

Cleddans View
Duncombe View
Garscadden View
Glenniffer View
Peel View
Drumry, Clydebank

Sector: Social Housing
High Rise
Refurbishment



Client:
West Dunbartonshire Council

Building Type:
Wimpey No-fines Concrete

Project Size:
5 Blocks 9,120m²

Product:

- Structural External Wall Insulation & Render Finish
- Wonderwall - 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. Five of these blocks, Cleddans View, Duncombe View, Garscadden View, Glenniffer View and Peel View, were found to have structurally sound concrete frames but failing concrete infill. 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:

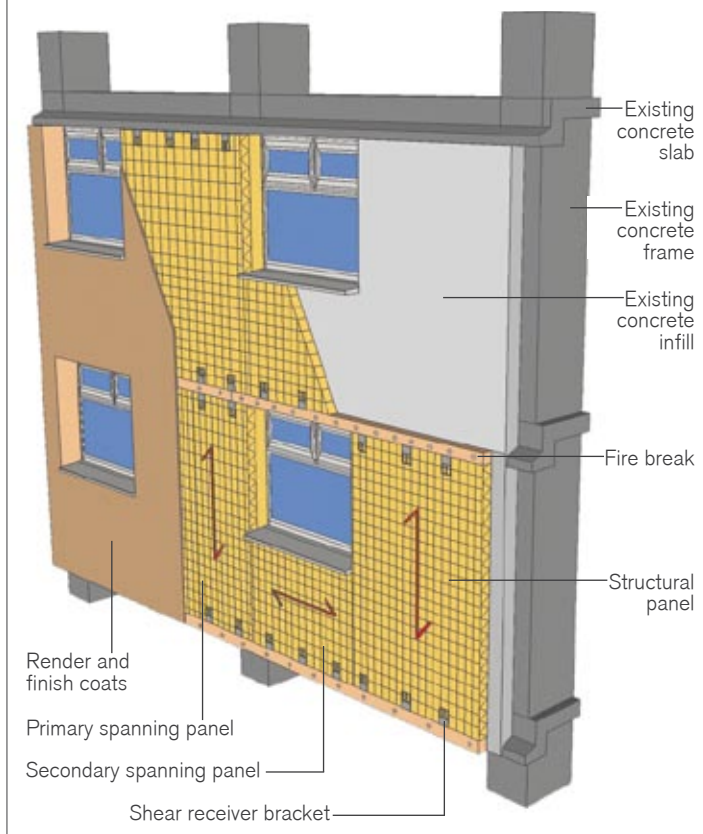
- Solve the structural problems associated with the failing concrete infill
- Improve thermal performance and therefore cut fuel bills
- Improve the external appearance of the buildings

Design Solution:

Structherm's unique Structural External Wall Insulation (SEWI) and Wonderwall 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 stainless steel wire space frame with a 100mm Phenolic insulation core. The vertical panel spanning method was used to provide a rigid, continuous envelope around the upper floors of the building (see illustration below).

Detail showing fixing method for high rise vertical panel spanning



To complete the system a 14-16mm layer of fibre reinforced basecoat followed by a 8-10mm levelling coat and then a contemporary high performance Silicone finish were applied in two pastel shades. This finished layer provided the buildings with an attractive façade that fully met the client's aesthetic expectations.



On the ground floor Wonderwall, 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. Red brick slips were then fixed to the carrier sheet using a purpose made adhesive to compliment the colour of bricks used on surrounding buildings.

Results:

- The SEWI has stabilised all the failing concrete infill and anchored back areas of loose material.
- Thermal performance has improved greatly with the U value of the walls dropping from 1.85W/m²K to 0.21W/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 has transformed the appearance of the blocks into modern and attractive buildings.

