

News from Kingspan

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BRIGHTON HOUSE IS TOP ECO-PROPERTY AFTER RETROFIT WITH KINGSPAN

A draughty, energy-hungry, Victorian villa in Brighton has been transformed into an energy efficient home thanks to a retrofit using insulation from Kingspan.

The Nook, owned by Two Piers Housing Co-operative, won funding of £150,000 from the Technology Strategy Board's competition, 'Retrofit for the Future', which aims to reduce carbon emissions from the social housing stock by 80% by 2050. The Co-operative then provided a further £22,500, covering a shortfall in project costs, contingency, and decoration, to help transform the period house, which is split into several self-contained flats, into a demonstration prototype for their future housing stock.

The Kingspan Kooltherm K-range of premium performance insulation was an essential part of the build as Project Manager, Mischa Hewitt from Earthwise Construction explained:

"We sought technical support from Kingspan because the efficiency of the insulation was integral to the success of the refurbishment. Thermal

conductivity values were vital as we needed to reduce the thickness of the insulation whilst maintaining the required K-values. Kingspan's team was very helpful in advising how this could be achieved; and we were able to install the insulation without any problems."

Removing The Nook's concrete slab floor was judged to be too costly, but by taking advantage of the property's high ceilings, and by using Kingspan Thermafloor TF70 high performance insulation, (which is specially designed for use on solid concrete or suspended ground floors), the design team were able to simply raise the floor level to form an insulation layer to the depth of the first step of the staircase - achieving a U-value of 0.13W/m²K.

The property posed several other architectural challenges as Ian McKay, Project Architect at BBM Sustainable Design Ltd, explained:

"Being a detached property, the building had a large amount of surface area to insulate. The solid brick construction ruled out cavity wall insulation; and because the house was located in a conservation area, external additions could not be considered for the front elevation."

In order to solve this problem, Kingspan Kooltherm K5 External Wall Board was applied to the exterior walls on the sides and back of the property. On the front elevation, where external insulation was not appropriate, Kooltherm K12 Framing Board and K18 Insulated Plasterboard were applied to the interior walls – achieving a combined U-value for the walls of 0.15W/m²K.

The addition of Kingspan Styrozone H 350 R high performance insulation for the attic floor and Kooltherm K7 Pitched Roof Board achieved a U-value of 0.10W/m²K for the roof space and completed the insulation envelope.

The package of energy efficiency measures carried out as part of the refurbishment also included a new mechanical ventilation system with heat recovery and a solar water heating system. It is expected that the retrofit will

result in a drop in energy bills for the whole property to less than £750 per annum, as well as a dramatic reduction in The Nook's carbon footprint.

By the Government's recommended system for energy rating of dwellings, the Standard Assessment Procedure (SAP), the measures adopted at The Nook have already resulted in an increased SAP rating, from 33 to 82 points. This moved the property from class 'F' to class 'B' in the SAP Energy Band classifications.

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The Nook in Brighton was transformed into a highly energy efficient property with the help of Kingspan Insulation products.

