

## This Owner did it, when will you?



Target group:  
**Owners, Local  
Authorities**

# Granite Tenement Flat – Internal Wall Insulation

**Aberdeen, Scotland**

Year of construction:  
**Early 1900s**

Number of units:  
**1**

Current retrofit status:  
**completed**

## Overview

There are over 12,000 granite tenements flats in Aberdeen, built in Victorian and Edwardian times. These properties are now over 100 years old and due to their age and construction, are particularly hard to heat. With the subsequent high fuel costs and high CO2 emissions. Aberdeen City Council, (ACC) in conjunction with the ACE project has identified these property types as being particularly challenging to heat. These buildings have an attractive external appearance which would be lost if external insulation was applied. Taking all factors and planning constraints into account, one of the most efficient methods to improve the energy performance of these buildings, has been identified as Internal Wall Insulation (IWI). By installing this insulation measure there will be improvements in the thermal and comfort levels of these properties. This case study focuses on one particular flat on Chestnut Row, Aberdeen.

## Most important results

- Improved EPC rating, from D67 to C70
- Improved energy efficiency
- Improved comfort, reduction in draughts
- Reduced fuel costs, savings of £200 per year
- Short timescale retrofit
- Reduced carbon emissions, reduction of 16%
- Can be fitted room by room to reduce disruption to householder



## IWI system

The contractor working on this project was BCA Group. We selected their Kingspan K118 system. Research and development work undertaken by BCA alongside Glasgow Caledonian and Napier Universities have found this system to be advantageous over other brands.

Kingspan K118 system benefits are:

- Thinnest on the market at only 65mm including plaster finish.
- Do not have to remove cornicing, they return the system back along adjoining internal partitions.
- Suitable for non-traditional construction.
- Can insulate flats without the need for full block sign up.
- Can insulated most reveals with options down to 16mm thick.
- Facilitate window shutters or decorative window reveal paneling.
- Naturally lends itself to room in the roof insulation.



## Advice to others

- There are many different Internal Wall Insulation systems so take time to research these and find the one that best suits the property.
- A detailed survey is essential to ensure that there are no unwelcome surprises once work starts.



## Retrofitting focus

The focus for this retrofit was insulation and how to best insulate these granite tenement blocks. As external wall insulation wasn't an option an alternative had to be sought. Internal wall insulation was the ideal choice as this could be installed room by room and gave the residents the flexibility to choose how many rooms they would improve at a time.



## Reasons for retrofitting

The main drivers for this retrofit were energy and carbon savings, improving comfort levels and reducing energy costs. These types of buildings are hard to heat and are often draughty due to the nature of their construction.



## Main Challenges

**Before Retrofit:** Tenement blocks are often made up of a mixture of tenures from owner occupiers, private lets and council tenants. This can make it difficult to get the necessary multiple consents to carry out remedial works on communal areas of the building. An advantage of IWI is that it is installed within the individual flat without the consent of other residents being required. The owner was concerned about the reduction in room size but were reassured that the small reduction would be barely noticeable. Once they had weighed this negative point up against the positive factors the insulation would bring they were happy to proceed. The contractors provided samples of the insulation, so the clients could visualise exactly what it would look like when installed.

The contractor carried out a detailed survey to ensure that they captured all relevant information. This allowed them to accurately plan the job, brief the team and order all of the necessary materials prior to the work commencing. The property contained decorative coving around the ceiling within the living room. As the owner wished to retain this feature, after consultation with the surveyor, they opted to have the insulation panel chamfered towards the cornice.

### **During Retrofit:**

The contractor worked room by room to minimise disruption to the owner. They did have to overcome the difficulties of working with non-plumb walls and this they did by using expert fitters in the field of internal wall insulation. The detailed planning undertaken prior to the work commencing meant that no major challenges arose during the retrofit.



## Financing

The works were funded by a grant from the Scottish Government Home Energy Efficiency Programme Area Based Scheme in Aberdeen along with a contribution from the home owner.

## any question?



Sara Cameron, Senior Domestic Energy Officer,  
Aberdeen City Council  
[sarcameron@aberdeencity.gov.uk](mailto:sarcameron@aberdeencity.gov.uk)

## Information



**Interreg ACE Retrofitting project:**

<https://www.nweurope.eu/projects/project-search/accelerating-condominium-energy-retrofitting-ace-retrofitting/>

Saving Energy Aberdeen web platform

<https://www.savingenergyaberdeen.co.uk/>

Aberdeen City Council energy efficiency web pages:

<https://www.aberdeencity.gov.uk/services/housing/home-energy-efficiency>

### **You too are facing the challenge of the energy retrofitting of privately-owned condominiums in your city?**

The ACE-Retrofitting project aims to develop a governance model facilitated by cities linking owners and building professionals to accelerate condominium energy retrofitting. The French CoachCopro tool will be upgraded and adapted to other countries.

The consortium is composed of Agence Parisienne du Climat (France), Maastricht University (the Netherlands), Energy House Antwerp (Belgium), the City of Liège (Belgium), Aberdeen City Council (UK), Frankfurt Energy Agency (Germany), the City of Maastricht (the Netherlands), Changeworks (UK) and Energy Cities (coordinator). Study visits are organised in the partner cities of the consortium.

[www.nweurope.eu/ace-retrofitting](http://www.nweurope.eu/ace-retrofitting)

