

Zip

for the
Construction Industry

Summer 08

Welcome to the first edition of Zip from Zurich Building Guarantee.

Zip, brings you technical updates, health & safety tips and all the news from Zurich Building Guarantee, zipped-up in a single publication that you can access with the click of a mouse. It will also provide an insight into developments Zurich have recently been involved with.

Who are Zurich Building Guarantee?

As well as belonging to one the world's largest financial services groups, we are a leading provider of ten-year warranty policies and latent defects insurance for new homes and commercial and mixed use developments. In addition, we are also an approved inspector and chartered building consultancy – providing a unique profile within the construction industry as an insurance and risk management company which is part of the industry it serves.

Your feedback

I hope you enjoy reading the first edition of Zip and find the articles useful and informative. To ensure that we continue to produce a newsletter that meets your needs, please email me with your views on the content of this issue and any ideas that you may have for future editions I would also welcome your suggestions for any developments that we could feature. Please email me at Zip@uk.zurich.com



Martin Horsler
Head of Zurich Building Guarantee

Continue
to contents

03 News in brief

Zurich Building Guarantee website
Zurich Homeowner's Log Book
Homeowner's guide

04 Update from Zurich

Zurich Building Guarantee
breaks the building control barrier
Case study – Park Prewett
Case study – Hamilton Plaza
Case study – Potato Wharf

07 Technical focus

Air pressure testing
Our experience so far
Robust details
Pre-completion sound testing on residential dwellings
Air circulation in flats

13 Legislation updates

Air circulation in flats
Update on the Building Regulations
Proposed new editions of the Approved Documents L
Compliance with Part M "Access to and use of buildings"

15 Learning from experience

Working at height – Open stairwells
Zurich Building Guarantee at Princesshay, Exeter
– An unstoppable partnership

News in brief

Zurich Building Guarantee website

Our website has been updated to make it easier for you to find the information you need, any time you need it. It includes:

- our technical manual providing you with the most up-to-date information about our technical requirements
- useful technical guidance notes
- the latest information about forthcoming events and new developments
- contact details for our key personnel
- literature and forms for warranty cover and building control.

Take it further

Visit the site at the address below:

www.zurich.co.uk/buildingguarantee/developerbuilder

or call our helpline on **01252 377474** for more information.

Zurich Homeowner's Log Book

Since 1 June 2007, we have provided our clients with the Zurich Homeowner's Log Book. For all new sites registered for warranty cover, developers can access an online log book to add key documents for each new homeowner.

This provides a modern alternative to the paper-based 'Welcome Pack' that is usually supplied by developers, and often at some cost. In addition, the log book meets the statutory requirement for the Home Information Pack and adds three points to the quota needed to meet the code for sustainable homes.

The log book is easy to use and you can fill it with all key documents relating to a new home. We also offer an e-facility if you have a soft copy of any documentation.

Each log book can hold a wide range of information, so you are not restricted to including just the basic documentation.

Homeowners benefit from easy access to information about their home without having to remember where they have filed it and developers will save the cost of producing a welcome pack.

Take it further

Details of items to include in the log book and a user guide are available on our website at the address below:

<http://www.zurich.co.uk/buildingguarantee/developerbuilder/plb.htm>

If you would like more information on our log book, please contact your area account manager. You can find their details by visiting www.zurich.co.uk/buildingguarantee/technicalprofessional/Regional+Sales+Managers

Homeowner's guide

It's a well known fact that buying a new home is one of the most stressful times many of us experience. Buyers are faced with lots of information to read at the same time as organising moving arrangements. A buyer's hopes for a newly developed home are especially high and with a wealth of documentation at their fingertips, it can often be hard to know where to go first to find crucial information about their new home.

One way of highlighting the documents buyers will find useful is with the Zurich homeowners' guide. It shows them what they can expect from their new home explaining, for example, that cracks can appear as a result of settlement. Managing a buyer's expectations in such a way can help reduce complaints and potential claims.

As well as detailing what a buyer can expect from their new home, the guide covers what the cause may be, and whether it may constitute a valid claim.

Take it further

To view the homeowners' guide please visit <http://www.zurich.co.uk/buildingguarantee/homeowners/homeownersguide.htm>

Update from Zurich

Zurich Building Guarantee breaks the building control barrier

More and more customers across the country are signing up for the dual service of our 10-year Warranty and Building Control Service.

The flexibility of the dual service highlights the added value and time savings that we can bring to projects by carrying out the building control function at the same time as the warranty function. Ultimately, while our surveyor is on site carrying out a drainage inspection for the building control function on one property, they could be carrying out final inspections for the building control and warranty function on another. This saves clients time and money by reducing forms and paperwork for registration with both services, reduces waiting time for two surveyors at each stage of construction and ultimately gives one certificate at the end of project!

