THE BRITISH INSTITUTE OF NON-DESTRUCTIVE TESTING

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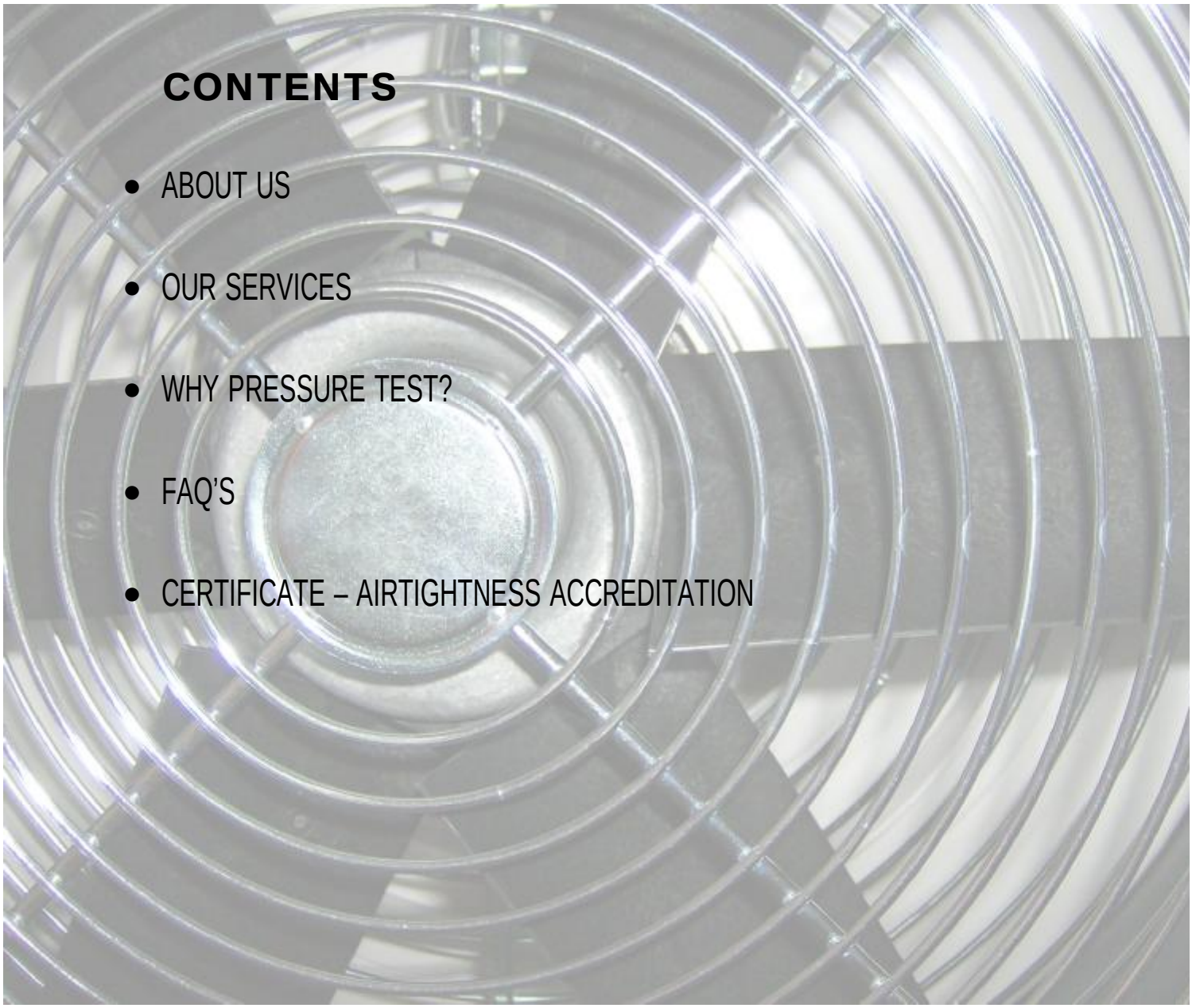
BSRIA



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ABOUT US

wightairtight was formed as a company specialising in the undertaking of air pressure testing of new dwellings as required by Part L1A (Conservation of fuel and power) of the current Building Regulations. Its founders are all specialists within the Construction Industry having extensive management experience in both the Public and Private sectors.

Having identified a severe shortage in the provision of the service requirement within the Industry, **wightairtight** aims to provide of a high level flexible, friendly and professional service that will enable clients to achieve compliance and certification of Part L1A with the minimum of hassle.

wightairtight is a new company providing expertise in air pressure testing, through consulting and the physical undertaking of tests. It will focus initially on providing two main areas of business:

- Providing Building Contractors, Developers and Local Authority Building Control with a reliable, fully compliant air pressure testing service as required by Part L1A (Conservation of fuel and power) of the Building Regulations.

- Providing a consultancy service to private property owners and developers, of how, where and the extent of air leakage in existing dwellings and how this can be improved.

