



WALLTITE®

the airtight insulation solution

Best Practice Case Study 63 Holland Road, Hove

August 2011

Advantages at a glance

- WALLTITE provides the specifier with complete design freedom as the spray foam adapts to the shape of the substrate providing an ideal solution for insulating difficult areas such as curved roofs.
- The continuous spray foam results in an airtight building envelope which helps reduce carbon emissions and reduce energy bills, as less air escapes through the roof area.

 **BASF**

The Chemical Company

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Project data

Project: A new five storey mixed use development comprising ground floor / basement retail and office accommodation with residential flats above
Scope of Project: New build
Spray Foam Contractor: Isotech Sprayfoam
Architect: Felce and Guy Partnership
Main Contractor: A&F Pilbeam Construction
Year Completed: 2011
Products Used: WALLTITE CL100 spray foam insulation

Project description

Located on the site of an existing single storey property in a prestigious area of Hove, East Sussex, local architects Felce and Guy Partnership were commissioned to design a new mixed-use five storey property at 63 Holland Road comprising ground floor and basement retail and office areas with residential accommodation above.

The residential accommodation incorporates six two-bedroom flats and a penthouse flat with unparalleled views across Palmeira Square. With over sixty years experience in construction in the South East, the building and renovation work was completed by Brighton based A&F Pilbeam.

As part of this Code for Sustainable Homes Level 3 development, all insulation elements and services have been designed to minimise carbon emissions and reduce energy bills including installation of photovoltaic panels. Meeting the principles of this single national standard ensures that continuous improvement and greater innovation is delivered in this project and key performance information on the energy efficiency and carbon performance of the home is provided to the home owner.

Challenges

The curved nature of the roof in the penthouse flat presented an issue in relation to the original insulation specified as this could not achieve the radius required. Certain traditional mineral fibre solutions are not guaranteed to stay in place down the curve and attain the required U-value of $0.1W/m^2K$. A spray foam insulant would be the ideal solution.

In order to meet the planning condition required to achieve Level 3 of the Code for Sustainable Homes, a low U-value was important. Due to the nature of the site, there were constraints on how this could be achieved.

The simplest way was to decrease the U-values of the various elements, of which the roof was one. The Code measures the sustainability of a home against design categories, rating the 'whole home' as a complete package. The sites boundaries are the external walls and so there was no opportunity to utilise other

elements outlined in the Code such as greywater, recycling facilities, ground source heat pumps or to add in some green spaces. Improving the insulation with a better U-value was the answer.

Following market research and discussions with the technical team at BASF Polyurethanes U.K., WALLTITE CL100 spray foam insulation was specified as it could achieve the desired U-value and adapt to the curve.

The solution

WALLTITE spray foam insulation has been installed by Portsmouth based Isotech Sprayfoam contractors to form an airtight thermal efficient solution in the property. Isotech has been installing polyurethane foam systems into residential and commercial premises throughout the UK since 1992 and is an authorised BASF spray foam contractor. Members of the FOAM MASTER Academy, Isotech has attended courses with BASF-trained professionals to ensure a safe and accurate application is achieved. WALLTITE can only be applied by fully trained and qualified spray foam operatives from BASF approved contractors.

WALLTITE spray foam insulation has been applied to the curved penthouse flat roof on the fifth floor. The area is approximately $144m^2$ and was sprayed to a depth of 235mm to fill a void of 300mm. The ceiling linings were then tacked onto the joists to seal the gap.

The fast applied, seamless, airtight solution left a minimal amount of surface area without insulation. By virtually eliminating air leakage, WALLTITE with its closed cell structure helps control the movement of vapour and moisture throughout the building, reducing energy loss in line with Part L. Created to aid sustainable solutions, WALLTITE PU spray foam does not deteriorate with age and its thermal properties are therefore maintained over the life of the building.

The final U-value calculation is expected to be $0.1W/m^2K$ on completion of the project.

Customer satisfaction

Architect Simon Moore is very pleased with the installation by Isotech. "The spray foam was installed quickly and met all of the criteria that we needed. It has proven to be a great product that has made the roof construction possible."



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