Take it further

For more information on the information provided here or on any of these case studies, call us on **01252 377 474** or email building.guarantee@uk.zurich.com

Case study

1 Park Prewett



Thomas Homes is just one developer in the south who has seen the benefits of using us for the dual service for the former Park Prewett hospital on the outskirts of Basingstoke.

The development is a mixed use scheme comprising conversion and new build properties known as Limes Park. This former hospital has been sold for development along with another 95 NHS hospital sites by English Partnerships. The development is within the heart of a conservation area and consists of eight imposing Edwardian buildings.

The site is being converted into 81 houses and apartments, arranged in a south-facing crescent. In addition, 58 new properties will form two symmetrical crescents running parallel to the original redbrick buildings.

The Edwardian grandeur of these buildings is being retained with the added bonus of energy saving eco-friendly features that you would find in new-built properties. Construction work on the new-build properties has just started and they will be built to a high specification including Eco-homes, Lifetime homes, Building for Life silver standard and Secured by Design.

Case study

2 Hamilton Plaza



We have been inspecting the prestigious development of Hamilton Plaza, at Hamilton Square, Birkenhead by The Whyte Group and Dale Construction. The development provides commercial units, underground car park and 19 luxury apartments overlooking the square in Birkenhead.

The designed foundations for the building were some 3.5m below ground into sandstone strata, which required the use of skilled labour and jackhammers to reach the required formation level.

To complicate matters further, the developer had to design the reinforced foundations over the corner of

the Mersey tunnel which is some 10m below the level of the foundations. All had to be inspected not only by us but also by the structural engineers on behalf of Mersey Tunnel. We are providing the building control function as well as the 10-year warranty for the building.

Many of our customers prefer to have just one provider for both functions and it is proving to be a popular choice. Our surveyors have many years experience in various disciplines and we could help provide that extra added value to your next project.

Case study

3 Potato Wharf



Another one of our most interesting projects is Potato Wharf, Castlefields, Manchester for Crosby Lend Lease. This project is unusual because the basement car park under the apartments is

surrounded on three sides by the Bridgewater Canal, which meant that the site needed to be continuously dewatered and water pumped out to enable construction works to continue. The basement is constructed of reinforced concrete shear walls and floor slab all cast in situ and, for added protection, a bentonite clay tanking system (Volclay) has been used. We would only normally see this type of tanking specification for residential use, but it has been used due to the high water table.

There were numerous issues which the developers have overcome to maintain the construction programme, including the tower cranes being restricted by Railtrack due to the close proximity of a huge railway bridge. Crosby and Carillion have also built a 3-storey marketing suite which is a permanent structure and which will be turned into offices eventually. The ground-floor office

and staircase is open plan, which has required the provision of a smoke curtain. If the smoke alarm is activated the curtain drops and provides a protected escape stair.

The development is situated in the trendy Castlefield area near to Granada Studios and Mick Hucknall's nightclub BARCA. The land was purchased from Peel Holdings who also own the Trafford Centre, Manchester Ship Canal and John Lennon Airport, Liverpool.

The picture shows the prestigious Potato Wharf development consisting of 213 apartments 8 storeys high, situated in Castlefields Manchester where Zurich Building Guarantee are taking on the Building Control Function as well as providing a 10-year warranty on each apartment.

Technical focus

Air pressure testing

Air pressure testing has been a legal requirement for new building dwellings since April 2006. Do you know what is required in order to show compliance, how many tests are needed and who can undertake these? This article looks at all these matters along with a number of other important points and provides some practical feedback on airtightness from Zurich's Surveyors.

When did the regulations change?

- Approved Document L1A came into effect on 6 April 2006 and concentrates on the conservation of fuel and power within new dwellings. This does not include dwellings formed by a conversion – guidance on this is given in Approved Document L1B.

What is air pressure testing?

- Air pressure testing measures the volume of air escaping through the building envelope from uncontrolled ventilation. These are gaps, holes, cracks, etc which have not been adequately sealed during the construction phase.
- To carry out an air pressure test on a completed building, all external doors and windows are closed, extract fans, chimneys, etc are sealed and the internal doors are wedged open to allow the air to pass through the dwelling. A fan is set up to create a pressure difference between the inside and outside of the property and the quantity of air being supplied to the building to maintain the pressure level is equal to the quantity of air leaking from the dwelling through uncontrolled ventilation (that is gaps, holes, cracks, etc).