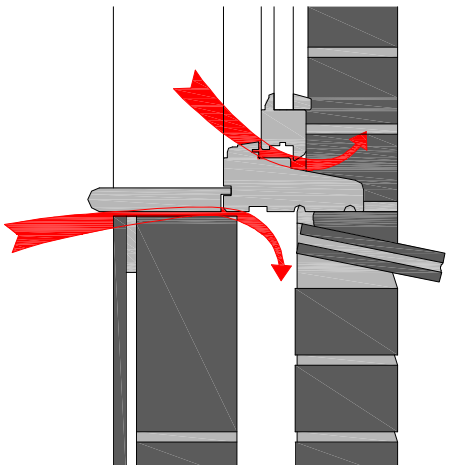
OUR SERVICES

wightairtight offer a number of services to help clients achieve air-tightness compliance 'first time'. Where possible we will provide as much or as little help as needed and deliver a service as necessary to cater for specific requirements. A general list of services are identified below but are by no means exhaustive.

We can produce the envelope area calculation if required. This is a key parameter that has to be determined accurately. It is often a challenging and time-consuming task, particularly in more complex buildings.

If involved at an early stage of the project we can offer advice and visit site to discuss the critical details of achieving air tightness compliance. By raising awareness at an early stage can often be a very useful and proactive meeting which can ultimately same both time and money.

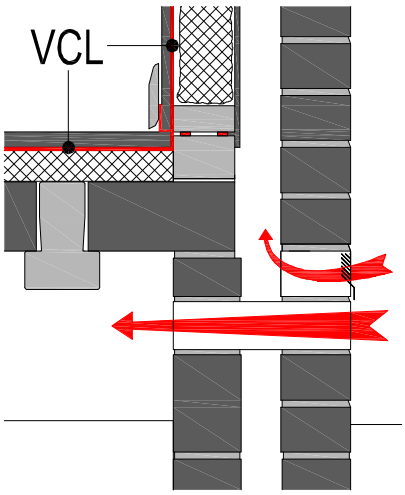
All **wightairtight** testers are fully trained in accordance with industry standards to be able to conduct tests on all types of building, to interpret the data and produce the subsequent reports and certification. We do not use semi-skilled or sub-contract staff to carry out our tests.



In the event that the test result is a fail our Testers can carry out a detailed and thorough examination of the building, using their experience to find leakage sites using smoke pens.

WHY PRESSURE TEST?

Building regulation guidance for the UK now requires that buildings meet air tightness requirements, in order to conserve energy and save money. Through the Building Regulations Approved Document Part L, the UK Government is driving standards of energy efficiency in buildings up, requiring that standards of air tightness in new buildings are both achieved and proven by means of Air Permeability Testing.

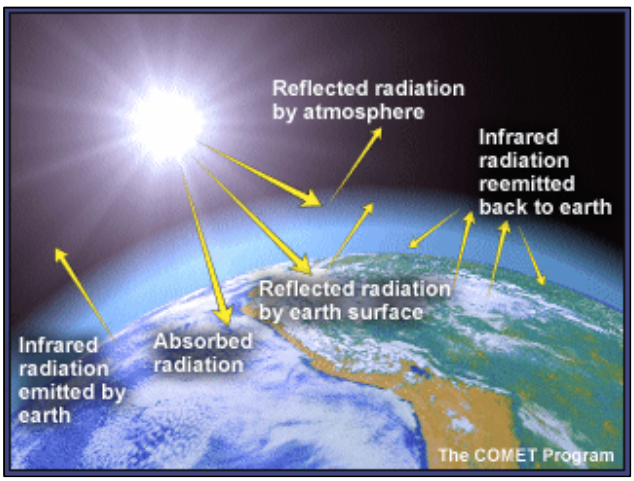


An airtight building is one which does not lose either heated or cooled air to the outside in an uncontrolled manner. In practice no buildings are entirely airtight and it would not normally be desirable for this to be the case. However high performance levels are desirable for reasons of cost and environmental impact as explained in greater detail below. Air tightness testing is a method of measuring the extent to which heated or cooled air is lost through leaks in the building.

COST – Energy is wasted by various means usually through a buildings design and construction quality. Lack of attention to air tightness is one of the most costly factors, sometimes causing a doubling of fuel bills. With rapidly rising energy prices this is becoming an increasingly important issue.

ENVIRONMENTAL – Burning fossil fuel to generate energy adds to carbon emission levels, which in turn is believed by most scientists to add to the Greenhouse Effect and its consequent problems for global climate change.

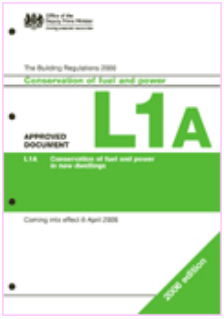
Clearly, using less energy by being more efficient is the best way of reducing carbon emissions. The Government is aiming to achieve a 60% reduction in carbon emissions by 2050. This is a hard target to achieve and is probably impossible without tackling the waste caused by leaky buildings.



