

Structherm | Cladding
Dalmuir Court
Clydebank, West Dunbartonshire

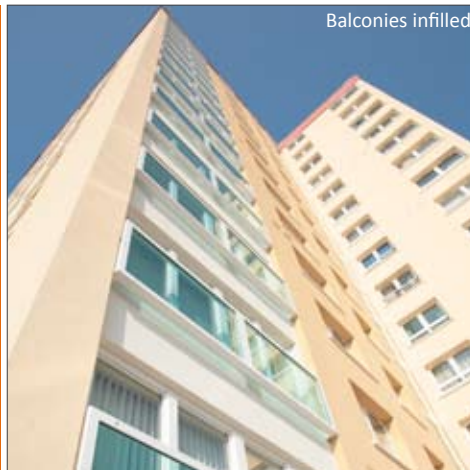
Sector: Social Housing
High Rise
Refurbishment



After refurbishment using Structural Cladding and Fastbrick to ground floor



Before



Balconies infilled

Client:
West Dunbartonshire Council

Building type:
15 Storey High Rise Block

Project Size:
Approx. 3,000m²

Product:
Structural Cladding, Render
& Fastbrick

Project Background:

Dalmuir Court is a high rise block of flats in Clydebank, West Dunbartonshire. The building was constructed using Wimpey No-fines concrete in the 1960's and as such had all the problems associated with this type of post war construction. One of the issues with no-fines concrete high rise blocks is that they can become structurally defective when the no-fines concrete has a poor connection to the dense concrete columns and slabs.

The building also suffered from:

- Lack of energy efficiency.
- Water ingress.
- Invasion of pigeons into balconies.
- Condensation and mould.
- Deterioration of external render.

Client Requirements:

West Dunbartonshire Council wanted a cost effective solution for externally refurbishing the block and one that would solve all the problems that it suffered from. Of particular importance was the need to improve the thermal performance of the building, prevent water ingress and rid the block of the pigeons. Integral to these aims was the overall improvement of the living environment and to reduce the risk of disease from pigeon fouling.



Dalmuir Court before and after refurbishment

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this or other
Structherm Cladding
projects please contact us on
0800 040 7460
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Design Solutions:

Structherm's unique Structural Insulated Cladding system which is based on the performance of a unique, two-way spanning, lightweight prefabricated panel component with a rigid insulation core was used for the encapsulation of the walls above ground floor and infill of balconies whilst Structherm's Fastbrick was used for the ground floor refurbishment.

Ground Floor:

On the ground floor Fastbrick, an insulated real brick slip cladding system, was chosen because of its robustness and impact resistant properties. In fact the brick slips are just as resistant as traditional masonry.

The system comprises of a rigid phenolic insulation panel pre-bonded to a brickwork coordinating carrier sheet. These panels were fixed to the existing ground floor brick work, and Orange Antique Multi Stock brick slips then fixed to the carrier sheet using a purpose made adhesive. A specialist pointing mortar completed the installation helping to transform Dalmuir Court.

Upper Floors:

Structural insulated cladding was used as it was able to span from slab to slab, bolted directly into the reinforced concrete using resin anchors. This strengthened the building and negated the need for the no-fines concrete, structurally. The panels were then joined together with mesh to provide a rigid, continuous envelope around the building with real structural integrity and excellent thermal performance.

A layer of basecoat render was then applied which worked with the panels to provide further spanning and racking strength. To complete the system a high performing Silicate render top coat was applied. This finished layer of render provided the building with an attractive façade that fully met the Council's aesthetic expectations.

The existing balconies, which were little used by the tenants, suffered from roosting pigeons and the problems these brought such as fouling and risk of disease. Following a tenant vote the decision was made to use the Structural Insulated Cladding system to infill the balconies and install new windows. This solved the roosting pigeon problem whilst also making the living rooms of the flats larger.

Results:

The thermal performance of the block prior to refurbishment was extremely poor achieving a U value of only 1.87W/m²K. After refurbishment the building had significantly improved U values of 0.23W/m²K. This not only improved the comfort of each flat and helped lower fuel bills but also means the building is more sustainable, emitting less CO₂. The structural insulated cladding system has eliminated all water ingress, cold bridging and interstitial condensation whilst residents are suitably impressed by the added living room floor areas following the infill of the balconies and no longer have the health risk once posed by the pigeons.

Testimonial:

A spokesperson for the residents in the block said they were thrilled with the refurbishment:

"It looks completely different, everyone is really pleased with how it looks and are happy to call it their home. The workforce were great and have done a brilliant job."