- New dwellings are required to have an air permeability of not more than $10 \text{ m}^3/(\text{h} \cdot \text{m}^2)$ at 50 Pa. Designers can choose to have a lower figure, for example $7 \text{ m}^3/(\text{h} \cdot \text{m}^2)$ is more airtight with less air leakage, within the Target Emission Rate (TER) calculations. This would show in the 'Checklist for dwellings as designed' which is required by the building control body when appraising the plans.

Airtightness, air leakage, air permeability

- These are all different terms for the leakage of air escaping through the building envelope from uncontrolled ventilation. The Approved Document uses the term "air permeability" but some test companies refer to the 'air leakage test result' which is the same as air permeability or airtightness.

Who can undertake tests?

- Approved Document L1A states that air pressure testing should be carried out in accordance with The Air Tightness Testing & Measurement Association (ATTMA) publication 'Measuring Air Permeability of Building Envelopes'. Companies registered with ATTMA www.attma.org are acceptable, as are companies registered with the

British Institute of Non Destructive Testing (BINDT) and only need to provide a certificate to the building control body to show compliance. Where a company is not registered with ATTMA or BINDT, the building control body are obliged to accept the results. But the company will need to provide the full test results and not just a certificate.

How many tests are required?

- There are two options. You can either follow the Accredited Construction Details (ACD), which allow for a reduced air pressure testing regime, or if not adopting these, follow the guidance set out in the table overleaf.

Technical focus

Number of pressure tests for dwellings that have not adopted accredited construction details

Number of instances of the dwelling type	Number of tests to be carried out on the dwelling type
4 or less	1 test on each dwelling type
Greater than 4, but equal to or less than 40	2 tests of each dwelling type
More than 40	At least 5% of the dwelling type, unless the first 5 units of the type that are tested achieve the design air permeability, in which case sampling frequency can be subsequently reduced to 2%

What are the Accredited Construction Details (ACD)?

- The ACDs are intended to help the construction industry to comply with the performance standards published in Approved Document L. They focus on issues regarding insulation continuity and airtightness. To show compliance the builder needs to complete a checklist sheet for every appropriate construction and junction type. This confirms that they have inspected these areas of the dwelling and they should then submit these checklists to the building control body.

The documents are available to download from www.planningportal.gov.uk

If I use Accredited Construction Details (ACD) how many tests do I need to carry out?

- Air pressure testing should be carried out on a unit of each dwelling type selected by the building control body.

What is a dwelling type?

- A dwelling type is defined as a group of dwellings on a site having the same generic form. Examples of the three common dwelling types in residential housing are detached, semi-detached (including end terrace) and mid-terrace properties. In blocks of flats the ground-floor, mid-floor and top-floor flats are three different dwelling types. Also, if units are built with different construction methods these must be treated as separate dwelling types. However, it should be noted that small variations in floor area do not constitute a different dwelling type.

Why are there different dwelling types in a block of flats?

- This is due to the different construction junctions within the dwelling. For example, on a ground-floor flat there is a ground floor to external wall junction and a party floor to external wall junction. On the mid-floor flat there is a party floor to external wall junction at both floor and ceiling level. And on the top-floor flat you have a party floor to external wall and roof to external wall junction. These differing combinations of junction details mean that these form different dwelling types and each type should be tested.

If a developer is constructing a number of blocks of flats with the same layout throughout, do they all need to be tested?

- Yes, each block of flats should be treated as a separate development, irrespective of the number of blocks on the site and each dwelling type within the individual block should be tested.

Technical focus

Do all sites need to be air pressure tested?

- All sites where new dwellings (that is, flats and houses) are being built must undergo air pressure testing. However, as an alternative to air pressure testing, on sites where there are not more than two dwellings being erected, there are two alternative options. You can:
 - show compliance by providing evidence that, during the preceding 12-month period, a dwelling of the same dwelling type and constructed by the same builder has been pressure tested and achieved the specified air permeability, or
 - avoid the need for air pressure testing by using a value of $15\text{m}^3/(\text{h}\cdot\text{m}^2)$ at 50 Pa for the air permeability when calculating the Dwelling Emission Rate (DER). It should be noted that it is very difficult to obtain a pass, especially with traditional construction, due to the increased amount of insulation required in order to achieve the DER.

Who chooses the units to be tested?

- The guidance in the Approved Document states that the building control body should decide on this in consultation with the builder. It is also likely that the testing company will propose a testing regime and seek the approval of the building control body.

The dwellings that are tested should be selected so that about half of the scheduled tests for each dwelling type are carried out during the construction of the first 25% of each dwelling type.

Where Zurich Building Control Services are undertaking the building control function, we will discuss the dwelling types and testing regime with you at the plan appraisal stage so that you are fully aware of what is required.

At what stage should a dwelling be tested?

