Retrofit insulation: the challenges faced by residential valuers and surveyors

Phil Parnham
BlueBox partners
Objectives

This paper has a number of objectives:

• The problems commonly associated with retrofitted thermal insulation including CWI, IWI and EWI;

• The difficulty of assessing new technologies associated with low energy housing including whole house ventilation systems; and

• The challenge of reporting to our clients in a balanced way.
The daily challenges faced by residential practitioners

I wonder if I could squeeze another valuation in today and get into double figures?

I’ve just thought of a new caveat: ‘I could not carry out a loft inspection because it would have creased my expensive suit’.
The service is specifically designed for lay clients who are seeking a professional opinion at an economic price. It is, therefore, necessarily less comprehensive than a level 3 building survey (see HSIS).
Retrofit insulation
External wall insulation
Its all in the detail!
The finished product
Insulated Wimpey no-fines
Wall/floor junction

Door jamb
Gate post!

Cable junction box

Meter box
Cold bridge?

Trapped residual dampness?

Cold bridge?
Cavity wall insulation

Please note: If I upset anyone in the next ten minutes I’m really sorry!
Join Stroma Certification’s Cavity Clearance Information Exchange

Cavity Clearance Information Exchange
196 members

Phil Beynon
Assessments Director at CAIRS-SW
Owner

GDA/DEA workload filler?
I have been asked to float the idea of GDA/DEAs taking on a role of surveying for defective cavity wall insulation whilst at properties or as a standalone service.

The thought is that they are familiar with properties and the principles of CWI and at... Show more

You can join Stroma Certification’s Cavity Clearance scheme by filling out our simple registration form, or by calling our expert team on 0845 621 11 11 (ext. 622)*

*Calls cost 16p per minute plus your phone company’s network access charge or call 01957 604 604.
Early day motion 633

CAVITY WALL INSULATION

Session: 2016-17
Date tabled: 01.11.2016
Primary sponsor: Williams, Hywel
Sponsors: Meale, Alan | Shannon, Jim | Ritchie, Margaret | Edwards, Jonathan | Day, Martyn

That this House notes that cavity wall insulation (CWI) has been installed in millions of homes in successive government-backed schemes, but that in many cases the insulation has failed, acting not as a barrier to keep heat on the inside but as a bridge to allow water penetration from the outside; further notes that the actual number of failures is unknown and that the consequential damp and other related and very serious problems have blighted the lives of householders for years; notes that many victims are older, disabled or vulnerable people; notes that many installation companies have gone out of business and that the industry guarantee scheme has serious failings, including a defensive and sometimes hostile attitude to claimants and provides a guarantee not compensation; notes that successful extraction of CWI is difficult and sometimes poorly completed, leading to further problems; commends the tireless work of Civalli, the victims support group; and calls on the Government to institute measures to actively identify potential victims, rectify failed installations and provide proper compensation.

Total number of signatures: 12
Show: • Supported by • Withdrawn signatures

Showing 12 out of 12

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This property was built in around 1920/30s and has cavity walls. It is in the South Yorkshire (the right side of the Pennines).

The wall ties have been replaced and the cavities insulated.
High levels of dampness to the inside face of the flank wall. A chemical injected DPC was inserted several years before.
A brick was taken out

The cavity was packed with ‘black ash’ mortar
Original ‘black ash’ mortar from the original construction and subsequent grinding during the cavity wall tie replacement

The debris removed from a brick and a half aperture

Brickwork shards produced by the cavity wall replacement and insulation injection
Is the insulation causing the dampness?

We bet the removal contractors and the ambulance chasers would say so.

The cavity was opened up, the debris scraped out, loose insulation replaced with parts of mineral wool batts and the internal surface re-plastered to hold back residual moisture.
Property details:
• Built in 1915;
• Cavity wall ties replaced in 1988;
• Cavity wall insulation installed January 1989;
• Guarantee issued by Rockwool (before CIGA);
• Installer ceased trading in 2009;
• Doesn’t even mention length of guarantee!
Image taken with smart phone attachment.

Does this reveal missing insulation or an incompetent camera operator?
Whole house ventilation systems
Whole house system (Mechanical ventilation with heat recovery MVHR)

This is the main unit. The system will need filters checking annually.

