Unfit for retrofit

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Increasing numbers of buildings are facing issues with insulation systems that have been incorrectly specified or installed. What can be done to remedy this?

Over the past few years, there has been an increase in the number of issues and complaints coming from homeowners and tenants who have had cavity-wall insulation (CWI) or external-wall insulation systems installed. The main issue is that incorrectly specified or installed systems have gone on to compromise the fabric of properties.

Although the remediation of non-compliant installations should be a simple task, the work we have undertaken at BBA Consultancy, Investigation and Training (BBA CIT) in surveying social housing stock and privately owned properties has found many severe defects that could easily have been resolved if the right action had been taken at the right time.

In their work, our inspectors regularly see a need to improve overall standards, specifically in the areas of property suitability assessment and assuring the quality of installations. Similarly, our technical assessors repeatedly discover that conditions in many private dwellings and social housing units have deteriorated due to inappropriate retrofitting or improper installation of insulation.

In most cases, this has been because the surveyor who initially assessed the building for a retrofit failed to evaluate the home?s condition accurately and did not identify existing defects. These conditions can be compounded by an installation that isn?t completed to specification, and results in additional housing defects. We have also witnessed this issue with cavity insulation extractions and re-installation, where many installers are not following industry standards.

The main challenge for homeowners and social housing providers ? especially where they do not understand how important accurate property suitability assessments are ? is ensuring that installation works are overseen as they are carried out, to make certain that standards are met. Regular inspections are also needed alongside servicing so as to maintain eligibility for any installation guarantees, specifically in the case of social housing providers. When assessment of works is conducted retrospectively, a maintenance response request or a housing disrepair claim can in many cases be very costly.

To make sure works comply with regulation, we recommend that clients adopt a regular project montoring protocol

Poor work will cost

We recently consulted for the Vale of Glamorgan Council in Wales, work that involved assessing housing stock to find the cause of several issues arising after a CWI retrofit programme in the 1990s. In surveying the houses in question, a couple of major problems were discovered:

- A common approach had been taken to the work for the buildings, which did not take into consideration the peculiarity of each property.
- Previous remedial work undertaken as part of the Standard Assessment Procedure that the council had used to assess the environmental performance of a dwelling had not properly identified or rectified the problems.

The council now had to find a way to waterproof more than 4,000 2-storey homes against driving wind and rain in 1 of the most weather-exposed regions of the country, where precipitation can hit levels of more than 100ml/m2 per spell. It was calculated that the council had spent around ?10,000 per home during the preceding years trying either to maintain or rectify the CWI retrofit.

This particular work also highlighted that a job completed without due diligence and supervision can ultimately require costly long-term efforts in remediation. However, it is worth noting there are measures that can be followed to ensure retrofitting is carried out successfully.

For instance, many insulation retrofits have been incorrectly recommended for properties with damp and condensation issues. Installing insulation in such circumstances won?t solve the problem, and has the potential to make it even worse. When damp or condensation is found in a building, it is important to know the cause, carry out required remediation and then assess whether the problem has been resolved, before reassessing the property for an insulation retrofit.

Remediation needs should also be identified ahead of works. Properties that are not regularly maintained or are in a state of disrepair are very likely to be unsuitable for retrofitting. Such properties can sometimes be identified by cracked walls, defective window or door seals, damp-proof courses of inadequate height and cavities that aren?t clear of rubble and debris, all of which could have a detrimental effect on the future performance of both a dwelling and the insulation itself.

It is recommended that the building condition be assessed by a suitability qualified assessor, and all identified remediation works be completed before retrofitting insulation. As a rule, the identification of buildings that are not suitable for an insulation retrofit is more cost-effective in the long term than undertaking work in the short term.

In extreme situations, wind-driven rain can penetrate a building?s outer leaf and track across the insulation to cause damp inside the property. It is important that the relevant checks are always conducted on the property to ensure it is suitable for the proposed installation, and to assess carefully local exposure to weather conditions such as wind and rain that may affect the installation.

In broad terms, much of the UK?s westerly coastline, Scotland, Wales and the South West of England are highly exposed locations, with the most receiving around 100ml/m2 per spell of wind-driven rain. In these locations, additional measures may be required, which a specialised company would need to undertake.

A lack of oversight by landlords and their failure to engage with suppliers throughout the installation process is where things generally go wrong. In order to make sure works comply

with regulation, we recommend that clients adopt a regular project monitoring protocol, keep a close eye on best practice, stick to the specification, and procure contractors who are trained, certificated and insured. It is also recommended that clients obtain third-party verification of claims made about a product?s or system?s performance, its suitability for the intended use and compliance with regulations, and a guarantee of works completed.

The activity of occupants ? and in some cases their lack of knowledge about how to manage the building adequately after insulation has been retrofitted ? can also be the cause of defects. For example, adequate ventilation is crucial to allow warm, moist air that may previously have dissipated through the walls to escape. If such air builds up then issues with humidity and damp may arise. It is important that building occupiers are always advised what is required of them, to ensure that the property and the insulation alike perform as they are designed to do, and that guarantees are not invalidated.

To conclude, the situation is not as dire as it might seem. Through our work with various local authorities and housing associations across the country, we have seen some examples of best practice being implemented, while benefits are being gained from assessment of housing stock by independent organisations such as ourselves.

Such bodies not subsequently involved in making any identified improvement or maintenance works can provide impartial health checks of housing stock, which focus on technical assessment of the dwelling?s suitability and condition and the performance of any retrofits. This allows landlords to prioritise and select the most suitable, cost-effective housing improvements and maintenance.

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Further information

- Related competencies include: Building pathology , Construction technology and environmental services and Inspection
- This feature has been taken from the RICS Built Environment Journal (June/July 2019)
- Related categories: Site inspections