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ELASTOSPRAY®

Under floor insulation delivered by Q-Bot for Camden Council

Best practice case study



Underfloor insulation programme for Camden Council

Best practice case study



Project data

Project: Retrofit of Q-Bot Underfloor Insulation at a housing upgrade programme in Camden, London

Scope of project: 48 properties

Contractor: Q-Bot

Product used: Q-Bot Underfloor Insulation – Class 1 fire rated closed cell polyurethane spray foam supplied by BASF

Method of installation: The Q-Bot Underfloor Insulation System to BBA Agrément Certificate 17/544



Project background

As part of a drive to improve energy efficiency and reduce fuel poverty, Camden Council specified Q-Bot Underfloor Insulation which uses an innovative robotic system to spray foam onto the underside of the floor. The 48 properties included various housing types, differing in age and size. The energy savings achieved by the upgrades were modelled in SAP using elemental U-values for the individual floors and the airtightness test results of each property. This enabled the energy improvements to be calculated against a range of scenarios with alternative retrofit measures.

The solution

BASF supplied ELASTOSPRAY® to meet the high standard requirements of Q-Bot Underfloor Insulation. It is a closed cell insulation, which provides a structural, durable and sealed insulation solution which has a positive effect on the life and value of the building fabric.

The result

The installation of floor insulation significantly improved thermal comfort with fewer cold draughts and much more even temperatures within the house. The results show, on average, a 32% improvement in airtightness and a 77% reduction in the heat loss through the floor.

Q-Bot Underfloor Insulation was shown to be the most cost-effective retrofit measure available per EPC point gained, after loft insulation. In addition, due to the innovative installation process, there was minimal disruption for the Camden Council's customers and the install took just 1 to 2 days.

A typical example

A one bedroom, ground floor flat was insulated as part of the pilot. The flat was built pre-1920 with solid wall construction and had 40m² of suspended timber floor. 150mm of insulation was installed between the joists and 25mm below the joists.

This resulted in an EPC points improvement of 2.8, and a carbon emissions reduction of 14,200kg CO_{2e} over the 42 year lifespan of the insulation.

KPI	Before	After
EPC rating	D54.6	D57.4
Annual heating cost	£950 Club 365?	£870
Annual CO _{2e}	4,100kg CO _{2e} /yr	3,700kg CO _{2e} /yr
Air permeability	14.3m ³ /m ² .h @ 50Pa	9.1m ³ /m ² .h @ 50Pa
Floor U-value	0.82W/m ² K	0.17W/m ² K



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