This is the condensate outlet – usually connected to internal plumbing system.
Cleaning

1. Remove the front cover.
2. Slide out the filters that are fitted either side of the heat exchanger as shown.
3. Clean the filters carefully using a vacuum cleaner.
4. Carefully remove any dust from the face of the heat exchanger using a vacuum cleaner.
5. Never use water or any other fluids to clean the heat exchanger.
6. Replace the front cover and ensure it is securely located at the top before tightening all screws.
7. Power to the unit can now be restored.
Extract from kitchen and other ‘wet’ rooms. Input ‘supply’ grilles to every habitable room in the house including the lounge and bedrooms. There is a central control of the system with local boost buttons outside the ‘wet’ rooms.

Produced by the NHBC to help new home owners understand unfamiliar technologies and energy systems.
What do we tell our clients?

The following slides show sample phrases used by residential practitioners in their HomeBuyer Reports.
Insulated cavity wall without a problem

The outside walls are built of brick with an air gap between the inside and outside faces (called a cavity wall). The cavity has been insulated for which there is an insurance backed guarantee.

**Condition rating 1**

Insulated cavity walls can reduce the heat lost from a dwelling, cut heating bills and improve internal temperatures. However, there have been an increasing number of reports that cavity wall insulation can cause dampness in some properties.

I saw no signs of a problem in this dwelling and it is my opinion the likelihood of a future problems is low. You should ask your legal advisor to confirm the validity of the guarantee (see I2) and you should make sure the wall is satisfactorily maintained.
Insulated cavity wall with a problem

The outside walls are built of brick with an air gap between the inside and outside faces (called a cavity wall). The cavity has been insulated for which there is no insurance-backed guarantee. The cement between the bricks (the pointing) has eroded causing dampness in the house.

**Condition rating 3 (further investigation)**

Insulated cavity walls can reduce the heat lost from a dwelling, cut heating bills and improve internal temperatures. However, an increasing number of reports suggest cavity wall insulation can cause dampness in some properties.

The pointing to this house is in a poor condition causing dampness to the lounge and the bedroom. In my opinion, the presence of the cavity wall insulation may have made this problem worse.

I did not see evidence of a guarantee for the cavity wall insulation and so you should ask your legal advisor to confirm whether a guarantee exists and explain the implications to you (see I2).

The walls should be repointed on the outside. Once this has been done, the areas affected by dampness should be replastered. Because the dampness may have affected the cavity wall insulation, you should ask an appropriately qualified person to investigate the problem. To do this properly, several bricks will have to be removed. In the worst cases, the cavity wall insulation may have to be removed and replaced by a more suitable type.
EWI without a problem

A layer of insulation has been applied to the external faces of the main walls and covered with a weatherproof coating. Although I saw no matters of concern, unless correctly installed, this can give rise to problems with dampness and other defects especially on exposed elevations. No such issues were noted.

**Condition rating 1.** No repair is currently needed. The property must be maintained in the normal way.

You should ask your legal adviser to check whether this work was carried out by a registered contractor in accordance with the building regulations and whether a valid guarantee or warranty covers this work (see Sections I1 and I2).

If you do not receive a satisfactory response, you should ask an appropriately qualified person to investigate the suitability of the installation.
EWI with a problem

A layer of insulation has been applied to the external faces of the main walls and covered with a weatherproof coating. Serious faults/concerns were noted with the installation such as (list examples). Unless correctly installed, this can give rise to problems with dampness and other defects especially on exposed walls.

**Condition rating 3.**

These matters should be resolved now.

You should also ask your legal adviser to check whether this work was carried out by a registered contractor in accordance with the building regulations and whether a valid guarantee or warranty covers this work (see Sections I1 and I2).

If you do not receive a satisfactory response, you should ask an appropriately qualified person to investigate the suitability of the installation.
A few final thoughts

The issue of poorly installed wall insulation (all types) is clearly in the public domain. More installations are coming to the end of their guaranteed life making diagnosis difficult.

A range of organisations have become involved in the diagnosis and ‘resolution’ of defects associated with retrofitted insulation. Are we giving the public the service they deserve?
Great contributions to the debate
End