- Testing should take place when the dwelling is complete but before handover. It is acceptable to test before this, but the test figure may be inaccurate as the builder may not have sealed around windows, penetrations through external walls, etc. It may also be misleading if, for example, waste pipes / soil stacks have not been taken out through the building fabric.

Inputting the air pressure results into the Dwelling Emission Rate calculation

- Following the air pressure test the Dwelling Emission Rate (DER) should be calculated using the result from the air pressure test to ensure that it is not greater than the Target Emission Rate (TER) and complies with the Building Regulations.

The air pressure test result, which must be not greater than $10\text{m}^3/(\text{h}\cdot\text{m}^2)$ at 50 Pa, is input into the calculations and the 'Checklist for the dwelling as built' produced and submitted to the building control body. Where the designer opted for a lower figure (for example, $7\text{m}^3/(\text{h}\cdot\text{m}^2)$ at 50 Pa) within the TER calculations, then you would expect the air pressure test result to be at least this figure or better i.e. lower to achieve a DER not greater than the TER, which is needed to comply with the Building Regulations.

There are cases where the design air permeability value could be in the 'Checklist for the dwelling as designed' as $7\text{m}^3/(\text{h}\cdot\text{m}^2)$ at 50 Pa and the actual test gave a figure, for example, of $9\text{m}^3/(\text{h}\cdot\text{m}^2)$ at 50 Pa. In these situations the 'Checklist for the dwelling as built' should be produced using the test result of $9\text{m}^3/(\text{h}\cdot\text{m}^2)$ to ascertain if the dwelling has a DER not greater than the TER.

There may be instances where the dwelling has a DER not greater than the TER that shows compliance with the regulations, because improvements were made during the construction to the fabric of the building, heating system, etc. This is why it is important to have the 'Checklist for the dwelling as built'. Having said that, if the test result was $9\text{m}^3/(\text{h}\cdot\text{m}^2)$ and the design figure was $7\text{m}^3/(\text{h}\cdot\text{m}^2)$ and no changes have been made to the construction of the dwelling from the information submitted in the 'Checklist for the dwelling as designed', it is likely the dwelling will not comply with the Building Regulations and some remedial works will be required.

Failed air pressure test

- Where the test result is greater than $10\text{m}^3/(\text{h}\cdot\text{m}^2)$ at 50 Pa, then remedial works will be required to reduce the air leakage and the dwelling will need to be re-tested. Where the DER for the dwelling is more than the TER because the air permeability result was higher than the design value, but is below the maximum of $10\text{m}^3/(\text{h}\cdot\text{m}^2)$ at 50 Pa, either remedial works will be required to reduce the air leakage or additional insulation will need to be

Technical focus

provided and the TER and DER re-evaluated taking into account the remedial works to the fabric of the dwelling. Also, the sample size should be increased and one additional dwelling of that dwelling type should be tested to check whether the failure is an isolated case or is common in that dwelling type.

Achieving airtightness

- There are potentially four main areas for air leakage. These are:
 - joints around windows and doors
 - gaps between one element and another
 - for example, a wall to floor
 - gaps around services passing through the building envelope
 - building materials which are permeable
 - for example, lightweight blockwork with no skim or plaster finish.
- Both the designer and builder need to consider all of these issues. The designer should look at the compatibility of materials, good detailing at junctions of all key elements such as wall to floor, wall to roof, the number of service entry points which pass through the building, etc. On site, the builder needs to ensure that all air leakage paths in the dwelling are sealed – the use of accredited construction details, which require the builder to complete a checklist for each construction and junction type, will help in this process.

Some air testing companies offer an inspection service before the actual air pressure test. They will look at the building envelope and identify any key areas which they see as a potential problem, allowing the builder to seal these before the actual test is carried out.

Site supervision

- It's important not to underestimate the importance of effective on-site supervision to ensure the quality of workmanship needed to achieve the required standards. The cost of delays in completion and remedial action could far outweigh the costs incurred in this process.

Our experience so far

- We have had a project where the designed air pressure test was $6 \text{ m}^3/(\text{h.m}^2)$ at 50 Pa. The actual result recorded on the air pressure test was $11.2 \text{ m}^3/(\text{h.m}^2)$ at 50 Pa. So this dwelling failed on two counts. Firstly it was greater than $10 \text{ m}^3/(\text{h.m}^2)$ at 50 Pa and, secondly, the DER calculation was well above the TER value. The developer has had to carry out various remedial 'sealing up' works to enable a re-test, which resulted in a test figure of $9.8 \text{ m}^3/(\text{h.m}^2)$ at 50 Pa. This achieves the $10 \text{ m}^3/(\text{h.m}^2)$ at 50 Pa value, but because they had opted for a design value of $6 \text{ m}^3/(\text{h.m}^2)$ at 50 Pa in the TER, the developer has had to install additional insulation in the roof space and dryline the integral garage with a 40mm insulated plasterboard, thereby reducing the usable floor space to meet the DER.

