

# ADJACENT PLANNING & BUILDING CONTROL TODAY

## NORTHERN IRELAND

### A CLEAR VISION FOR PLANNING

April 2015 will see a transfer of planning powers to 11 reorganised councils. Here, **Karen Smyth** of NILGA outlines what the changes will mean for local communities

### IN THIS ISSUE

#### 07 | WRAP UP ON THE EMBODIED CARBON CHALLENGE

PBC Today speaks to **Gareth Brown** at WRAP about the Embodied Carbon Database and the challenges faced by industry

#### 10 | BIM AND THE SMES: OPPORTUNITY IS KNOCKING

SMEs are key to the UK's BIM journey. **David Philp**, Head of BIM at Mace and the UK BIM Task Group explains their importance

#### 28 | THERMAL BRIDGING: CONFIDENCE IN ACCREDITATION

**John Tebbit**, Managing Director, Robust Details Ltd examines the challenges posed and the need for third party accreditation

Supported by





ISOVER G3 TOUCH  
MINERAL WOOL  
INSULATION



## Looking to Insulate?

Try ISOVER G3 Touch –  
High Performance, Soft Touch, Recycled!



Awarded the Highest  
Standard for Indoor Air Quality



[www.isover.ie](http://www.isover.ie)



Our TECHNICAL TEAM  
are here to help & advise  
**1800 744 480**  
NI Phone  
0845 399 0159

**ISOVER**  
SAINT-GOBAIN

Sustainable insulation solutions



## Editorial Team



Lisa Carnwell



Laura Evans

### Production Coordinator

Nick Wilde

### Designer

Andrew Bosworth

### Sales

Glyn Jackson

The editor does not necessarily agree with or endorse any of the views or contents of the articles and features within this document. All articles and editorials remain the copyright of the authors, organisations and other relevant authorities by whose kind permission they are reproduced. All information has been checked and is correct at the time of going to press. The publisher will not be liable for any loss suffered directly or indirectly as a result of the use of or reliance on the information contained herein.

© Adjacent Digital Politics Ltd 2014

Adjacent Digital Politics Ltd and its suppliers collect and process personal information for the purposes of customer analysis and market research. Our group/affiliate companies may also wish to contact you about our products or services, or the products of carefully selected third parties that we think you may be interested in.



### Adjacent Digital Politics Ltd

Datum House  
Electra Way  
Crewe Business Park  
Crewe  
Cheshire CW1 6ZF

Registered in England & Wales.  
Company Reg No. 8667479.  
VAT Registration No. 169 9152 64.

# Introduction

Welcome to the first edition of Planning and Building Control Today – Northern Ireland.

Northern Ireland's planning system is undoubtedly experiencing significant changes with local government reforms seeing 11 new councils holding planning powers come April 2015. It is an exciting time, but one not without challenges. Not least of those challenges is ensuring that the transfer of powers from the Department for Environment to the councils is done as seamlessly as possible. The ultimate result of the new planning system should see huge benefits, not only for communities, but for developers alike. Our opening article from Karen Smyth, Head of Policy for the Northern Ireland Local Government Association sheds light on what the changes will mean for the planning system within the region.

This publication also addresses the theme of Embodied Carbon (EC) in an interview with Gareth Brown, Programme Area Manager at WRAP. In the interview he sheds light on the Embodied Carbon Database – how it's performing, and what challenges remain. EC is, and will continue to be a 'hot topic' throughout the UK construction industry as we strive to

reach zero carbon homes by 2016, and the EC element cannot be ignored.

Not surprisingly, we also turn our attention to BIM as another 'hot topic' area, and one that should revolutionise our approach to construction projects. As part of the 'BIM4' community of groups, David Philp, Head of UK BIM Task Group looks at the role of SMEs and explains their key role in the UK's BIM journey. David argues that there is a great deal of evidence to support the hypothesis that digital enabled workflows benefit the SME in the built environment, and provides guidance on how to get the knowledge.

Our building control section also contains articles of interest including an examination of the new CDM revisions by James Ritchie of the Association for Project Safety.

All comment and feedback is welcome from you, the readers, so please contact us if you have anything to say, or indeed would like to contribute in the future.

# Contents

September 2014

## PLANNING AND DEVELOPMENT

05

### A clear vision for planning in Northern Ireland

April 2015 will see a transfer of planning powers to 11 reorganised councils throughout Northern Ireland. Here, **Karen Smyth** of NILGA outlines what the changes will mean for local communities...

07

### WRAP up on the embodied carbon challenge

As the opportunities of addressing embodied carbon become more well-known, PBC Today speaks to **Gareth Brown**, Programme Area Manager at WRAP about the Embodied Carbon Database and the challenges faced by industry

10

### BIM and the SMEs: Opportunity is knocking

SMEs are key to the UK's BIM journey, so their uptake is vital to ensure our BIM leadership. **David Philp**, Head of BIM at Mace and the UK BIM Task Group explains their importance

## BUILDING CONTROL

17

### Raising the value of building control

The building control profession understands its vital role in the construction industry and the need for ever higher service delivery. **Paul Wilkins**, Chairman of the ACAI, BCA and CE of Butler & Young outlines how this will be delivered

19

### CDM Regulations 2015: Better safety for all?

The revised CDM proposals have been debated and analysed by many in the industry. Here, **James Ritchie**, Head of Corporate Affairs at The Association for Project Safety examines the revisions in addition to what they should mean for the smaller contractor

24

### The case for insulating party cavity walls

Recognising that cavity walls are a source of heat loss, **Nick Ralph** from the Mineral Wool Insulation Manufacturers Association (MIMA) looks at the background to the changes and the solutions available

28

### Thermal bridging: Confidence in accreditation

Addressing the thermal bypass and bridge dilemma can be difficult, especially when dealing with the bridging aspect. **John Tebbit**, Managing Director, Robust Details Ltd examines the challenges posed and the need for third party accreditation

30

### Insulating the party wall

**Steve Smith**, Market Development Manager at Knauf Insulation looks at the associated problems with party separating cavity walls and discusses the best insulation solutions

## INDEX

|   |             |
|---|-------------|
| CITB .....                              | 23          |
| Clearbox .....                          | 14, 15, 16  |
| JCB Finance .....                       | 33          |
| JCB Insurance .....                     | 32          |
| KNAUF Insulation .....                  | 31, OBC     |
| Saint Gobain Isover .....               | IFC, 26, 27 |
| Tekla .....                             | 12, 13      |
| The Association of Project Safety ..... | 22          |

# A clear vision for planning in Northern Ireland

**April 2015 will see a transfer of planning powers to 11 reorganised councils throughout Northern Ireland. Here, Karen Smyth of NILGA outlines what the changes will mean for local communities...**

The bulk of planning powers will be transferring to councils in Northern Ireland on the 1st April 2015. In just 6 months, the 11 newly reorganised councils will each be responsible for drawing up their own development plans, making the majority of planning decisions and shaping how their areas will grow and develop in a way that responds to the needs of their local communities.

In advance of transfer, the Department for Environment, the current regional Planning Authority, is working actively to improve the planning system, creating a system which is less complex, more effective, more efficient and more customer-focussed without compromising on environmental standards. There is a clear vision for the delivery of planning in Northern Ireland that councils are working assiduously with the Department to realise.

## The vision for planning

- To create a better environment and a stronger economy; to create a planning system that works to achieve this; a system that is fast, fair and fit for purpose; one that delivers for business – with timely decisions that bring investment and jobs but not at the expense of our environment, planet or people;
- A system which realises that the environment and the economy should not, and cannot be, at loggerheads;
- A system that fully recognises that a vibrant, sustainable environment can be a driver of prosperity and job creation. Similarly a strong economy and a prosperous society can be good for the environment.

To ensure that planning is transferred as seamlessly as possible and that the new system is in the best possible shape for transfer, five key actions have been identified to bring the new system to life over coming months. The Minister has required his officials to:

- Shorten and simplify policy. Move to a single Strategic Planning Policy Statement (SPPS) rather than 20 separate policy publications;
- Initiate key reforms to the planning system;
- Tackle overly long response times from consultees;
- Improve customer service and access to case officers;
- Ensure all those with responsibility for delivering the new system have the capacity to do so.

## Benefits

These five actions should benefit all users of the planning system and improvements will be taken forward by councils.

Communities will benefit, better enabled to input in a genuine and meaningful way to development plans for their areas, and ensuring they are consulted before important applications are submitted by developers. NILGA, the Northern Ireland Local Government Association views community engagement as a vitally important part of the new plan-led system, and it is evident that councils have already begun to engage with their communities in relation to the new system and new relationships. Communities are also being supported to develop the necessary capacity and skills to fully participate in the new system.

Developers will have more certainty in terms of policy, with an up to date framework, and consequent speedier decisions and outcomes. The environment will benefit from better informed decisions. The Department, and latterly councils, will reap benefits through improved efficiencies and performance.

NILGA is particularly looking forward to the creation and implementation of up to date local development plans, prepared with meaningful input from communities, setting out council and community visions for their areas and providing certainty on future decisions. From the outset, landowners and applicants will have greater confidence on whether their proposed schemes will be acceptable.

NILGA is confident that the new plan-led system will provide greater clarity for all, and will encourage the formation of healthy working relationships between the various participants in the planning process.

The appointment of experienced Planning Managers has taken place recently, and these experts will be guiding elected members through their new responsibilities. The elected members have embarked on a substantial and ongoing capacity building programme specific to planning, and we anticipate that the fundamental skills necessary for the planning function to be operated successfully will be available within local government ahead of transfer.

**“NILGA is particularly looking forward to the creation and implementation of up to date local development plans, prepared with meaningful input from communities, setting out council and community visions for their areas and providing certainty on future decisions.”**

Additionally, a Code of Conduct for Councillors has been developed that is one of the most robust in these islands, with a particularly stringent section in

relation to planning. NILGA believes that this Code will ensure good practice and transparency in relation to planning decisions. New legislation, including the requirement to record meetings and make papers publicly available in a timely manner, will assist in building confidence in council decision making processes, once the currently shadow councils become operational.

Local government in Northern Ireland is keen to deliver an efficient, effective planning system at a local level that is more responsive to local needs and aspirations, and NILGA believes that in Northern Ireland it is welcomed that planning is returning to its right and proper home.

NILGA, the Northern Ireland Local Government Association, is the representative body for district councils in Northern Ireland. NILGA represents and promotes the interests of local authorities and is supported by all the main political parties.