To achieve this target, the government is introducing a range of regulations and initiatives, one of which is the amendment to Part L of the England and Wales Building Regulations, which came into effect on 6th April 2006. The changes within the regulations are seeking to reduce carbon emissions by 20% across all newly constructed buildings. This is a regulatory requirement, not just guidance, to conduct air tightness testing. Building Control will not be able to provide a Completion Certificate for new dwellings without the necessary air tightness testing results.

FAQ's

Does my building require a test?



The new Part L1A Regulations came into effect on 6 April 2006 and concentrates on the Conservation of Fuel and Power within New Dwellings. New dwellings will require, with few exceptions, an airtightness test to a standard of 10 m/3 / (h.m/2) at 50 Pa. **wightairtight** will ensure that all our clients are fully compliant with the criteria as set out below.

The Design Air Permeability for each dwelling type within a development will be determined by designers as part of the overall DER (Dwelling CO2 Emissions Rate) calculation. The maximum design air permeability allowable (is 10 m3/(m2.hr) @50Pa.

Sample testing is required of each dwelling type on each development. Building Control will identify the (early) units to be tested. The sample size depends on whether 'Accredited Construction Details' have been used:

Dwellings that have adopted approved construction details

On each development, an air pressure test should be carried out on a unit of each dwelling type selected by the Building Control Inspector. For the purposes of the Approved Document, a block of flats should be treated as a separate development irrespective of the number of blocks on the site. The dwellings to be tested should be taken from the first completed batch of units of each dwelling type.

Dwellings that have NOT adopted approved construction details

4 or less dwellings - *One test of each dwelling type.*

Greater than 4 dwellings, but equal or less than 40 dwellings – *Two tests of each dwelling type.*

More than 40 dwellings – *At least 5% of the dwelling type, unless the first 5 units of the type that are tested achieve the design air permeability, when the sampling frequency can be reduced to 2%.*

Small Developments (2 units or less). An alternative to testing is to either prove that a satisfactory test result has been achieved on another dwelling of the same type in last 12 months, or use an assumed leakage rate of 15 m3/(m2.hr) @ 50 Pa in the overall carbon emissions calculation.

The effect of using this cautious value would then have to be compensated for by improved standards elsewhere in the dwelling design.

Blocks of Flats have to be considered as separate developments, regardless of how many are on the same site.

Testing Companies engaged to carry out tests under this revision of the Approved Document should be members of the British Institute of Non-Destructive Testing.

What does a test involve?

We attach a large fan to an external door to the building and blow in large amounts of air. By using gauges to measure pressure, temperature and air flow in the building, we can calculate the building leakage. At constant pressures we measure the amount of air we need to blow into the building to maintain the pressure. This is equal to the amount of air that is leaking out of the building.

Who chooses which dwellings are tested?

The specific dwellings included in the test sample will be selected by the Building Control Officer in consultation with the building contractor.

Are there any risks of damage during pressurisation?

Absolutely not. The air pressure increase in the building during the test will be approximately 50 Pascals (Pa). This is a very low pressure increase, and will not cause any damage. It is perfectly safe to carry on working inside the building during the test.

How long does a test take?

This is totally dependent on the size of the unit to be tested, however, an average unit will take between 2-3 hours.

How much will it cost?

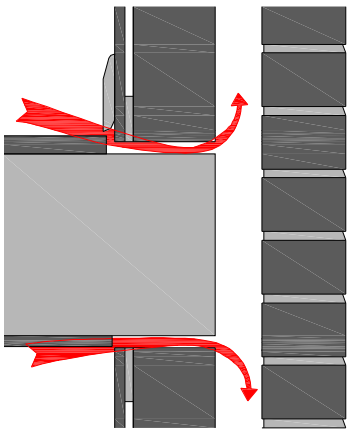
At **wightairtight** we realise that no two tests are ever the same, therefore our quotations are based on individual requirements based on the variables of the building type. We do not charge set rates, if it's a simple test our fee will reflect this. The pride in our business is honesty, integrity, and reputation.

What do we need to do to prepare for testing?

We will provide a client checklist of what we will require prior to us undertaking the test. For a test to be carried out correctly, the building must have all internal doors open and all external doors (including doors into non-conditioned areas) and windows closed. Mechanical air handling systems need to be shut down and sealed, and water traps needs to be filled or sealed. Please note that **wightairtight** will advise if there are any specific measures that will be required.

What if my building fails the test?

If the building fails the Air Test, we can carry out a smoke test on the day of the test, to identify the areas of leakage then remedial measures should be carried out, and the dwelling re-tested. The regulations outline that for each dwelling which fails the air test on an accredited build, a re-test of the failed building plus an additional dwelling of that design must also be tested. For non-accredited builds, a re-test of the failed building plus two additional dwellings of that design must also be tested.



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BSRIA

Certificate

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This is to certify that

David Munt

of

Wight Air Tight

successfully completed the

Domestic Air Tightness Testing Accreditation Training

on

8th January 2007

And is judged to be competent, as required by Building Regulations Approved Document L1, to undertake Domestic Air Tightness Testing

Certificate number: **B1212DMU**

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