- Compliance can be achieved – test results of 2.2 & $3.55 \text{ m}^3/(\text{h.m}^2)$ at 50 Pa have been recorded on Zurich Building Control Services sites.
- No designer/builder has opted to use the Accredited Construction Details to reduce the testing regime.

We have seen the following problem areas:

- The continuous perimeter bead not being completed to the plasterboard dry-lining, particularly at reveals.
- Trickle vents leaking even when closed. When air pressure testing is carried out the trickle vents are closed, but no extra sealing is permitted.
- Gaps around window and door frames.
- Inadequate sealing at the main construction junctions – for example, ground floor block and beam floors at the external wall junction particularly where there is no skirting.
- Poor detailing at service entries through walls and floors.
- Gaps around waste pipes, soil vent pipes, overflow pipes, outside taps and incoming services.

Take it further

If you need further advice on air pressure testing and compliance with Approved L1A then contact Zurich Building Control Services on 01252 377474 or email buildingguarantee@uk.zurich.com

Technical focus

Robust Details

Robust Details have recently added further approved details to their manual, giving builders even more options. In this addition, we look briefly at E-WM-10, 11, 12 & 13 and also give some guidance on the use of parge coats.

Information on additions to robust details and a reminder about not making assumptions about how they are used.

Another separating wall, E-WM-10, has achieved accreditation with robust details. The use of aircrete thin joint masonry with a 75mm cavity with Ancon HRT4 ties and a finish of gypsum-based board mounted on dabs on a cement sand render is one way to show compliance with the robust details.

- E-WM-11 Lightweight aggregate blockwork (render and gypsum-based board) with 100mm minimum cavity. This detail is similar to the E-WM-4. However, the 100mm minimum cavity gives enhanced acoustic performance and this new detail provides a high credit solution when considering the Code for Sustainable Homes.
- E-WM-12 Plasmor “Agilite Ultima” Lightweight aggregate blockwork (render & gypsum based board).
- E-WM-13 Aircrete thin joint – untied blockwork (render & gypsum based board).

- An additional render coat has also been accepted for use on E-WM-4 and E-WM-11 separating walls. The robust details have been revised to reflect this.
- In addition to the new details, the tables showing permitted combinations have been revised. It is now possible to register E-WM-6 separating walls with E-FC-4 separating floors.

With all robust details the builder/designer should have the purchase statements available confirming that the plots have been registered with robust details. www.robustdetails.com

On site the builder should complete the robust detail checklist and compliance certificate and make this available to the building control body.

The information given in the Robust Details Handbook for walls and floors should be followed. Any deviations to the details shown in the handbook may mean that pre-completion sound testing is required in accordance with the guidance given in Approved Document E. – ‘Resistance to the passage of sound’.

Many of us have made the assumption that proprietary parging coats manufactured by British Gypsum and Lafarge, etc are substitutes for the sand cement internal rendering of masonry party walls. However, this is not the case. For a proprietary product to be acceptable, it must be named specifically in the robust detail. Currently, this means dense aggregate blocks (EWM3) and lightweight aggregate blocks (EWM4) are acceptable for Lafarge and British Gypsum parging coat treatments, but party walls constructed of aircrete (EWM6) must be rendered with a sand cement mix. Appendix A also gives some further advice on the application of the internal render/parge coat.

Take it further

For more information go to the robustdetails website www.robustdetails.com

Technical focus

Pre-completion sound testing on residential dwellings

Despite sound tests being a Building Regulation requirement for nearly 4 years, there still appears to be some confusion on the amount of tests that are needed on a development, the extent of the tests, who should undertake these and what happens when a test fails. This article gives you a better understanding of this.

Why do I need to carry out sound tests?

- Sound tests are required under Regulation 12A of The Building (Approved Inspectors) Regulations 2000 and Regulation 20A Building Regulations 2000 to ensure compliance with Regulation E1.

Is there an alternative to carrying out sound tests?

- In place of testing, the use of robust details can be used in houses and flats for certain approved party walls and party floor details. Further information on this can be found on www.robustdetails.com.

Who can undertake sound tests?

- Tests should preferably be undertaken by a company registered with either the United Kingdom Accreditation Service (UKAS) www.ukas.com or the Association of Noise Consultants (ANC) www.association-of-noise-consultants.co.uk

How many tests are needed?