.....  
**Karen Smyth**  
**Head of Policy**

Northern Ireland Local Government Association (NILGA)  
Tel: +44(0)28 9079 8972  
k.smyth@nilga.org  
www.nilga.org  
www.twitter.com/NI\_LGA

# WRAP up on the embodied carbon challenge

**As the opportunities of addressing embodied carbon become more well-known, PBC Today speaks to Gareth Brown, Programme Area Manager at WRAP about the Embodied Carbon Database and the challenges faced by industry...**

In an effort to address the embodied carbon (EC) challenge, resource efficiency experts WRAP (Waste and Resources Action Programme) and the UK-GBC (UK Green Building Council) launched the first publically available Embodied Carbon Database for buildings in April this year, during UK-GBC's 'embodied carbon week'.

The database has been created in the context of the partnership between industry and government to transform the construction industry – Construction 2025<sup>1</sup>. The ambition is to reduce emissions associated with the industry by 50% by 2025, and the database should be instrumental in helping organisations by providing an essential source of data where people from the entire supply chain can benchmark building designs, and as a result, identify where carbon reductions can be made.

The Green Construction Board has set some very specific targets for measuring and reducing EC, laid out within its Low Carbon Route Map for The Built Environment<sup>2</sup>, as adopted by government in its vision for the industry. The Route Map model shows that in 2010 operational carbon represented around 80% of emissions of the built environment, with EC representing 18%. However, the model shows a prediction that by 2050, EC is expected to be at 40%. Of course, we are addressing operational carbon quite well at the moment with Part L, solid wall insulation and the like, but addressing EC can make a huge impact on carbon emissions.

In the Embodied Carbon White Paper from Guy Battle, Director of Sustainable Business Partnership, he states that:

“Embodied carbon now makes up one of the largest proportions of carbon emissions of a building through its lifetime. For commercial offices over 40% of lifetime emissions are accounted for even before the building is occupied, and for some sectors such as industrial warehousing it is over 70% of lifetime emissions.”

The Embodied Carbon Task Force which arose following the UKGBC Embodied Carbon Week with over 1000 attendees, is working to “build cross industry consensus on how embodied carbon should be measured and reported, and for Embodied Carbon to be included as an Allowable Solution within the definition of Zero Carbon Building regulations, for both Residential and Commercial Property such that the objectives of Construction 2025 and the Green Construction Board may be met”.

Specifically the aim of the document is to deliver the following:

- Agreement and proposals for minimum standards for measurement and reporting;
- Proposed methodology for Embodied carbon as an Allowable Solution
- Identify gaps in knowledge and further work required;
- Develop a road map for delivery of Construction 2025 with respect to embodied and capital carbon.

Many people have suggested that EC should be included within the 'zero carbon' definition for 2019,

but it seems increasingly unlikely to happen. I asked Gareth Brown if this was a feasible idea. Not surprisingly, as we all heard in the Queen's speech, it certainly isn't on the table for 2016, but he did agree with Guy Battle in that "industry are keen to move forward in at least considering it as an Allowable Solution to 2019 and potentially to cement it into the definition as well."

**"There's certainly good understanding in the product sector, and as we move forward, the understanding in the architecture community, the designers and the consultants, the contractors, and all the people that make up quite a complicated sector in construction will also increase."**

In the interview with Gary Newman of the ASPB in the April edition of PBC Today, he outlined that the arguments surrounding an agreed methodology were not an excuse not to develop standards from which to include embodied carbon data. Brown added that the people involved in carbon profiling, making measurements and arriving at assessments, have all collaborated to inform the White Paper from Battle, proving that there is agreement and enthusiasm on how to take these things forward.

Brown highlighted that: "There are currently plenty of life cycle assessment (LCA) databases that provide detail and data. People are engaged in environmental product declaration and using the framework of the CEN TC 350. There are a number of developers in the commercial environment such as British Land, Derwent London and Land Securities that have contributed to the White Paper and have been undertaking assessments on some of their projects to get a better understanding of where they are".

The construction industry certainly faces challenges in incorporating EC into designs and building forms, and there is often a debate between the product sectors around the benefits of different construction products. Brown added that: "it's really about

optimising the use of different products depending on the type of building that is being built and the outcomes that people are looking for. If you look in the broader context of resource efficiency it's not about one thing being more important than the other, it's about optimising those choices to get the outcomes you're looking for. So, recycled content is important, as is low carbon and end of cycle recyclability. All of these things have a part to play, so it shouldn't be about one aspect that overrides another".

There are encouraging signs related to the European Directive CEN TC 350 (now a British Standard BS EN 15978) setting out a methodology for EC and whole life carbon analysis, in that many are starting on the journey. It is fairly early days but Brown appears optimistic: "There's certainly good understanding in the product sector, and as we move forward, the understanding in the architecture community, the designers and the consultants, the contractors, and all the people that make up quite a complicated sector in construction will also increase. There are some that are leading in these areas where it's very well understood, but it does take time. From a collaborative perspective, when it comes to data, BIM has a big part to play in this too.

"There are contractors out there at the moment mandating BIM on every project, whether it's a client requirement or not. BAM for example are doing this and are committed to deliver projects fully in that environment. Once you've started on this journey, then doing these sorts of things becomes a lot easier."

Many believe that only through legislation will industry really take on board the benefits of including embodied carbon in projects, and Brown admits it might be an option adding that "It will get more traction from those that are more forward thinking, involved, and understand the opportunity with what is happening already. They will do it because they see the commercial opportunity and the imperative to do this". Brown believes that how EC is incentivised is an important aspect and the database could certainly be used to inform the benchmark ranges if legislation





Gareth Brown, Programme Area Manager, WRAP

**“Embodied carbon now makes up one of the largest proportions of carbon emissions of a building through its lifetime. For commercial offices over 40% of lifetime emissions are accounted for even before the building is occupied, and for some sectors such as industrial warehousing it is over 70% of lifetime emissions.”**

EC is certainly gaining momentum within industry and some are clearly leading the way as mentioned earlier, but perhaps the benefits are not as widely known as they should be and better education within industry is required. Every year that passes only represents more emissions that could have been prevented, and the earlier the methodologies are recognised, the sooner we can reap the rewards. The EC database should go some way to achieve better, more robust knowledge and convince any ‘nay-sayers’ that action should, and can be taken now. ■

To get involved in the Embodied Carbon Database visit the site here.

<sup>1</sup> <https://www.gov.uk/government/publications/construction-2025-strategy>

<sup>2</sup> <http://www.greenconstructionboard.org/index.php/resources/routemap>

came into being, by expanding our knowledge of EC for different building typologies.

So how is the database performing so far? “It’s a couple of months since the launch and we are pleased with how it’s progressed”, Brown explained. There was a lot of interest before the launch, with quite a number of projects uploaded as data for the ‘embodied carbon week’ of events. We have people registering every day for access, and now have more than 230 assessments uploaded, and almost 450 queries have been run (queries are when a user has searched the database in some way to view the data, selecting the filters to determine which projects are displayed to them).

“Some people are using it to see if they can get some meaningful benchmarks from it to set project expectations and quite a number of consultants are using the database to get access and information. The critical thing is that the more data that is entered, the more meaningful the benchmarks for the different archetypes will become, and the more useful it is for everyone”.



.....  
**Gareth Brown**  
**Programme Area Manager**  
 WRAP  
 Tel: 0808 100 2040  
[www.wrap.org.uk](http://www.wrap.org.uk)  
[www.twitter.com/WRAP\\_UK](https://twitter.com/WRAP_UK)



# BIM and the SMEs: Opportunity is knocking

**SMEs are key to the UK's BIM journey, so their uptake is vital to ensure our BIM leadership. David Philp, Head of BIM at Mace and the UK BIM Task Group explains their importance...**

In 2013, there were 4.9 million businesses in the UK, with over 99% categorised as small or medium sized businesses (SMEs) i.e. employing between 0-249 people. Of this populace the SME community's share of construction turnover in the UK private sector was 72.4%.

Given that SMEs are the backbone of our sector, we must ensure that they have sufficient digital capacity and capability to ensure that the UK remains at the forefront of BIM leadership across the globe. But why should they care? Why should they consider investing in change?

The reality is they have to compete on a new basis with fierce international competition for the provision of skills and products and ever tight project afford-

ability constraints. It is self-evident, therefore, that to flourish with the backdrop of these challenges they must reform and unlock more efficient ways of working.

BIM really offers SMEs the opportunity to raise their game and contend in the heavy weight classes. Despite often being resource constrained, the SMEs are a motor of innovation with inherent change characteristics often not found in bigger organisations, coupled with faster decision making processes. It is essential, however, that SMEs build adequate knowledge capital in the BIM space to improve their value creation processes to:

- Sell or export this knowledge to another organisation as part of their offering; and,



**David Philp MSc BSc FRICS  
FCIOB FGBC  
Head of BIM at Mace and  
Head of UK BIM Task Group**

- Improve their offering, such as manufacturers who can liberate the data associated with their products to increase exports, create new markets or simply get specified earlier in the construction process.

There is much evidence to support the hypothesis that digital enabled workflows benefit the SME in the built environment. Organisations such as David Miller Architects (DMA) have seen both direct and indirect benefits through their BIM implementation; growing from a small to medium size practice through the efficiencies they are achieving, but also how they are being perceived differently by clients and through meritocracy competing for larger and more prestigious commissions.

Additionally, the tier 2 and 3 communities play an important part in enabling the larger tier 1 organisations. It is therefore essential there is a symbiosis between these parties to help each other up-skill and exchange digital data.

So where should an SME start their journey? Firstly start with the free stuff.

1. Perhaps I am a tad biased on this but visit the BIM Task Group website [www.bimtaskgroup.org](http://www.bimtaskgroup.org). This is a treasure trove of great resources on the BIM standards and processes. Be sure and visit the labs space and read the fortnightly newsletters.

2. Read PAS1192-2:2013 and PAS1192-3:2014 which looks at information management for the capital and operational phases of construction projects using BIM. These can be downloaded free of charge from the BSI website. They can be also be accessed via the BIM task group website.

3. Build a network – trust me, BIM is about open innovation and collaboration. Join the dots with your local Regional BIM Hub <http://www.bimtaskgroup.org/cic-bim-regional-hubs/> and the BIM4SME working group <http://www.bim4sme.org/> who are doing great work to raise the awareness and value proposition of BIM for smaller organisations.

