

# DUNFERMLINE ENERGY SAVERS

Client & Approved Installer: VolkerLaser Ltd  
Building Type: Wimpey No-Fines Concrete  
Project Size: 300 properties (21,000m<sup>2</sup>)  
System: Thin Coat NSC2b External Wall Insulation  
Finish: Dash Aggregate

Private Housing Refurbishment | Dunfermline, Fife

## REFURBISHMENT OF NON-TRADITIONAL WIMPEY NO-FINES CONCRETE 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 regional office near Glasgow they have established themselves as a premier Scottish installer and have recently completed a large project in the Dunfermline area.

Having identified and carried out initial surveys on properties VolkerLaser were able to obtain 100% funding for home owners. This was via a combination of Energy Company Obligation

(ECO) funding and the Home Energy Efficiency Programmes Scotland - Area Based Scheme (HEEPS: ABS) from the Scottish Government.

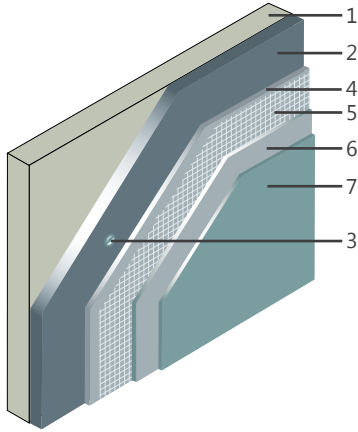
### Problems:

Surveys showed that the properties were built with solid walls using Wimpey 'no-fines' concrete. Heat loss through these solid walls was very high and the thermal performance was calculated at a very poor 2.20W/m<sup>2</sup>K. This was resulting in residents having to use large amounts of energy to keep their homes warm.

Due to the age of the properties many were also looking tired and in need of external refurbishment to smarten them up.

# 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 a 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 walls 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 Kendal dash receiver was applied followed by Castlebrae Harvest decorative dashing aggregate.

## Results:

- Thermal performance has improved greatly with the U value of the walls dropping from 2.20W/m<sup>2</sup>K to 0.28W/m<sup>2</sup>K.
- Energy usage has vastly reduced as each house now requires less fuel to heat to a comfortable temperature. This has also helped to reduce residents fuel bills.
- The Castlebrae Harvest dashing aggregate has brightened up the houses that were previously quite dull and drab.



After refurbishment



After refurbishment



During refurbishment



Castlebrae Harvest dashing aggregate