- Sound testing should be carried out in accordance with the guidance in Approved Document E. The document gives guidance on forming notional groups and sub-groups. Dwelling houses (including bungalows), flats and rooms for residential purposes would form three separate groups.

Sub-groups are then identified. Examples of these are where there are different separating wall or floor details. Importantly the construction of flanking elements e.g. wall, floors and cavities also needs to be considered, as these can create further sub-groups.

- Normally, one set of tests are required for every 10 dwelling houses, flats or rooms for residential purposes in a group or sub-group. However, if there is a failed test result, additional testing is required.

Who decides on the grouping, sub grouping of units?

- The building control body will normally identify groups and sub groups and testing should be carried out on the first of the groups and sub-groups as they are completed, to ascertain if the construction achieves the required levels as set out in Tables 1a & 1b of Approved Document E.

What constitutes a sound test?

The guidance given in the table below explains what is required. A set of tests for a dwelling house would be two airborne tests through the party wall, whereas a flat which has both a party floor and party wall requires six tests.

What happens when there is a failed sound test?

- The building control officer must be notified of this and copies of the test report be made available.

Technical focus

Number of sets of sound tests required

	Dwelling house	Flats with a separating floor but without a separating wall	Flats with a separating floor and a separating wall
Airborne test on party wall	2 individual airborne tests through a party wall	N/a	2 individual airborne tests through the party wall
Airborne test on party floor	N/a	2 individual airborne tests through the party floor	2 individual airborne tests through the party floor
Impact test on party floor	N/a	2 individual impact tests through the party floor	2 individual impact tests through the party floor

- In the event of a failed set of tests, remedial works should be carried out and then a further test undertaken to confirm that the property now achieves the figures set out in the Approved Document.
 - that they have undertaken the same remedial works to all of the units which are in the same group / sub-group as the one which failed the initial sound test
 - demonstrate that the cause of the failure does not occur in the other properties
- A failed test raises the question as to whether further properties in that particular group or sub-group can achieve the required sound levels and therefore the developer needs to demonstrate one of the following:
 - carry out additional testing on more units in that group/ sub-group to identify that they comply

Take it further

If you have any questions regarding this guidance please contact Zurich Building Control Services on **01252 377474**.

Legislation update

Air circulation in flats

You are probably aware that, following changes to approved document B, Fire Safety, Volume 2, door closers are now only needed on flat entrance doors and there is no requirement to fit them to the internal doors within a flat. However, do you know about the changes to air circulation systems in flats? This article looks at this and, also, the changes made to the guidance in the Approved Document where you have a small, single stair building.

Air circulation systems in flats

Clause 2.18 of Approved Document B 2006, Volume 2 deals with air circulation systems in flats. Where central air extract units are installed and the ducts pass through an inner protected flat hallway, the guidance states that any duct passing through the enclosure to a protected hallway or entrance hall should be of rigid steel construction and all joints between the duct and fire enclosure stopped.

Previously, under the 2002 Approved Document, there was no requirement to have the ductwork in rigid steel. This change in guidance is to prevent the use of plastic ductwork, although this may be considered acceptable if used in conjunction with suitable intumescent fire collars.

Small, single stair buildings in blocks of flats

Clause 2.21 of Approved Document B 2006, Volume 2 now states that in a small, single stair building where the top floor is no more than 11m above ground level and there are no more than 3 storeys above ground level that the stair should not connect to a covered car park. Previously this was permitted in the 2002 Approved Document providing the car park was open sided.

If the provisions for allowing the use of a small, single stair are to be adopted in the design of a building, the guidance set out in clause 2.21 of Approved Document B Volume 2 should be followed. In particular, the staircase cannot connect to a covered car park. Also, high level opening vents should be provided at each floor level having a minimum free area of 1.0m², or, as an alternative, a single opening vent provided at the head of the stair which can be remotely operated from the fire and rescue service access level.

Take it further

If you have any questions relating to this or fire safety and means of escape, please contact Zurich Building Control Services on **01252 377474**.

Update on the Building Regulations

Proposals for amending Part G (Hygiene) of the Building Regulations and Approved Document G

The Communities and The Local Government have recently published a consultation document inviting responses on proposals for amending Part G (Hygiene) of the Building Regulations and Approved Document G.

The consultation document addresses the following:

- To update the Regulations and Approved Document to reflect current standards, legislation and practice;
- The inclusion of a new section on water efficiency in new dwellings to bring into effect the Government's policy on this;
- The inclusion of a new section on cold water services which would specify locations within the building where a "wholesome" supply of water is required, making it possible in turn to allow the use of "non-wholesome" water in other locations e.g. captured rainwater for toilet flushing.