4. Capability. You are probably already doing some BIM efforts but perhaps you don't even realise it. Have a review of how you create or manage your digital data. Do you use a common data environment? Work out where you are on your point of departure and determine what up-skilling is necessary to close the gaps. Consider both: knowledge of processes as well as skills on digital toolsets.

5. Have a play about. Most technology vendors offer free viewing, or indeed in some cases, free clash detection tools. Often viewing and reviewing models will be all you need and you can do it for free.

Do your duty. Ensuring the UK construction sector builds on its rich heritage and makes a big step into the digital frontier will be massively driven by the uptake of the SME community, so remember you can't hit a home run unless you step up to the plate.

Our digital universe is growing exponentially as are the opportunities. Big data, and the increasing value of the internet of things will all create new exciting prospects for the SME players in our fast changing built environment.

.....  
**David Philp MSc BSc FRICS FCIOB FGBC**  
**Head of BIM at Mace and**  
**Head of UK BIM Task Group**  
 Mace  
 Tel:+44 (0) 20 3522 3000  
[www.macegroup.com](http://www.macegroup.com)  
[www.twitter.com/MaceGroup](https://www.twitter.com/MaceGroup)

# BIM – defining better information management

**B**IM, despite being a small acronym, is a big word in construction. While there has been a lot of hype around BIM over the last few years we see the conversation is starting to shift toward companies asking – what’s really in it for me? However, the discussion needs to further evolve to start looking at how BIM can help define and create better business outcomes.

Models are important but they aren’t the be all and end of the information revolution – it’s the data that’s important, and for many in the industry that will still be shared in familiar 2D products like MS Word or Excel.

BIM allows clients, operators and maintenance teams to have all their data for an asset in one place. It allows for meaningful analysis across a wider selection of business information to be carried out rather than making business decisions based upon anecdotal guesses. By combining disparate data sets together – linked around a model of the asset – it becomes possible to review infrastructure data in a much more powerful way and as a result, manage assets better.

Implementing and using shared data sets with feedback of what actually works – proven by hard evidence – will improve design in the future. However, this shift of how we manage information requires more than just using software, it requires a behavioural change. This is the real change that BIM brings to businesses. It breaks down silos and enables individuals, groups and departments to share information openly and transparently. This

doesn’t mean that all information needs to be shared with everyone all the time – BIM provides the opportunity for relevant information to live in the model and only be accessed when needed.

While BIM has and is continuing to help evolve and change the construction industry the next big step will be harnessing remote sensing and telemetry. Real time feedback on the performance of structures such as bridges and tunnels will allow managers to understand how their assets are actually performing. Automating processes so that out of range figures trigger further analysis or inspections, creates the ability for pre-emptive maintenance to be carried out in a structured way rather than just having reactive or end of life strategies in place.

BIM can mean something different to everyone and that’s not a bad thing. But better data sets make for better decision making and help owners, operators, designers and installers work much more efficiently from a position of knowledge rather than ignorance.

## Tekla Structures BIM software

We constantly test and develop Tekla Structures and help you to get started with it.

Models created with Tekla BIM software carry the accurate, reliable and detailed information needed for successful Building Information Modelling and construction execution. Welcome smoother workflow to your company with Tekla Structures and constructable models.

Tekla works with all materials and the most complex structures – you set the limits. Our customers have used Tekla Structures to model stadiums, offshore structures, plants and factories, residential buildings, bridges and skyscrapers.

## Help with implementation

Tekla staff and our resellers help with implementation of the software. We work closely with our customers and offer local support, training and consultation.

## Open approach to Building Information Modelling

Although Tekla is ready to use, the software is also highly customisable. As Tekla has an open approach to BIM, you can run other providers’ solutions and fabrication machinery and still interface with Tekla. Extending and enhancing Tekla Structures is easy with Tekla Open API, the application interface.

Duncan Reed, Digital Construction Process Manager, Tekla



**Duncan Reed**

**Digital Construction Process Manager**

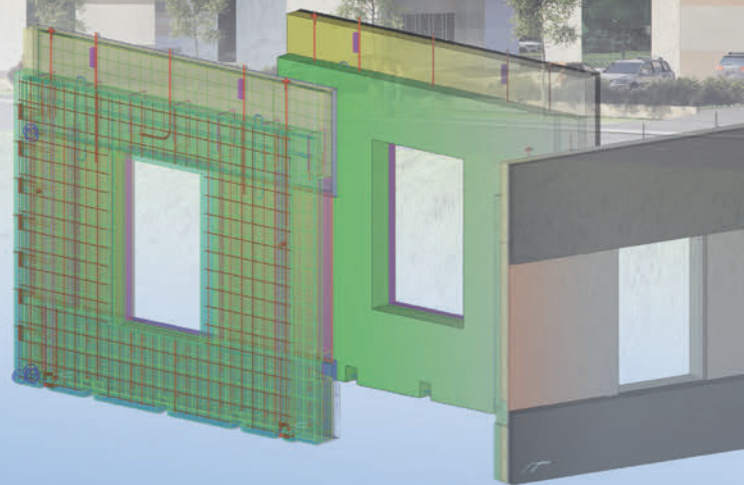
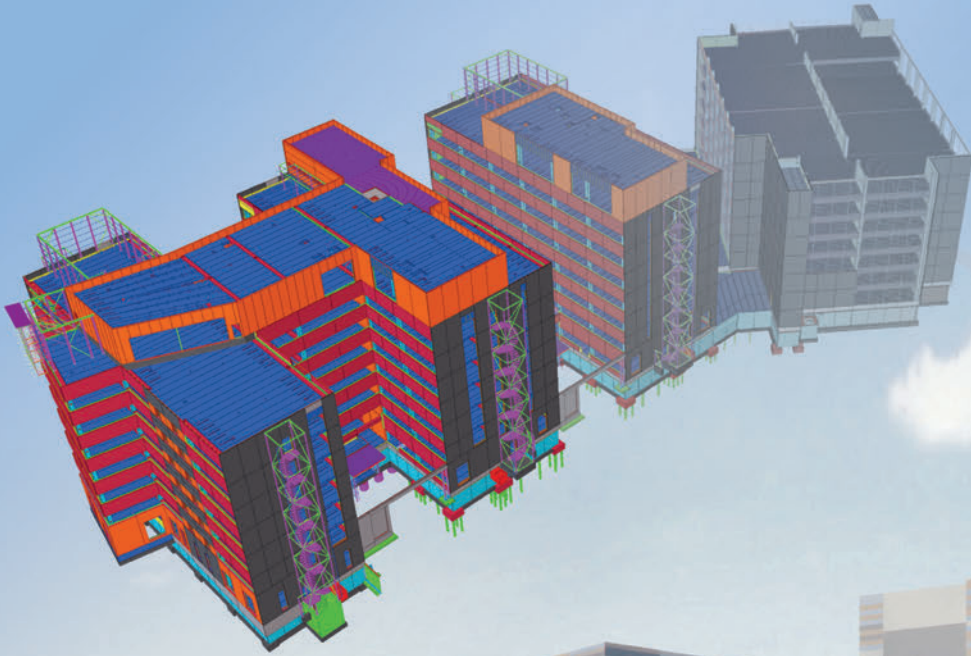
Tekla

Tel: +44 113 307 1200

sales.uk@tekla.com

www.tekla.com/uk





# DO BIM BETTER WITH TEKLA

With the almost daily BIM announcements by clients, contractors and suppliers identifying their increased efficiencies and greater value by adopting BIM, not to mention the Government drive towards adoption by 2016, Tekla recognise that forming a BIM strategy alongside responding to CE Marking and ISO requirements can seem a daunting task.

We can help with the implementation of BIM within your organisation - advising on making the right business decisions, getting the most from your software and help with workflow procedures to ensure you are ready for the challenge ahead.

For further information on how Tekla can assist with BIM implementation and other consultancy services we offer, please call 0113 307 1200.

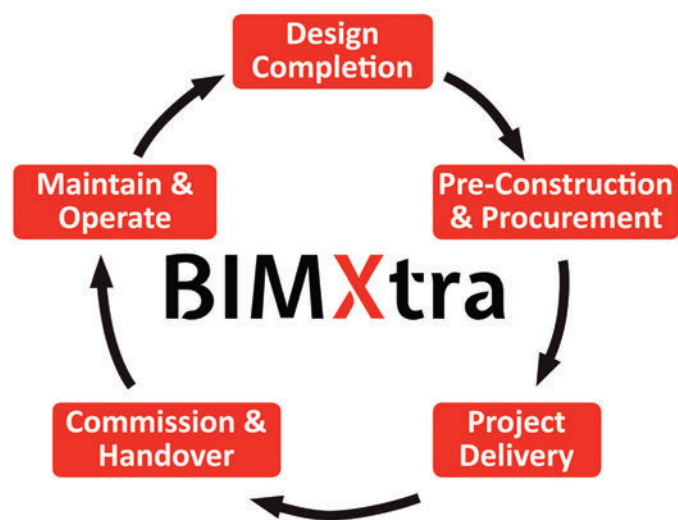
> [www.tekla.com/uk](http://www.tekla.com/uk)

# Bringing the simplicity and opportunity of BIM to all

**B**IM means lots of things to many people and risks being one of the most misused words in construction, however BIM represents the enabler to a transformation that is engulfing not only the UK but also the global design, engineering & construction market; and why, because BIM enables us to work together more easily, in a modern digital environment. Using BIM we are encouraged to share information bringing efficiency and visibility, to ultimately, reduce the risk and cost of our projects. In addition we influence and improve the ongoing operation of our assets, delivering a better more intelligent output for our clients and in doing so providing them with more value in their portfolio of assets.

BIM enables people to interact with their projects in a visual environment, but is increasingly focussing on “the I in BIM”, the INFORMATION, which is held within the modelled objects as data. With modern BIM tools, information previously held in separate and disconnected documents, can be created and held within the modelled objects as the central repository for core project information.

Like the automotive industry before us, the efficiency and simplicity of a managed information process contributed to the renewed success of manufacturing. The effect has been that we buy more cars, appreciate the fact that they are more reliable, last longer and cost less to use and maintain – vehicle manufacturing is in new health.





The expectation is the same for the construction industry, allowing us to define and communicate our requirements better, iron out issues before arrival on site, remove unnecessary waste in the process and provide, for the Client, a better service and an intelligent model that can help better manage the clients asset through its operational lifecycle.

