

# LEICESTER EFFICIENCY EAST MIDLANDS FRAMEWORK

Social Housing Refurbishment | Braunstone, Leicester

Client: Leicester City Council  
Approved Installer: VolkerLaser Ltd  
Building Type: Solid Brick Wall  
Project Size: 163 properties (13,040m<sup>2</sup>)  
System: Thin Coat NSC2b External Wall Insulation  
Finish: Dash Aggregate

## REFURBISHMENT OF HARD TO TREAT SOLID WALL PROPERTIES USING EXTERNAL WALL INSULATION

### Project Background:

VolkerLaser have been working closely with Structherm for several years as an Approved Installation Contractor (AIC) for our external wall insulation systems. From their Head Office in Worcester they have established themselves as a premier UK installer and have recently completed a large project in the South Braunstone area of Leicester.

Leicester City Council are promoting the Climate Change Action Programme; aiming to not only update the quality of its housing stock, but to also improve the energy efficiency of its houses and assist with fuel poverty for its tenants.

VolkerLaser worked closely with the Council and were able to obtain full funding for the project via the Energy Company Obligation (ECO).

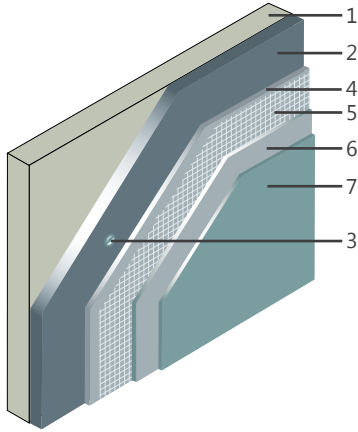
### Problems:

Solid wall properties make up around 30% of the UK housing stock. Classed as 'hard-to-treat' because they cannot be insulated with cavity wall insulation heat loss through the external walls can be as much as 45%.

Heat loss from these properties in Leicester was very high and the thermal performance was calculated at a very poor 2.10W/m<sup>2</sup>K. This was resulting in tenants having to use large amounts of energy to keep their homes warm, pushing many into fuel poverty.

# STRUCTHERM'S EXTERNAL WALL INSULATION SYSTEM PROVIDED THE PROTECTION, THERMAL AND AESTHETIC QUALITIES REQUIRED

Thin Coat System - NSC2b



1. Substrate
2. 90mm Enhanced EPS insulation
3. Fixing
4. Basecoat render 3mm
5. Glass fibre reinforcing mesh
6. Basecoat render 3mm
7. Dash receiver and aggregate finish 8mm

## Design Solution:

Structherm's Thin Coat NSC2b External Wall Insulation (EWI) was chosen as the preferred system. It consisted of a layer of high performance Enhanced EPS insulation boards 90mm thick designed to meet the current Building Regulation requirements for thermal performance.

The insulation boards were fixed in to the existing brickwork using specially selected fixings to ensure there would be no failure of the system in years to come.

Basecoat render was then applied in two coats. The first layer of high polymer modified basecoat render incorporating lightweight aggregates and reinforcing polyester fibres was applied to a thickness of 3mm followed by glass fibre reinforcing mesh in roll form, embedded into first layer of basecoat render. The second 3mm layer of basecoat render was then applied over the mesh to give a thickness of 6mm.

To complete the system an 8mm layer of Portland White dash receiver was applied followed by a Red and White decorative dashing aggregate.

## Results:

- The Red and White dashing aggregate chosen by the client has brightened up the houses.
- Thermal performance has improved greatly with the U value of the walls dropping from 2.10W/m<sup>2</sup>K to 0.29W/m<sup>2</sup>K.
- Each house now requires less fuel to heat to a comfortable temperature, therefore helping to reduce residents fuel bills and bring them out of fuel poverty.



After refurbishment



During refurbishment



After refurbishment



Red and white dashing aggregate