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Client: Homes In Havering
Approved Installer: Retrofit UK Ltd
Building Type: Cornish Type II – Concrete Panels
Project Size: 3 x 4 Storey Blocks (1,440m²)
System: Structural External Wall Insulation
Finish: ClassicPro Silicone 1.5mm

Social Housing Refurbishment | Prospect Place, Havering

REFURBISHMENT OF SOCIAL HOUSING MEDIUM RISE FLATS USING STRUCTURAL EXTERNAL WALL INSULATION

Project Background:
Homes In Havering were the ALMO for the London Borough Of Havering Council between 2006 and 2012 after which the council took the management of its housing stock back in-house after consultation with tenants and leaseholders.

As part of their commitment under the Decent Homes Programme the council identified three blocks of flats in the Collier Row area which were in urgent need of upgrading to bring them up to standards.

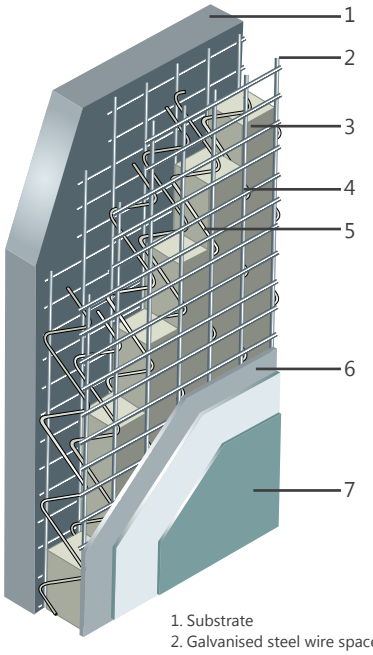
Problems
The blocks of flats were of Cornish Type II non-traditional construction, built in the late 1950's over 4 storeys. They consisted of PRC columns of storey height and horizontal precast concrete cladding panels. Unusually they also had stone built ends with a cavity.

Cornish Type II properties were designated as inherently defective under the Housing Defects Legislation (now Part XVI of the Housing Act 1985). This was due to the possibility of corrosion of the steel within the concrete columns making them structurally unsound.

The thermal performance of the blocks was also poor with a u-value of just 2.36W/m²K.

UNRIVALLED TECHNICAL SUPPORT AND DESIGN SERVICES WERE PROVIDED AT EVERY STAGE OF THE PROJECT

Structural External Wall Insulation (GE150)



1. Substrate
2. Galvanised steel wire space frame
3. 130mm EPS insulation
4. Vertical and horizontal wires
5. Warren trusses
6. Basecoat render
7. Silicone 1.5mm topcoat

Client Requirements:
The council wanted a cost effective external refurbishment solution that would:

- Overcome the structural defects of the walls.
- Bring the blocks up to current Part L Building Regulation standards in relation to thermal efficiency requirements.
- Improve the external appearance of the blocks.

Design Solution:
Structherm's unique Structural External Wall Insulation (SEWI) was specified for the external refurbishment of the blocks as they were able to offer solutions to each of the requirements.

The SEWI system is based on the performance of a lightweight galvanised steel wire space frame with a 130mm EPS insulation core. Each panel measured 2400 x 1200mm and were fixed into the load bearing columns and solid concrete slab edge at each floor level.

Once installed each panel was meshed over and mechanically clipped together to provide a rigid, continuous envelope around the blocks. The stone end of each block were retained for their character and filled with cavity wall insulation.

To complete the system Structherm Fibre Reinforced basecoat render 24-26mm thick was applied in two coats of 14-16mm scratched followed by 8-10mm floated. A final decorative Silicone 1.5mm topcoat was then applied to give the blocks an attractive façade that fully met the client's aesthetic expectations.

Results:

- SEWI has enabled the blocks to be insulated without applying any additional loads to the concrete cladding panels.
- Thermal performance has improved greatly with the U value of the walls dropping from 2.36W/m2K to 0.30W/m2K.
- The external appearance of the blocks look brighter, fresher and more modern.

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