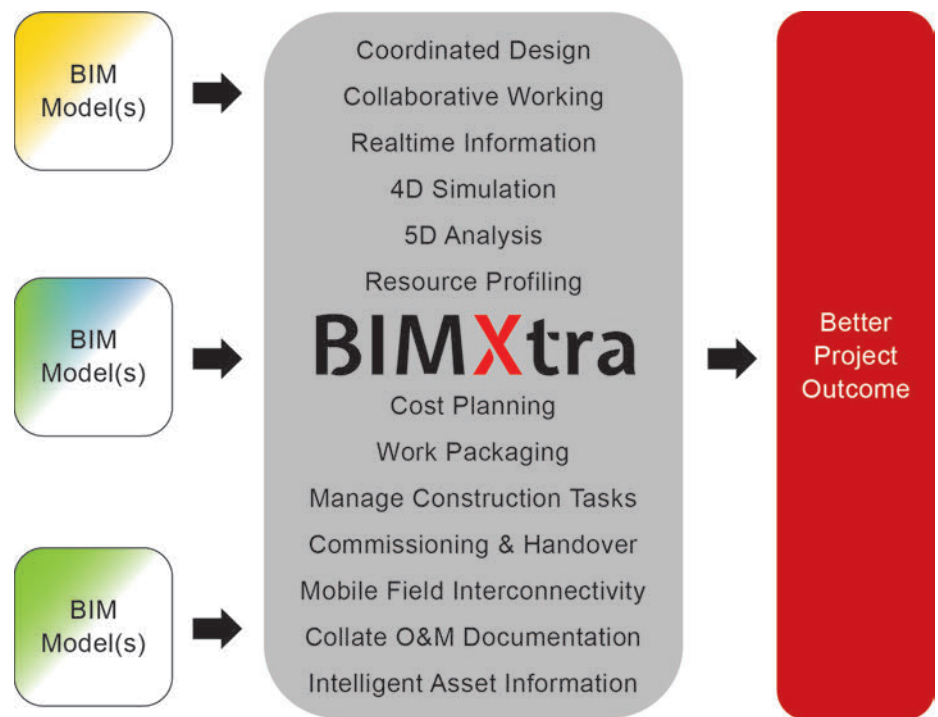
Not surprisingly achieving the utopia from this transformation, like all transformations has it's challenges, however, much has been done to address the needs of industry through new technology, and the guidance for the new BIM enabled project delivery process is established in the British Standard and PAS 1192 series, but to maximise the benefits of these new tools we need to consider the working practice changes that are also needed in many environments.

Driven by a focus on low cost procurement that can result in uncertain end out cost and, subject to your position in the supply chain, insufficient consideration of whole life operational cost, together with margins driven ever lower in a highly competitive market we are often faced with risk aversion rather than more proactive risk management.

However, in some parts of our industry suppliers and manufacturers are fully integrated with 3D CAD-CAM tools either direct to manufacture or through the creation of fully coordinated pre-assembled or pre-manufactured modules that dramatically reduce the onsite work and risks in installation and in doing so provide a higher quality product, manufactured and tested in a controlled environment.

The vision of BIM is that all parties in the supply chain collaborate across the same source of information, and make informed decisions based on better information with an improved awareness of the repercussions on others.

BIM delivers the maximum benefit when all parties take part, the leadership of key



Clients like Government, who acknowledge the benefits in project delivery and on-going asset management has been instrumental in establishing BIM as a modern working practice.

The prize for all of us is a better, more efficient, higher quality, world leading industry.

Providing a simple solution to the technology and workflow issues of BIM is where Clearbox can support the process.

**Clearbox**

Clearbox are a technology provider looking to bring the opportunity of BIM to all through their digital information hub BIMXtra which enables simple access to the information based around a true common data environment. BIMXtra addresses many of the issues of BIM by bridging the gap between the complexity of the BIM authoring tools and the plethora of project tools that characterise the current construction market. BIMXtra not only supports project delivery during the design and construction phase but delivers out the

intelligent asset information at handover to provide a new level of opportunity for Facility Management and Asset Management.

BIMXtra takes information from BIM and makes it available to all in the simplest of approaches. Each user has access to the information they need in the right format at the right time, allowing the influence of BIM to be shared out from the design through the entire project delivery phase. BIM in BIMXtra not only enables interrogation and exploitation of the visuals but also extends and enables the full digital information management of the project.

Developed by individuals with years of experience of delivering design and build projects, and who use BIMXtra tools themselves on their own projects, BIMXtra will help enable consultants, contractors, and SMEs alike to enjoy and benefit from BIM.

So if you are starting your journey or have uncovered some of the complexities of BIM then we can support you to meet the

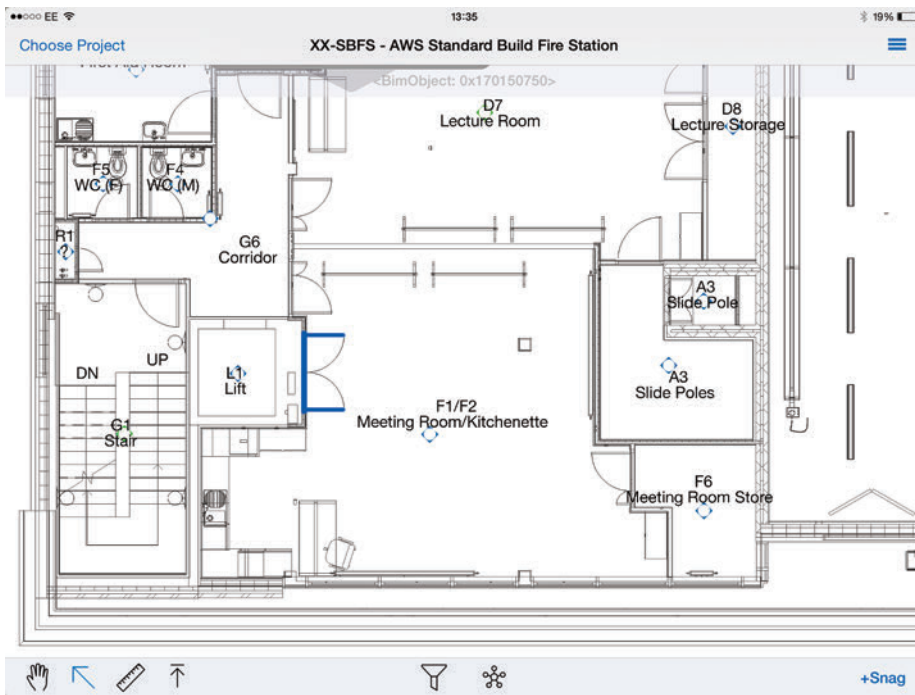
requirements of Level 2 BIM and beyond as a hosted solution. As 2016 approaches and the gap between the haves and have not's of the BIM world grows there is no better time to jump on board and benefit from the lessons learnt from some of the early adopters.

In this, the first of four articles leading to the 2016 deadline we aim to take you on a journey of the simple functionality that is now readily available, as well as reassure individuals of the benefits of BIM that can be realised in case studies. In the next papers

we will address the solutions and some case studies to allow users to appreciate the scale of the benefits and the simplicity and ease with which this can be achieved starting with the interface to programme.

**Graeme Forbes**

Graeme Forbes is the Managing Director of Clearbox a technology and consulting business that brings years of experience in the BIM space through new collaborative tools that help to bring simplicity to the delivery of BIM based projects.



**Graeme Forbes**  
**Managing Director**  
 Clearbox  
 Tel: +44 (0)800 085 9872  
 sales@clearboxbim.com  
 www.clearboxbim.com

**Manage assets across their full lifecycle using BIMXtra**

"Game changing products for the built environment"

- BIMXtra
- Space Planning
- Multimedia
- Consulting

- Asset information link to intelligent visuals
- Operates in 2D & 3D from BIM or IFC
- Suitable for New Build or Existing Projects
- Central revision controlled digital information hub provides access to all
- Cloud based with secure PC and mobile access

Deliver improved performance in the creation & management of your assets

Asset • Location • Documentation • Intelligence

www.clearboxbim.com      +44(0)800 085 9872





## Raising the value of building control

**The building control profession understands its vital role in the construction industry and the need for ever higher service delivery. Paul Wilkins, Chairman of the ACAI, BCA and CE of Butler & Young outlines how this will be delivered...**

The profile of building control as a service valued by government, industry and wider society continues to be raised. In my joint roles as Chairman of the Association of Consultant Approved Inspectors and the Building Control Alliance, both organisations will be developing and supporting initiatives to raise standards in service delivery and encourage best practice and cooperation across the public and private sectors.

One of the initiatives we support is the implementation of the recommendations of the independent review of the Approved Inspectors Registration Scheme in 2012. This should result in a robust registration and re-registration process supporting approved inspectors in delivering a highly valued service. Tony Burton, the

Chair of Construction Industry Council said that: "The Approved Inspectors Register is just such an example of where professional bodies have worked together in a successful collaboration. It is exactly what we need to continue to do with big and seemingly impossible issues."

In addition, we are currently awaiting the publication of a new set of building control performance standards which will outline the minimum service delivery standards that the construction industry should expect from its building control body. They will be developed into a new set of key performance indicators that individual building control bodies, both private and public, will submit to the Building Control Performance Standards Advisory Group for publication. This will

continue to enable comparisons of different building control bodies and again help to raise standards and transparency.

**Current issues**

One of the major initiatives that has come from government is the Housing Standards Review (originally launched in October 2012 with the consultation closing in October 2013). The summary of responses was published in March this year along with a written ministerial statement supported by a policy note. It was very positive from the building control perspective in that there is a building regulations only approach to many of the requirements that were announced. The review detailed the number of different regulations and standards that were in existence where housing was being developed, and the government felt it could be a barrier to housing development, which is obviously a major issue. The outcome is that a number of themes are being taken forward including:

- Access. Part M will continue to be used to set standards with optional standards within Part M that local planning authorities can adopt if they meet certain criteria;
- Security is also being taken forward with a consideration for a national standard for new homes given the impact they can have on reducing crime, particularly burglary;
- Water efficiency – There are title requirements for water efficiency usage that can now be built in.
- Energy efficiency. Part L will be the only energy requirement removing other considerations such as the Code for Sustainable Homes;
- Space. There could be a new national standard for space for room sizes.

