Structherm
STRUCTURAL INSULATED FACADES

Clyde & Lomond Courts
West Bridgend,
Dumbarton

Sector: Social Housing
High Rise
Refurbishment

Photograph showing Clyde and Lomond Courts along with Leven Court which was refurbished in 2010

Client:
West Dunbartonshire Council

Building Type:
Skarne Cruden High Rises

Project Size:
2 x 16 Storey 6912m^2

Product:
- Structural External Wall Insulation & Render Finish
- Fastbrick - Real Brick Slip Cladding to Ground Floors

Project Background:

West Dunbartonshire Council (WDC) is going through a programme of upgrading its Social Housing helping to bring them up to Scottish Quality Housing Standards by 2015.

Within their stock WDC has 26 high rise blocks which have been surveyed by structural engineers. Two of these blocks, Clyde Court and Lomond Court, were found to have structurally sound concrete frames but failing concrete infill panels. The buildings also had extremely poor thermal performance resulting in high fuel bills for residents, pushing them into fuel poverty.

Client Requirements:

WDC wanted to refurbish the blocks in order to extend their life by 30 years to comply with their long term Local Housing Strategy. As part of the external works WDC required a solution that would:

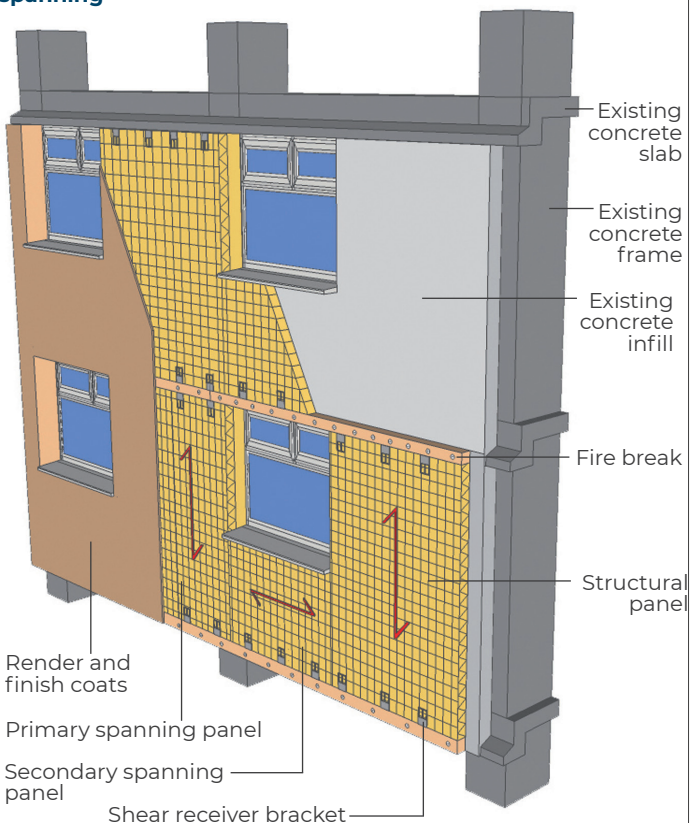
- Solve the structural problems associated with the failing concrete infill panels
- Improve thermal performance and therefore cut fuel bills
- Improve the external appearance of the buildings

Design Solution:

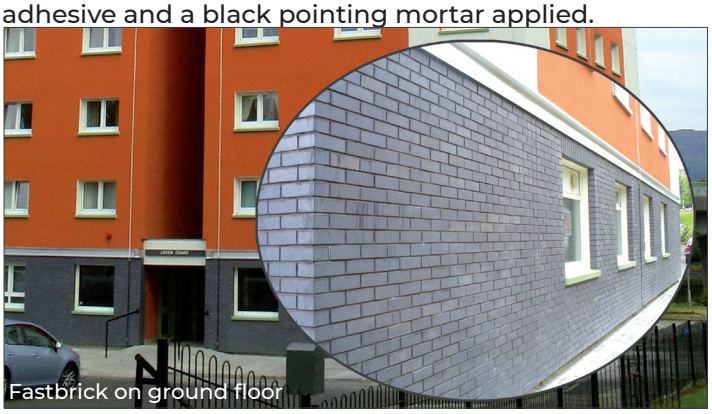
Structherm's unique Structural External Wall Insulation (SEWI) and Fastbrick systems were specified for the external refurbishment of the building as they were able to offer solutions to each of WDC's requirements.

The SEWI system is based on the performance of a unique, lightweight galvanised steel wire space frame with an insulated core. The vertical panel spanning method was used to provide a rigid, continuous envelope around the upper floors of the building (see illustration below).
To complete the system a 12mm layer of basecoat and then a contemporary Silicone finish was applied in two contrasting colours and in two textures, fine and medium. This finished layer provided the buildings with an attractive façade that fully met the client's aesthetic expectations.

Detail showing fixing method for high rise vertical panel spanning



On the ground floor Fastbrick, an insulated real brick slip cladding system, was chosen because of its robustness and impact resistant properties. The system comprised of a rigid 25mm thick phenolic insulation panel pre-bonded to a brickwork coordinating carrier sheet. The panels were fixed to the existing ground floor brick work with an additional 50mm thickness of phenolic insulation between in order to increase the thermal performance of the system. Striking blue, smooth brick slips were then fixed to the carrier sheet using a purpose made adhesive and a black pointing mortar applied.


Fastbrick on ground floor

Results:

- The SEWI has stabilised all the failing concrete infill panels and anchored back areas of loose material.
- Thermal performance has improved greatly with the U value of the walls dropping from 2.83W/m²K to 0.27W/m²K.
- The carbon footprint has reduced as it now requires less fuel to heat each flat to a comfortable temperature.
- The fresh, contemporary design of the buildings along with new roof and entrance upgrades has transformed the appearance of the blocks into modern and attractive landmarks.

Structherm Ltd, Bent Ley Road, Meltham, Holmfirth, West Yorkshire, HD9 4AP
t: 01484 850098 **e:** info@structherm.co.uk www.structherm.co.uk