- To consider whether it might be appropriate to introduce a requirement for the installation of a thermostatic mixing valve (TMV) on baths and bidets in homes to limit the temperature of water to 48°C.

Take it further

This document can be downloaded from www.communities.gov.uk/publications/planningandbuilding/partgconsultation

Proposed new editions of the Approved Documents L

Communities and Local Government have also recently published another consultation paper on Approved Document L.

The consultation document seeks responses to the following:

- to reconsider and revise the 2006 editions of the Approved Documents L. This is principally to take into account a number of legislative amendments which have come into effect recently as a result of amendments made to the Building Regulations 2000 and the Building (Approved Inspectors) Regulations 2000.

- to try and make all Approved Documents easy to read and use.

This consultation is entirely separate from and should not be confused with the more comprehensive technical review of Part L, which is being undertaken in advance of changes to the Building Regulations that the Government has already signalled that it intends to make in 2010. We can expect separate formal consultation to take place in early 2009 on the proposals which emerge from that technical review.

Take it further

Download the document at: www.communities.gov.uk/publications/planningandbuilding/partlconsultation

Compliance with Part M “Access to and use of buildings”

How sure are you that your new homes comply with Part M of the Building regulations?

A study published by Communities and Local Government regarding compliance with Part M in dwellings concluded that only 13% of the 64 dwellings surveyed fully met the requirements of the Approved Document.

The main areas of non compliance were:

- ramped approach to the principal entrance, Approved Document M states this should be a maximum gradient of 1:15
- threshold detail at the entrance, a maximum 15mm threshold is acceptable
- the size and layout of the WC on the entrance/principal storey level. The Approved Document states that the door to the WC should open outwards with a clear opening width of at least 750mm. However, this does depend on the approach to the room and more detailed information is given in Table 4 and sections 7 & 10 of Approved Document M.

Learning from experience

Zurich Building Guarantee Surveyors often resolve issues while on site that could save the developer money at a later stage of the development. In this section, we'll share some of the tips that could help save you hassle later on. If you have any that you would like to share with us, please email us at zip@uk.zurich.com.

Did you know that wrong hangars for engineered joists are being sent to site to be used with oversized engineered joists where joiners are chamfering off the edges of these joists to fit into the hangar?

Always check with the manufacturers if it is permitted to trim, notch or chamfer these joists to fit into undersized hangers as we would consider this to be a defect unless verification is provided.

Did you know that some breathable roofing felt when exposed to sunlight breaks down after three months?

This will eventually allow the water to permeate back into the roof and also allows the felt to start flapping in the roof causing noise and nuisance to the building occupants. This means that, when draping breathable felt into the gutter, you should always check if the felt is uv-rated – if not, then a special eaves carrier is required to cover the edge of the felt. To avoid exposure to sunlight, some builders use a piece of sarking felt or the wide 18" dpc to cover the edge, which is often a cheaper solution.

Did you know that if a roof crosses a party wall then adequate firestopping should be provided over the wall, into any eaves boxing and between the tiling battens?

If this isn't done, then a fire developing in one property will spread to the neighbouring property because not all elements are completely separate. Builders and developers usually know the first one but seldom both.

Did you know that when working in roof spaces to connect or fit ducts from fan to eaves or roofs, workers often have to disturb insulation if already laid?

They think that after having disturbed the insulation they can leave without re-laying it. If this is missed it causes a thermal bridging at those points in the roof, which ultimately means more energy wasted through cold spots. Leaving insulation tidy for a final inspection to take place will ensure a pass rather than a defect for the plot.

Did you know that floor door cills, copper or gas pipe holes through the fabric need to be sealed with mastic to save any water egress into the building?

Frequently these are forgotten about as they are the last things on the 'to do' list. However, not doing them will quite often mean that we will not issue our final certificate.

Did you know that if the movement joint in the wall is left too far back from the face of the external leaf it catches the bricklayer's string line?

This causes gaps in the mortar at the joint which in turn will allow water in. Always realign movement joint to its correct position otherwise a defect is likely to be raised.

Did you know that pre-formed cavity closures such as 'thermabate' are frequently being misused?

Often, it is seen that these can be cut into pieces and slotted into cavity. The purpose of these cavity closures is to form a thermal closure to cold air – if used in pieces they will allow cold air in and this in turn it will create a cold bridge. The result is that mould will form at window reveals caused by cold spots at the reveal.

Learning from experience

In every edition of the newsletter we aim to promote safe working practices by looking at what can be learnt from a construction site incident.

Working at height – Open stairwells

Two roughing joiners were fixing plasterboard sheeting to the ceiling and walls of the first floor of a timber kit house. To make fitting the last of the plasterboard easier, the sacrificial stairwell cassette was removed, creating an open and unprotected stairwell.