Building control as a profession is very supportive of the initiatives, and we are contributing positively to the implementation process, but are still awaiting the outcome of the actual implementation.

Another government theme surrounds the Zero Carbon Initiative with the most discussed issue being

Allowable Solutions, including both on-site and off-site solutions which can contribute to carbon usage. It is possible to use off-site solutions such as a wind farm to offset some of your carbon. Again, building control is very supportive of this government initiative. There may be some challenges for building control in the delivery of this, but we are working very hard with government to ensure that their desired outcomes will be met and support any initiative that helps us to achieve carbon reduction targets.

The last issue is very important for our industry, and that is the future of resourcing. The building control profession continues to become more challenging in terms of the skill-sets required to deliver ever higher standards. It's a challenge to encourage young people into the construction industry as a whole, but especially into a niche industry such as building control and building regulations.

The Building Control Alliance (BCA), the Association of Consult Approved Inspectors (ACAI) and Local Authority Building Control (LABC) are working very hard to develop graduate and modern apprenticeship schemes specifically for building control. It is our aim to find ways to engage with young people to promote our profession and to highlight how important it is to the construction industry.

Overall the value of an independent third party building control system continues to be positive and sets an example of best practice in the design and construction phases of the development control process, a model that is being adopted across the world. ■

.....

**Paul Wilkins**  
**Chief Executive at Butler & Young Group**  
**Chairman at Association of Consultant Approved Inspectors (ACAI)**  
**Chair of the Building Control Alliance (BCA)**  
 chairman@approvedinspectors.org.uk  
 approvedinspectors.org.uk

# CDM Regulations 2015: Better safety for all?

**The revised CDM proposals have been debated and analysed by many in the industry. Here, James Ritchie, Head of Corporate Affairs at The Association for Project Safety examines the revisions in addition to what they should mean for the smaller contractor...**

Throughout the months of April and May the Health and Safety Executive (HSE) have been running their consultation process on proposals to revise the Construction (Design & Management) Regulations 2007. This is the third iteration of these regulations since they were introduced in 1995.

During that time, the fatal injuries rate in construction have dropped from 105 in 2000/01 to 39 in 2013/14 and more importantly the Fatal Injury Rate for construction workers has dropped from 6.0 per 100,000 to 1.9 per 100,000 over the same period. Since the introduction of CDM 2007, the UK has become a global leader in construction health and safety with UK construction companies working across the globe and taking CDM 2007 procedures with them. So you might be forgiven for wondering why the HSE are making wholesale changes to the regulations.

The HSE have set six policy objectives for the CDM 2015 proposals:

- Maintain or improve worker protection;
- Simplify the regulatory package;
- Improve health and safety standards on small construction sites;
- Implement the Temporary or Mobile Construction Sites Directive (TMCSA) in a proportionate way;
- Discourage bureaucracy; and
- Meet better regulation principles.

These objectives are all admirable and I would have thought that everyone within construction would agree with them. Irrespective of the final format of the revised CDM Regulations, due to come into force in April 2015, certain issues are known:

- The Regulatory package will be much simpler in format than the current regulations;
- The onus will be on dutyholders to comply with the regulations through implicit rather than explicit requirements;
- Reliance on guidance documentation will be much greater than currently;
- SME Contractors will have to get their act together with regard to CDM as they will have much greater responsibilities, including taking on client duties if they are working on a domestic project;
- There will no longer be an independent CDM Coordinator to provide clients, and others, with advice and assistance regarding construction health and safety;
- In many cases the first designer appointed will have to take on the health and safety coordination role currently dealt with by the CDM Coordinator;
- Health and Safety coordinators must be appointed for any construction project that will have more than one contractor working on site;
- Contractors will self assess the contents and suitability of their Construction Phase Plans.





The HSE seem to have been caught between a rock and a hard place. They are looking to improve on the current CDM 2007 Regulations but have to meet Government requirements to reduce the regulations down to the absolute minimum. We also know that the UK Government has to change the regulations to meet the European Temporary or Mobile Construction Sites Directive (let's just call it the TMCSD) otherwise they could face an embarrassing prosecution. If the issue was just meeting the TMCSD to ensure the UK did not face prosecution, then changes could be easily made without incurring the likely disruption and cost that the HSE's proposals look to bring to the industry.

The CDM 2007 Regulations, when implemented correctly and proportionately, have been proved to bring considerable benefits to the construction industry and construction clients. The problem has been the abject failure by a proportion of the construction industry to understand and implement the regulations correctly, and this has not been helped by what some see as the failure of the HSE to encourage, cajole and enforce compliance – particularly with regard to the early appointment of the CDM Coordinator – at the smaller end of the market.

We currently have a two-tier industry in terms of

*Continued on page 22...*





# IMPROVE YOUR DESIGN RISK MANAGEMENT

Industry recognised  
advice, guidance & training

FIND OUT MORE AT  
[www.aps.org.uk](http://www.aps.org.uk)



*Continued from page 20...*

health and safety and, whilst the large contractors and project teams are taking construction health and safety seriously and reaping the consequential rewards in terms of reduced accidents, ill health and better profit margins, the smaller and domestic sectors of the industry still have not caught on to taking health and safety seriously. Many people still do not realise that CDM applies to all projects, thinking that it only applies to projects likely to last longer than 30 days.

The HSE have written the proposed new CDM Regulations specifically to address the problems with poor health and safety on smaller construction sites and even if the industry has no choice but to accept that the CDM Regulations are going to be re-written, the HSE should be applauded for attempting to tackle these problem areas. One can't help but think that it is more a culture change that is required rather than a regulatory one – a culture change amongst designers generally and SME contractors in particular – and the domestic construction sector is going to get a real shake-up with health and safety coordinators required on all projects where there is more than one contractor working.

The HSE's consultation process that ran from 31st March through to 6th June 2014 generated a lot of discussion in the industry and the main areas of concern seemed to be:

- The perceived watering down of health and safety standards leading to a possible reduction in worker protection;
- The over-simplification of the regulations raising concerns that some sectors of the industry will take advantage of the lack of clarity;
- The likely increase in bureaucracy with the introduction of a requirement for coordinators and principal contractors on many more smaller projects;
- Worries about the way responsibility for discharge

of domestic client duties are being thrust upon contractors;

- The placing of health and safety coordination duties upon designers who might not want to do this;
- The loss of an independent health and safety adviser for clients and design teams – something seemingly valued by clients and designers;
- That the proposed revisions appear to be driven primarily by government 'better regulation' cost reduction policies rather than a need to make a significant improvement in construction health and safety.

Whatever the outcome the construction industry will have to make the CDM 2015 Regulations work, and work better than CDM 2007, particularly at the smaller end of the industry. This will require everyone in construction to be fully aware of what their responsibilities are, and be prepared to work as integrated teams to eliminate, reduce, inform and control risks on construction projects. ■

You can find out more about the proposed CDM2015 regulations at [www.aps.org.uk/cdm2015](http://www.aps.org.uk/cdm2015).



.....  
**James Ritchie BA BArch RIBA RMaPS**  
**Head of External Affairs and Deputy Chief Executive**  
 The Association for Project Safety  
 Tel: 0845 2691847  
[james@aps.org.uk](mailto:james@aps.org.uk)  
[www.aps.org.uk](http://www.aps.org.uk)

# Plant training with Europe's biggest training provider

At the National Construction College, through our relationship with JCB, Caterpillar and Hitachi you can train on the latest plant.

You can also benefit from highly qualified instructors with in-depth knowledge and a wealth of industry experience.

- Lifting with 360 excavators – including CPCS Theory Test to add endorsement C of A59 to Blue Card
- CPCS trainer and tester training
- All training reflects industry best practice
- New for 2014
  - CPCS Plant and Vehicle Marshaller CPCS Code A73
  - Managing and Co-ordinating Plant
- Grant available for training, including Exceptional Training Grant
- Short courses available for candidates with reasonable competence.

A large, yellow excavator bucket is shown in the process of dumping a load of brown soil. The bucket is tilted upwards, and the soil is falling from it. The background is a clear blue sky with some light clouds. The excavator's arm and part of the cab are visible at the bottom right of the frame.

**0344 994 4433**  
**[citb.co.uk/plant](http://citb.co.uk/plant)**

**National Construction College East**

King's Lynn, Norfolk

**National Construction College Central**

Ashbourne, Derbyshire

**Coleg Menai**

Llangefni, Anglesey

**Tunnelling and Underground Construction Academy (TUCA)**

Ilford, London



# The case for insulating party cavity walls

**Recognising that cavity walls are a source of heat loss, Nick Ralph from the Mineral Wool Insulation Manufacturers Association (MIMA) looks at the background to the changes and the solutions available...**

Historically, there was an assumption that cavity party walls were an area of thermal equilibrium between two heated spaces and not a source of heat loss. However, studies by the Buildings and Sustainability Group of the School of the Built Environment at Leeds Metropolitan University between 2005 and 2007 showed that, for example, in a mid-terrace dwelling the heat lost through the untreated party cavity walls could be greater than that which is lost through all of the other external elements combined.

The study demonstrated that heat energy from both dwellings can escape into the party wall cavity. This causes free moving air in the cavity to warm and rise up through the cavity, bypassing the loft insulation and - in a majority of cases - continuing to the roof line where the air and heat energy escape to the external environment. As the warmed air in the cavity rises, cool air from adjoining external cavity constructions is drawn into the party wall cavity, forming a chimney stack effect and a significant source of continuous heat loss. In addition, windy conditions can induce differential pressure that leads not only to heat losses at the junction of the party cavity with both external walls and suspended floors, but also increased heat loss due to the stack effect of the cavity.

A series of field trials conducted on the party wall cavities of terraced and semi-detached masonry houses revealed that the magnitude of the party cavity wall thermal bypass was equivalent to the party wall having an effective U-Value of the order 0.5 to 0.7 W/m<sup>2</sup>K. If not addressed, this has a considerable effect on a dwelling SAP score and needs



to be countered through additional enhanced performance in other areas, in order to bring the dwellings SAP score up.

As a result, there was an inclusion in the amended Domestic Building Regulations in 2010 (Part L1A) that party walls would need to be fully filled with

suitable insulation and effectively sealed at the edges in order to achieve an effective zero-value. Full-fill mineral wool insulation is particularly suited, as together with effective edge sealing, it has been proven to comply with the requirements for a zero U-value without compromising acoustic performance. Indeed, since the inclusion, a number of solutions have been approved as Robust Details, and can therefore be used to comply with the requirements of Part E1 in England and Wales without pre-completion testing.

