



CPS
energy compliance

Air Leakage Testing

Design Reviews

Site Based Consultancy

Smoke Tests

Thermal Imaging Surveys

Sample testing for Air Permeability

CPD Presentations and Seminars

More Than Just An Air Test

www.cpsleakage.com

Our Services

CPS offers the complete package with regard to satisfying air leakage compliance for building regulations Part L1A, Part L2A and L2B. Our experienced staff have tested over 500 buildings including Houses, Bungalows, Schools, Warehouses, Offices, Hotels and many more.

Air leakage is our main business activity therefore we can tailor a package that suits you to help achieve compliance first time with the minimum of hassle and cost. The services that we offer include:

- **Air Leakage Testing**
- Design Reviews
- Site Based Consultancy
- Smoke Tests
- Thermal Imaging Surveys
- Sample Testing for Air Permeability

“Our Air Leakage testing All Inclusive Option is more than just a Pass or Fail statement.

CPS Ltd will work with you identifying leakage paths in an effort to make those buildings that fail compliant”



Residential Air Leakage Testing

CPS can test Houses, bungalows and individual flats or whole blocks of dwellings using our own purpose built equipment, which allows us to monitor and sustain a very high level of accuracy of measurement which exceeds all the current legislative requirements.

Part L1A Regulation:

Using the Approved Construction Details method

- One of each dwelling type will still need to be tested
- If any dwelling fails the test then the remedial work needs to be carried out and a further test carried out. A further dwelling also needs to be tested.

Using a testing and consultancy method

Number of Instances of the <i>dwelling type</i>	Number of tests to be carried out on each <i>dwelling type</i>
4 or Less	One test of each <i>dwelling type</i>
Greater than 4, but equal or less than 40	Two tests of each <i>dwelling type</i>
More than 40	At least 5% of the <i>dwelling type</i> , unless the first 5 units of the type that are tested achieve the Design air permeability, the sampling frequency can be reduced to 2%

- If any dwelling fails the test then the remedial work needs to be carried out and a further test carried out. A further dwelling also needs to be tested.

Developments of two or less houses then a figure of 15 m³/m²/h can be used for the DER Calculation and no test is required, alternatively if the same contractor has built the same design in the previous 12 months and can prove a compliant result then also no test is required.



Commercial Air Leakage Testing

CPS's staff has experience of testing a wide range of commercial developments including retail units, Office developments, Schools, Hospitals, Supermarkets, Sports Centres and many more. We therefore can offer you advice to help obtain a compliant building first time.

Using CPS's own designed and manufactured equipment we have the ability to test small computer rooms and warehouses up to 50,000m². The equipment ranges from small door fans to 7.5 tonne lorries with our fan on the back.

New Part L2A Regulation:

There is now a testing requirement for buildings above 500m² GIFA.

The test standard has changed for buildings over 500m² GIFA and is now based on the Air Leakage rate that is used in the DER calculation (Design Emission Rate)

Buildings below 500m² GIFA do not require a test if a leakage rate of 15 m³/m²/h is used to calculate the DER.



Air Leakage Consultancy

The latest revision of the building regulations has put a new emphasis on the Air Permeability of a building, as this is now a variable figure, which is used in the design energy calculations of a building. As a result, considerably lower Air Permeability rates will be applied to buildings, with figures of between 5 and 8 m³/m²/h becoming quite normal.

Low air leakage rates cannot be achieved without paying attention to detail. CPS offers three types of consultancy to help you achieve compliant buildings first time.

Design Consultancy:

CPS will review the drawings at our offices and/or attend a meeting with key personnel of the project. They would include architect, project manager, site manager and envelope sub contractors. A course of action would then be set to ensure construction of the air tight barrier.

Construction Consultancy:

Site visits would be timed to coincide with key stages of the project to ensure that the airtight barrier, established at design stage, is being implemented and to identify any leakage paths rising as the build progresses. Reports are published and details that require further attention are highlighted.

Pre-test Inspection:

CPS endeavours to visit site prior to every air leakage test that we carry out. The objective of this visit is to get the site team ready for the test day. We will walk around the site with the site manager and inspect the airtight barrier, should any further sealing works be required we will advise. We will then run through the test procedure with the site team and advise on any temporary sealing that will be required. A provisional date for the test will be set. The purpose of this visit, like every other service is to help obtain a compliant building first time.



Product Sample Testing:

CPS is able to test samples of construction products so types can be assessed with regards to air leakage.

Concrete blocks can range in leakage rates from $0.12\text{m}^3/\text{m}^2/\text{h}$ to $45\text{m}^3/\text{m}^2/\text{h}$, which can have a significant effect on the design and final test result on a building.

The information which is gained from this type of detailed product testing can be used to quantify the amount of sealing works required to achieve a compliant building on a first time basis.

Products tested include:

- Concrete Blocks
- Sheet Materials
- Loft Hatches etc
- Envelope fixtures such as doors and window units



Thermal Imaging:

The building Fabric should be constructed to a reasonable quality so that the insulation is reasonably continuous over the whole building envelope.

Thermal imaging can be used to prove compliance.

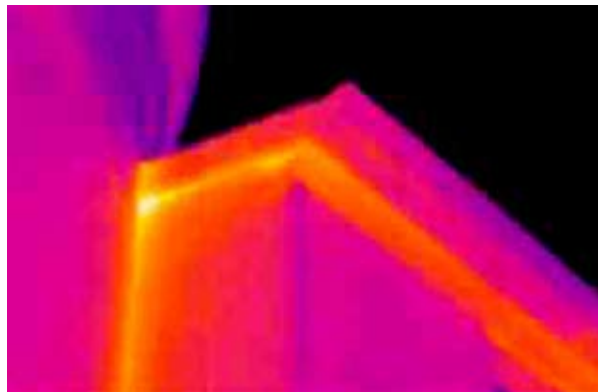
Our thermographic techniques can be applied to a building specifically to satisfy the demands of these building regulations. Using specific parameters to enable the inspection to take place and coupled with equations to determine temperature factors/ critical surface temperatures, it is possible for our inspections to assess the continuity of insulation across the entire surface area. From this we can use our methods to determine what is reasonably continuous and what is not deemed acceptable. It is possible for us to quantify the performance of the insulation present in many structures, existing or new builds.

Thermographic surveys are normally only carried out once there is a temperature difference of 8-10°C between the internal space and the external elevation of the building. There must be reasonable access to all areas to be surveyed and the survey can not be undertaken if any of the building surfaces are wet.

Thermal imaging can also identify other potentially serious envelope defects such as air leakage or water ingress into insulation elements.

Qualitative Assessment

Although modern infrared cameras can measure heat emission and surface temperatures very precisely, infrared Thermography must be considered a qualitative tool and it is best to employ other methods to quantify heat losses from a building. Quantitative infrared surveys can only be conducted under very precise thermal and environmental conditions, which rarely if ever occur in the field.





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