At some point later, one of the joiners lost his balance and started to fall. The other grabbed him to try and prevent his fall, but was pulled over, resulting in both joiners falling 2.4 metres to the concrete floor below. One sustained fractures to the left foot, the other, a fracture to the left arm.

Legal requirements and guidance

The Working at Height Regulations 2005

Avoidance of risks from working at height where work is carried out at height; every employer shall take suitable and sufficient measures to prevent, so far as is reasonably practicable, any person falling a distance liable to cause injury.

Learning points

- The sequencing of work (cassette removal, installation of staircases, fixing of temporary handrails and use of the Oxford safety platform) needs careful consideration in order to minimise the risk of falling.
- No one should ever work above or adjacent to an open stairwell.



Action required

- The commercial and production teams should ensure that all relevant method statements contain specific information on the sequencing and methods of work for any activities adjacent to stairwells (for example, plaster boarding, staircase installation, plastering and painting).
- The site management should ensure that appropriate materials (for example, post and barriers and Oxford safety platform) are available on site at all times and for the appropriate number of plots under construction.
- Site supervision should inspect all installed protection for adequacy.
- Production management should try to consider safer alternative methods for the passage of materials (for example, plaster board) such as loading out through windows, cutting slots through floors, etc to avoid the need to remove protection.

Learning from experience

Zurich Building Guarantee at Princesshay, Exeter – An unstoppable partnership

One of many exciting re-developments on the go for Zurich Building Guarantee is Princesshay in the Roman city of Exeter. It involves a major re-development of the 1950s City Centre, owned by Land Securities Group PLC and being developed by Ravenset Properties.

The architects were Chapman Taylor, Panter Hudspith, and Wilkinson Eyre.

In 2004, RoK Property Solutions PLC commenced work on the refurbishment and conversion of the Lloyds/TSB building to create 32 apartments and 5 restaurants and cafes, including an extension to the rear. The fit-out of the apartments was carried out by Midas Property Services and completed in 2006.

The developers, Land Securities, finally started work on the site in April 2005 with the demolition of the post-war Princesshay shopping arcade, originally built to replace buildings destroyed by German bombing.



The development of the main shopping area commenced in January 2005 and has taken quite some time to complete because it included an archaeological excavation of the site in which extensive Roman remains were unearthed including town houses, 70 13th to 16th Century graves, medieval city ditches, a sophisticated Roman road layout and a well, from which several thousand shards of pottery from Northern France were recovered. This find is considered as nationally important and now are at home in a museum. Obviously, the original build programme was affected as a direct result of archaeologists and their finds and they were on site far longer than anticipated. As life on a construction site never runs smoothly, all parties of the project team had to be flexible in terms of programme and schedule of works, access within site, storage of materials, etc.

Sir Robert McAlpine, one of the UK's leading building and civil engineering contractors, has carried out the construction for the Princesshay development. The massive development has involved; the demolition of 43,000 tonnes of material of which 80% was recycled, the use of 14,000 cubic metres of concrete and the installation of 5,750 tonnes of structural steelwork.

Due to the archaeological importance of the site, piling was used to ensure preservation of the site with a largely steel frame construction above.

The re-development costs are in excess of £225 million to create 50 000m² of space, comprising 123 city centre apartments and 60 new commercial units providing mixed use retail units and restaurants.

270 car parking spaces, pedestrianised areas and landscaping improvements have also been created as part of the scheme.

Part of the work required that the underground passages (these are a series of pre-medieval passages created to allow access to the water supply pipes for repair without having to dig up the roadway above) were protected and future visitor access enhanced with the creation of a Heritage Centre.

The views of Exeter Cathedral have had a significant influence on the residential design and layout and the views from some units are sensational.

The commercial units are now occupied and have traded since mid 2007. Debenhams were one of the first companies to be involved in the project and now have a three storey department store in the heart of the development. Next has the largest store in the UK within this development.

The last phase of new residential units is in the process of being fitted out and are nearing practical completion, which is anticipated in the next few months. Midas Property Service has been the contractor for the residential fit out works with the retail fit-outs by various contractors.

Any information in this newsletter is provided as a general guide only. It does not constitute nor should it be relied on as a substitute for specific legal advice.

Zurich Building Guarantee is a trading name of Zurich Insurance Company.

Zurich Insurance Company a limited company incorporated in Switzerland. Registered in the canton of Zurich no. CH-020.3.929.583-0. UK Branch registered in England no BR105. UK Head Office: Zurich House, Stanhope Road, Portsmouth, Hampshire PO1 1DU.

Because change happenz[®]