Mineral wool is easy to install and is also non-combustible, providing in-built fire protection and effectively contributing to the fire safety of buildings. Mineral wool insulation is one of the few building materials that saves energy in use and reduces the need for combustion of fossil fuels to provide energy for heating or cooling of buildings. The recycled content and recyclability of the material also reduces waste disposal needs and saves valuable resources both now and in the future. This is reflected in the Green Guide A+ rating of mineral wool party wall insulation products.

### **The case for retro-fitting party cavity walls**

Through its work with Leeds Metropolitan University and the BRE, MIMA has also more recently proven the case for retrofitting existing party cavity walls using blown fibre mineral wool, prompting DECC's plans to include the measure in the latest RdSAP changes for Green Deal and in turn making it eligible for ECO.

Leeds Metropolitan University undertook a series of field tests over four heating seasons between 2008 and 2013, to analyse the effects of filling existing party cavity walls with mineral wool insulation, using conventional cavity blowing techniques. Taking a mid-terrace house, which was built between 1990 and 2001, the study demonstrated an annual saving of 1,978 kWh of energy and 0.38 tonnes of CO<sub>2</sub> – equating to a £70 reduction in household energy costs. The performance improvement was modelled

on RdSAP at an improved effective U-value from 0.20w/m<sup>2</sup>k to 0.05w/m<sup>2</sup>K.

It was these results that lead to the measure being included in RdSAP, which is expected to come into force in August 2014.

### **About the organization**

Representing manufacturers of stone and glass mineral wool insulation, MIMA aims to provide an authoritative source of independent information on the products' properties and applications; and is recognised for its contribution to a wide range of consultation exercises relating to energy saving strategies and the improvement of the built environment.

MIMA has been instrumental in bringing about changes to Part L of the Building Regulations and RdSAP for Green Deal to address the issue of significant energy leakage.

The trade body has close relationships with central government, local authorities and research institutes. It is actively involved in the development of relevant directives and regulations; and in particular has championed the use of Building Regulations to drive change in building practices to improve delivered thermal performance and measure real, in-situ performance. ■

For further information on MIMA and technical guidance on insulating party walls visit [www.mima.info](http://www.mima.info)

.....  
**Nick Ralph**

**Mineral Wool Insulation Manufacturers Association (MIMA)**

Tel: 020 7935 8532

[admin@mima.info](mailto:admin@mima.info)

[www.mima.info](http://www.mima.info)

# Sustainable Insulation Solutions

ISOVER Saint Gobain is a global leader in sustainable insulation solutions, creating efficient thermal and acoustic insulation solutions to design energy efficient constructions – providing safe comfort for users and helping to protect the environment.

## Why is it important to have sustainable insulation materials?

In OECD countries the built environment is responsible for around 25-40% of total energy use, 30% of raw material use, 30-40% of global greenhouse gas emissions and for 30-40% of solid waste generation.

## Standard building practices versus sustainable construction?

While standard building practices are guided by short term economic considerations, sustainable construction is based on best practices which emphasize long term affordability, quality and efficiency – increasing comfort and quality of life, while decreasing negative environmental impacts. A building designed and constructed in a sustainable way minimizes the use of water, raw materials, energy, land... over the whole life cycle of the building

## Ensuring a healthy indoor living environment?

People spend almost 90% of their life inside buildings. For example in the United States, the annual cost of building-related sickness is estimated to be at \$58 billion. Consequently, healthy and comfortable indoor environments contribute significantly to human health and well-being. Eurofins awarded ISOVER the highest award for indoor air quality – the Eurofins Indoor Air Comfort Gold Standard certificate. The Gold Certificate means that ISOVER mineral wool is certified as an outstanding material



according to the VOC (Volatile Organic Compounds) Indoor Air Quality emissions regulations ensuring a healthy indoor environment.

ISOVER G3 Touch insulation range uses new technology in the manufacture of its mineral wool insulation; 'our insulation range offers home owners one of the safest insulation materials available delivering superior environmental sustainability' says ISOVER Marketing Manager Valerie Dent. 'This technology allows us to introduce more natural ingredients to our processes which means the new G3 Touch Range is even better than before in environmental terms and offers the best possible environmental standard'.

ISOVER has a full range of insulation products which comes with our 3 guarantees:

- Great Performance – Thermal, Acoustic & Fire

- Gentle to use – 70% less airborne dust, soft but strong material for installers
- Good for the Environment – made from 86% recycled materials.

For more information on our sustainable insulation range and Self Build or Renovation Solutions log onto [www.isover.ie](http://www.isover.ie).

**ISOVER**  
SAINT-GOBAIN

**Valerie Dent**  
Marketing Manager

IsOver Ireland  
Tel: +353 1 6298400  
[valerie.dent@saint-gobain.com](mailto:valerie.dent@saint-gobain.com)  
[www.isover.ie](http://www.isover.ie)





ISOVER G3 TOUCH  
MINERAL WOOL  
INSULATION



## Looking to Insulate?

Try ISOVER G3 Touch –  
High Performance, Soft Touch, Recycled!



Awarded the Highest  
Standard for Indoor Air Quality



[www.isover.ie](http://www.isover.ie)



Our TECHNICAL TEAM  
are here to help & advise  
**1800 744 480**  
NI Phone  
0845 399 0159

**ISOVER**  
SAINT-GOBAIN

Sustainable insulation solutions



## Thermal bridging: Confidence in accreditation

**Addressing the thermal bypass and bridge dilemma can be difficult, especially when dealing with the bridging aspect. John Tebbit, Managing Director, Robust Details Ltd examines the challenges posed and the need for third party accreditation...**

Bridges and bypasses are well known to all road users. Indeed they are generally regarded as good things as they get us over obstacles, speed up our journeys and save the inhabitants of the bypassed communities the noise and fumes from road traffic. However, as is often the case, when we move into the area of building physics and in particular thermal issues, what is seen as good in other areas is definitely bad for thermal performance. Rather than speeding up the traffic, we speed up the flow of heat, generally from our warm homes to the colder outside. That means higher fuel use, fuel bills and carbon emissions. It also increases the chances of condensation and mould. All in all, thermal bypasses and bridges are things we want to avoid. Fortunately we do have quite a bit of knowledge and guidance in this area.

Taking the issue of bypasses first, these can be avoided by good design and so then do not have

to be considered. These are where warm air can circulate in some way into a colder area and thereby transfer energy. The best known of these is the party wall bypass where air in the cavity sets up circulation taking heat from the warm rooms either side, and moving it to the colder loft where energy is transferred. The effect can be seen in the photograph opposite, where the melted snow on the roofs corresponds with the party wall positions.

The answer has been to stop the circulation and this is typically done by filling the cavity with insulation along with effective edge sealing of the party wall cavity as illustrated above. We have full filled party wall details that have also been tested to prove that filling the cavity did not compromise sound insulation.

Thermal bridging is more problematic in that even with good design the bridge often remains, even if it is no longer a four lane motorway for heat, but a



slow single lane track. Also rather like real bridge design, the calculations to assess the size of the bridge are not easy. It is not something that can be done with a pencil and paper or even a spreadsheet. Typically one needs to use finite element analysis software. To make life even worse, there is not even a rigorous, unambiguous set of assumptions, simplifications and rules on how to use the software. There is guidance such as the BRE paper BR497 but even that has considerable room for judgment.

**“Indeed, for the house builder looking for ways to improve the performance of the dwelling it is difficult to be confident about the rigour of assessment that any particular detail has been through, as there is currently no requirement for third party accreditation or even assessment of competence for the modellers.”**

There is also the issue of whether the design that is intended to minimise bridging is buildable in real life. Details that look good in two dimensional sections may turn out to be impossible to build in three dimensions, or at corners without resorting to hyper dimensional black belt origami with membranes. Anything that requires absolute precision or dry, dust and grease free working conditions is unlikely to be reliably reproduced on a building site.

For these reasons Robust Details and BBA set up a joint venture – Constructive Details (<http://www.constructivedetails.co.uk/>) to develop and disseminate junctions that were high performance, robust and buildable. A number of companies and trade associations have worked with Constructive Details to deliver a range of junctions all of which are free to download.

There are other places to find junctions including many manufacturers, BRE and government. However, not all will be up-to-date or assessed to the same level of scrutiny. For those who are less worried about how realistic the construction is either in its theoretical performance or for its onsite buildability,



Image: BPC, Edinburgh Napier University

there are no real barriers to so doing. Indeed, for the house builder looking for ways to improve the performance of the dwelling it is difficult to be confident about the rigour of assessment that any particular detail has been through, as there is currently no requirement for third party accreditation or even assessment of competence for the modellers.

It is virtually impossible for a non-expert to look at a junction and its performance data and judge whether it is likely to be true. The chances of building control being able to police this area are almost non-existent. In terms of thermal bridging and the claimed performance of details, if it looks too good to be true, then it probably isn't true. Therefore, until a third party accreditation system is introduced that all parties have to adhere to, this is very much an area of caveat emptor. ■

.....  
**John Tebbit**

**Managing Director**

Robust Details Ltd

Tel: 01908 904 189

[jtebbit@robustdetails.com](mailto:jtebbit@robustdetails.com)

[www.robustdetails.com](http://www.robustdetails.com)



# Insulating the party wall

**Steve Smith, Market Development Manager at Knauf Insulation looks at the associated problems with party separating cavity walls and discusses the best insulation solutions...**

**A**lthough the primary function of a party wall in a building is to provide structural strength and physical separation, it also provides thermal, acoustic and fire separation.

Previously, building standards did not consider the thermal separation between the dwellings on either side of the party wall, as it was assumed that there was zero heat loss due to both dwellings being heated. However, independent robust testing carried out by Leeds Metropolitan University, MIMA (the Mineral Wool Insulation Manufacturers' Trade Association), BRE (Building Research Establishment) and Knauf Insulation has revealed that a significant amount of heat is actually lost through un-insulated cavity party walls via the phenomenon of 'party wall thermal bypass'. This is a process whereby heat is lost due to moving cold air which has entered an un-insulated party cavity wall from external flanking building elements, resulting in heat loss via convection.

