



WALLTITE[®]

The airtight insulation solution

HH Wills Building, Bristol University

Case Study



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We create chemistry

HH Wills Building, Bristol University

Case Study



Project data

Project: HH Wills Building, Bristol University

Client: Bristol University

Architect: Oxford Architects

Spray Foam Contractor: Cosyhome Insulation Ltd.

Scope of Project: Improving the thermal insulation of cavity wall

Year Completed: 2012

Products Used: WALLTITE CV 100 injection grade foam insulation

Project description

The HH Wills Physics Building forms one block of the Physics Department at Bristol University.

Built in the 1960s, the Physics Building is constructed from reinforced concrete with a masonry cavity wall. During 2012 a major refurbishment of the façade was commissioned to improve both the aesthetics and performance of the building structure.

Challenges

The objective of the refurbishment project was to provide a facility fit for purpose and performing to modern building standards. A primary focus for specifier Oxford Architects was to improve the thermal insulation of the external envelope without disrupting the external surface of the façade.

The 1960s structure was constructed from reinforced concrete with a masonry cavity wall incorporating a 100mm wide spandrel wall cavity that did not incorporate any insulation and was therefore thermally inefficient.

Solution

WALLTITE CV 100 injection grade foam insulation was injected into the spandrel cavity, below the windows, sealing the cavity. The result was reduced thermal transmittance and a reduction in air leakage.

WALLTITE has an extremely low thermal conductivity. Filling the cavity with 100mm of WALLTITE CV 100 reduced the U-value from 1.45W/m²K down to 0.23W/m²K.

WALLTITE is an ideal solution for this situation because it is injected in liquid form and expands when it makes contact

with the substrate – this means that it will mould itself to any contour or uneven surface and bonds direct to the substrate. The robust, closed-cell insulation adheres to the inner surfaces of the cavity and provides a continuous structural connection between the two leaves.

Although thermal insulation was the primary objective of the installation, the fact that the application of WALLTITE provides enhanced structural stability is an added benefit that is particularly attractive in older buildings where the wall structure may be affected by failing wall ties.

The major refurbishment of the HH Wills Physics building included an extension of the main entrance and the replacement of all the existing windows. The reconstituted stonework was cleaned and the previous mosaic façade finish was rendered over. The building is home to state-of-the-art research laboratories which now have the benefit of enhanced thermal performance and a more rigid structure to house them.

Client quote

WALLTITE was specified for this project by Oxford Architects. The practice has a particular expertise in University building projects and in this case was responsible for the refurbishment work required to bring this aging building up to modern standards.

Architect Steve Lee explained the specification decision: "We had a CPD from WALLTITE and found that the product met our primary concern for improved thermal performance and had the added benefit of strengthening the wall construction."



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