The independent testing not only sought to observe and quantify the phenomenon of party wall thermal bypass, but also to develop and provide a solution to eliminate this heat loss. As a result, on-site tests demonstrated that the effective U-value for a party wall in a dwelling can potentially be reduced to zero if the party wall cavity is completely filled with mineral wool insulation and combined with mineral wool cavity barriers at the edges of the party wall cavity.

Additionally however, party walls are required to provide protection from noise between adjoining properties. To achieve the expected level of protection, not only does the party wall have to be designed and built correctly, but particular attention has to be paid to flanking transmission around the building elements adjoining the party wall. It should be remembered

that the performance levels measure the protection offered by the dwelling from an adjoining dwelling, not just the performance of the separating element in isolation.

The acoustic performance of a timber frame or masonry cavity party wall is therefore maintained when the cavity is fully filled with glass or rock mineral wool, and those products that comply can be used with Robust Detail walls. For masonry cavity party walls the insulation should have a density no greater than 40kg/m<sup>3</sup> and for timber frame walls the insulation should have a density between 18kg/m<sup>3</sup>-40kg/m<sup>3</sup>.

Lastly, for those projects that are more environmentally focused, there are insulation solutions available that boast zero global warming potential and even conserve energy through assisting the reduction in fuel demand for the heating and air-conditioning of buildings. At the same time, those that achieve a Eurofins Indoor Air Comfort Gold standard, demonstrate strict compliance with low VOC emissions requirements of all relevant European specifications.

Consequently when choosing the right insulation solution, specifiers should look to dependable manufacturers that have the expertise and range of proven products to meet all relevant performance requirements. ■

.....  
**Steve Smith**  
**Market Development Manager**  
Knauf Insulation  
Tel: 01744 766600  
[www.knaufinsulation.co.uk](http://www.knaufinsulation.co.uk)  
[www.twitter.com/KnaufUK](https://www.twitter.com/KnaufUK)

# SUPAFIL®



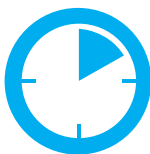
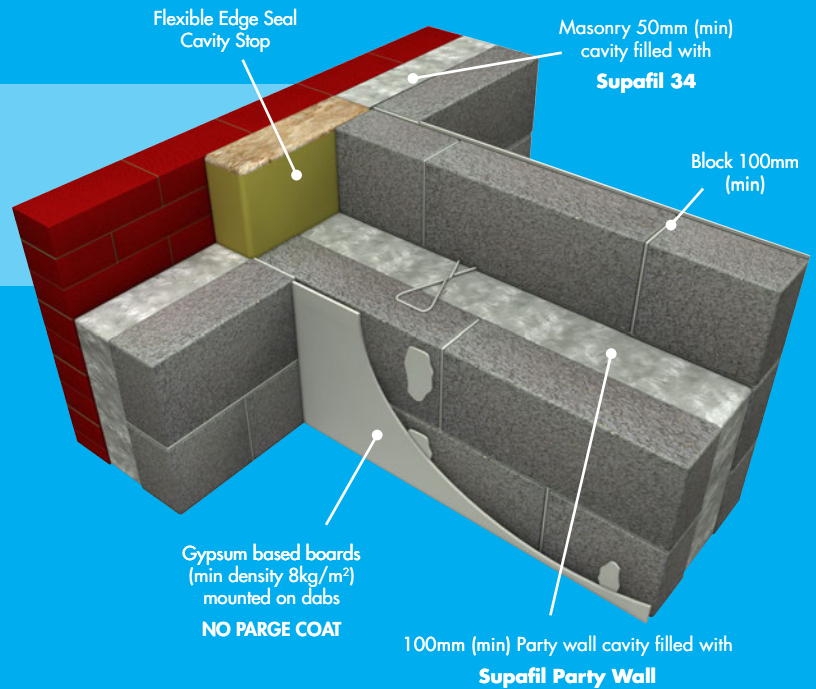
## The Party Wall Full Fill Blown Solution

### ROBUST DETAIL E-WM-28™

Masonry, Light weight aggregate block work, min. 100mm cavity

- E-WM-28 is the first unique Supafil party wall blown wool Robust Detail solution
- Contributes to a zero effective U-value when compiling SAP calculations
- Efficient and quick installation by approved technicians
- Dry installation process
- No product storage on site
- No parge coat required
- Fully fills the cavity

For full information on E-WM-28 visit Robust Details website  
<http://www.robustdetails.com/TheHandbook/RobustDetail/E-WM-28>



QUICK



CLEAN



SUSTAINABLE



COST EFFECTIVE



Technical Support Team

**TEL: 01744 766 666**

[technical.uk@knaufinsulation.co.uk](mailto:technical.uk@knaufinsulation.co.uk)

[www.knaufinsulation.co.uk/pb0914](http://www.knaufinsulation.co.uk/pb0914)

KINE2431ADV-V0814

**KNAUF INSULATION**  
*it's time to save energy*

# JCB Insurance Brokers

## Tackling Personal Injury Claims

We are all fed up of the number of injury claims that get brought, either by employees for 'accidents at work' or members of the public for alleged accidents that they've had as a result of someone else's negligence.

If someone has a genuine injury caused by someone else's negligence, then of course they are entitled to a fair and reasonable amount of compensation. For us though it's a case of 'where there's blame, there's a claim' gone so far that it's created a compensation culture and an entire industry of personal injury lawyers who actively 'farm' claims.

Insurance companies have started mapping hotspots around the country where there are concentrations of personal injury claims. It is no coincidence that these areas are exactly the same areas as where there are the most personal injury lawyers.

The Government has, to be fair, recognised that this is a problem and has taken some steps to try and tackle it: Earlier this year, government banned the referral fees that insurance companies can earn by selling your details to a solicitor if you've had a non-fault accident – that's how you get all the phone calls inviting you to make a claim after an accident.

Also, from August this year, the Ministry of Justice reforms have tightened up the process for injury claims and more importantly, capped the amount that a Solicitor can earn from making a claim on someone's

behalf. All the Solicitor can earn now is 25% of the award that the claimant gets if he's successful. So, gone should be the days when the claimant got a payment of £3,000 and the Solicitor got £4,000 – all he'll get now is £750.

It's not all good news though – Disease claims fall outside of the Ministry of Justice process (the portal, as it's called) so the Solicitors fees are not capped on these.

This is why we are now seeing a huge increase in the number of claims for people claiming to have conditions such as Vibration White Finger or Industrial Deafness. These take a lot longer to administer because all of the companies a claimant has worked for during his career might all be pulled into the claim and if it's over a long period of time, it might be difficult to identify all of the insurance companies involved.

So, the solicitors that previously 'farmed' injury claims are now actively targeting disease claims in order to make sure that their fee income is protected.

Recently we've heard of one solicitor who set up a 'Deaf Booth' in a shopping centre. People approached shoppers and in a quiet, whispered voice asked 'have you ever been exposed to excessive noise at work?' When the person replied 'Pardon?' because the question was asked so quietly, they were whisked off into the 'deaf booth' for a quick hearing test and guess what? Many of these people were told that their hearing wasn't

what it should be. 'Don't worry though, we'll make a claim on your behalf and get you the compensation you deserve'.

We genuinely admire the steps that government has taken to try and tackle this problem but in many ways it's just pushed the problem downstream. An entire industry has grown up around compensation claims and it will adapt to the environment and find new ways to encourage people to make claims, whether genuine and justified or not.

All we can do is work together to try and stop them coming in altogether or if they do come in, make sure we have our houses in order and are able to mount a strong defence.

JCB Insurance Brokers specialise in arranging all types of insurance for the construction industry. We feel very strongly about this subject and work hard to make sure that, where possible, insurance companies strongly defend claims against our clients that appear to be spurious.



**JCB Insurance Services Ltd**

Tel: 0800 141 2877

[insurance@jcb.com](mailto:insurance@jcb.com)

[www.jcbinsurance.com](http://www.jcbinsurance.com)



# Fast Flexible Finance

**O**ur aim is to ensure that our UK customers benefit from over 40 years of knowledge and experience in the construction sector. Since 1970 we have remained true to our customers – helping them to survive 4 recessions. In the good times we are also there to help businesses grow. We will always focus on the needs of our customers and treating them fairly.

JCB Finance's nationwide field force is able to offer a local service in tune with local conditions.\* Our aim is to help you preserve your vital working capital whilst spreading the cost of machinery acquisition in the most cost effective and tax efficient manner. After all – you wouldn't pay your staff three years wages in advance so why do the same for your plant – paying cash won't make it work any harder on day one. In 2012 we financed 52% of all JCB machines sold in the UK.

We offer the full suite of asset finance options from Hire Purchase through to Leasing. Some of these have unique features and benefits to suit the construction industry. Our finance options are not restricted to JCB equipment but are also available for other new non-competitive machinery and all used machinery plus cars, 4x4's, commercial vehicles, access equipment and a whole lot more.

## JCB Finance Key Stats:

- Total lending 1970-2012 – just over £8.0 billion
- Total lending in downturn (2008-2012) – c. £2.75 billion plus 4,604 new customers
- Many reports show that SME's have found it hard to access traditional sources of lending but in 2012 our lending grew by 31.7% with total turnover of £748 million
- In 2012 a total of 22,236 assets across 16,654 agreements were financed
- In 1993 we entered the Local Authority market lending c. £270m to date – current balances with 158 different Local Authorities
- Asset mix – JCB 62% and Others 38%
- In 2012 JCB Finance provided 21.3% (some months touching 40%) of all HP and Lease finance in the UK construction machinery market (according to Finance and Leasing Association asset finance statistics).

\* JCB Finance Ltd is regulated and authorised by the Financial Conduct Authority. JCB Finance only provides asset finance facilities to businesses in the UK.

To experience a unique level of service ring

**0800 150650**

Speak to our direct sales team for a no obligation quote

**[www.jcb-finance.co.uk](http://www.jcb-finance.co.uk)**





# Northern Ireland Building Regulations

The Northern Ireland Building Regulations are legal requirements made by the Department of Finance and Personnel (DFP) and administered by 26 District Councils: <http://www.buildingcontrol-ni.com/assets/pdf/building-regulations-ni-2012.pdf> . The Regulations are intended to ensure the safety, health, welfare and convenience of people in and around buildings. They are also designed to further the conservation of fuel and energy.

DFP publish Technical Booklets for guidance in support of the Building Regulations: [http://www.dfpni.gov.uk/index/buildings-energy-efficiency-buildings/building-regulations/content\\_-\\_building\\_regulations-newpage-3.htm](http://www.dfpni.gov.uk/index/buildings-energy-efficiency-buildings/building-regulations/content_-_building_regulations-newpage-3.htm) . There is no obligation to follow the methods or comply with the standards set out in the technical booklets. You may adopt any form of construction you wish, however you will have to demonstrate to the satisfaction of district councils that the requirements of the building regulations have been met.

They allow the Department to set certain standards of performance and to provide a degree of predictability and certainty as to what methods and standards of building which, if followed, will satisfy the requirements of building regulations.

## **TECHNICAL BOOKLET B – Materials and workmanship:**

[http://www.dfpni.gov.uk/tb\\_b\\_guidance\\_booklet\\_2013\\_final\\_version.pdf](http://www.dfpni.gov.uk/tb_b_guidance_booklet_2013_final_version.pdf)

Including:

- Fitness of materials and workmanship
  - Urea formaldehyde foam
- 

## **TECHNICAL BOOKLET C – Site preparation and resistance to contaminants and moisture:**

[http://www.dfpni.gov.uk/tb\\_c\\_online\\_version.pdf](http://www.dfpni.gov.uk/tb_c_online_version.pdf)

Including:

- Site preparation and resistance to contaminants
  - Subsoil drainage
  - Resistance to moisture and weather
  - Condensation
- 

## **TECHNICAL BOOKLET D – Structure:**

[http://www.dfpni.gov.uk/tbd\\_online\\_version.pdf](http://www.dfpni.gov.uk/tbd_online_version.pdf)

Including:

- Stability
  - Disproportionate collapse
- 

## **TECHNICAL BOOKLET E – Fire Safety:**

[http://www.dfpni.gov.uk/tbe\\_online\\_version.pdf](http://www.dfpni.gov.uk/tbe_online_version.pdf)

Including:

- Means of escape
- Internal fire spread – Linings
- Internal fire spread – Structure
- External fire spread
- Facilities and access for the Fire and Rescue Service



## **TECHNICAL BOOKLET F1 – Conservation of fuel and power in dwellings:**

[http://www.dfpni.gov.uk/tb\\_f1\\_online\\_version.pdf](http://www.dfpni.gov.uk/tb_f1_online_version.pdf) and updated guidance here:

[http://www.dfpni.gov.uk/amendment\\_to\\_technical\\_booklets\\_-\\_2014.pdf](http://www.dfpni.gov.uk/amendment_to_technical_booklets_-_2014.pdf)

Including:

- **Conservation measures**
  - **Target carbon dioxide emission rate**
  - **Consequential improvements**
  - **Change of energy status**
  - **Renovation of thermal elements**
  - **Notice of air pressure test**
  - **Notice of commissioning**
  - **Notice of emission rate**
  - **Provision of information**
- 

## **TECHNICAL BOOKLET F2 – Conservation of fuel and power in buildings other than dwellings:**

[http://www.dfpni.gov.uk/tb\\_f2\\_online\\_version-2.pdf](http://www.dfpni.gov.uk/tb_f2_online_version-2.pdf) and updated guidance here:

[http://www.dfpni.gov.uk/amendment\\_to\\_technical\\_booklets\\_-\\_2014.pdf](http://www.dfpni.gov.uk/amendment_to_technical_booklets_-_2014.pdf)

Including:

- **Conservation measures**
- **Target carbon dioxide emission rate**
- **Consequential improvements**
- **Change of energy status**
- **Renovation of thermal elements**
- **Notice of air pressure test**
- **Notice of commissioning**
- **Notice of emission rate**
- **Provision of information**

## **TECHNICAL BOOKLET G – Resistance to the passage of sound:**

[http://www.dfpni.gov.uk/tb\\_g\\_online\\_version.pdf](http://www.dfpni.gov.uk/tb_g_online_version.pdf)

Including:

- Protection against sound from other parts of the building and from adjoining buildings
  - Protection against sound within a dwelling or room for residential purposes
  - Reverberation in the common internal parts of buildings containing flats or rooms for residential purposes
  - Acoustic conditions in schools
  - Sound insulation testing and notice of results
- 

## **TECHNICAL BOOKLET H – Stairs, ramps, guarding and protection from impact**

[http://www.dfpni.gov.uk/tbh\\_online\\_version\\_pdf.pdf](http://www.dfpni.gov.uk/tbh_online_version_pdf.pdf)

Including:

- Provision of stairs in dwellings
  - Stairs, ladders, ramps and landings
  - Guarding
  - Vehicle loading bays
  - Protection against impact from and trapping by doors
  - Protection from collision with open windows, skylights or ventilators
- 

## **TECHNICAL BOOKLET J – Solid waste in buildings:**

[http://www.dfpni.gov.uk/tb\\_j\\_online\\_version.pdf](http://www.dfpni.gov.uk/tb_j_online_version.pdf)

Including:

- Solid waste storage
- Waste chute systems

## **TECHNICAL BOOKLET K – Ventilation**

[http://www.dfpni.gov.uk/tb\\_k\\_online\\_version.pdf](http://www.dfpni.gov.uk/tb_k_online_version.pdf)

Including:

- **Means of ventilation**
  - **Ventilation of car parks**
  - **Notification of testing and commissioning**
  - **Provision of information**
- 

## **TECHNICAL BOOKLET L – Combustion appliances and fuel storage systems:**

[http://www.dfpni.gov.uk/tb\\_l\\_online\\_version.pdf](http://www.dfpni.gov.uk/tb_l_online_version.pdf)

Including:

- **Air supply**
  - **Discharge of products of combustion**
  - **Warning of the presence of carbon monoxide gas**
  - **Protection of people and buildings**
  - **Provision of information**
  - **Protection of liquid fuel storage tanks**
  - **Protection against pollution**
  - **Prevention of smoke emission**
- 

## **TECHNICAL BOOKLET N – Drainage:**

[http://www.dfpni.gov.uk/tb\\_n\\_online\\_version.pdf](http://www.dfpni.gov.uk/tb_n_online_version.pdf)

Including:

- **Drainage systems**
- **Sanitary pipework**
- **Underground foul drainage**
- **Rainwater drainage**
- **Cesspools, septic tanks and similar structures**



## **TECHNICAL BOOKLET P – Sanitary appliances, unvented hot water storage systems and reducing the risk of scalding:**

[http://www.dfpni.gov.uk/tb\\_p\\_online\\_version.pdf](http://www.dfpni.gov.uk/tb_p_online_version.pdf)

Including:

- **Provision of sanitary appliances**
  - **Sanitary appliances**
  - **Sanitary accommodation**
  - **Unvented hot water storage systems**
  - **Reducing the risk of scalding**
- 

## **TECHNICAL BOOKLET R – Access to and use of buildings:**

[http://www.dfpni.gov.uk/tbr\\_online\\_version.pdf](http://www.dfpni.gov.uk/tbr_online_version.pdf)

Including:

- **Access and use**
  - **Access to extensions**
  - **Sanitary accommodation in extensions**
  - **Sanitary conveniences in dwellings**
- 

## **TECHNICAL BOOKLET V – Glazing**

[http://www.dfpni.gov.uk/tbv\\_online\\_version.pdf](http://www.dfpni.gov.uk/tbv_online_version.pdf)

Including:

- **Impact with glazing**
- **Transparent glazing**
- **Safe opening and closing of windows, skylights and ventilators**
- **Safe means of access for cleaning glazing**

# SUPAFIL®



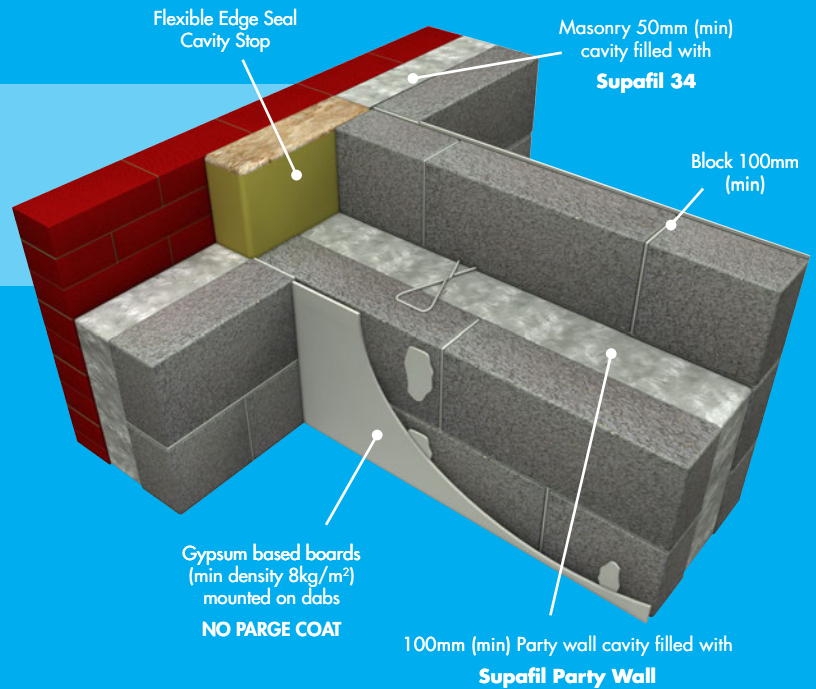
## The Party Wall Full Fill Blown Solution

### ROBUST DETAIL E-WM-28™

Masonry, Light weight aggregate block work, min. 100mm cavity

- E-WM-28 is the first unique Supafil party wall blown wool Robust Detail solution
- Contributes to a zero effective U-value when compiling SAP calculations
- Efficient and quick installation by approved technicians
- Dry installation process
- No product storage on site
- No parge coat required
- Fully fills the cavity

For full information on E-WM-28 visit Robust Details website  
<http://www.robustdetails.com/TheHandbook/RobustDetail/E-WM-28>



QUICK



CLEAN



SUSTAINABLE



COST EFFECTIVE



Technical Support Team

**TEL: 01744 766 666**

[technical.uk@knaufinsulation.co.uk](mailto:technical.uk@knaufinsulation.co.uk)

[www.knaufinsulation.co.uk/pb0914](http://www.knaufinsulation.co.uk/pb0914)

KINE2431ADV-V0814

**KNAUFINSULATION**  
*it's time to save energy*