

GLENMUIR DRIVE

Client: Glasgow Housing Association
Building Type: Crosswall
Project Size: Phase 1, 60 Properties (3000m²)
System: Structural External Wall Insulation
Finish: Dash Aggregate & Wonderwall



Social Housing Refurbishment | Nitshill, Glasgow

REFURBISHMENT OF NON-TRADITIONAL CROSSWALL PROPERTIES USING STRUCTERM SYSTEMS

Project Background:

Glasgow Housing Association (GHA) is one of the largest social landlords in the UK, with more than 45,000 tenants across Glasgow. Since stock transfer from the city council in 2003, GHA has invested more than £1.2 billion in modernising and improving tenants' homes across the city.

Their investment programme, now in its final three-year phase, will continue to meet national policy objectives, such as the Scottish Housing Quality Standard (SHQS) and reducing the nation's carbon footprint with an investment of £240 million between 2011-2014.

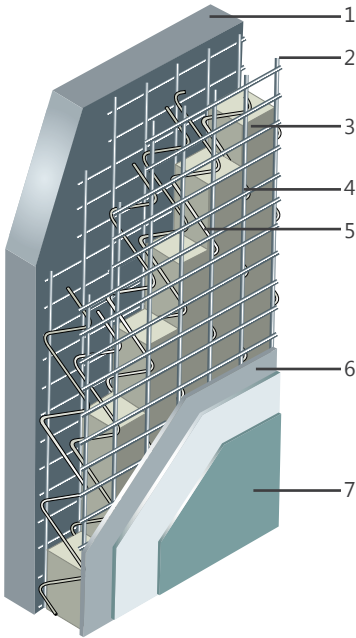
Within their stock GHA has over 300 Crosswall properties in the Nitshill area of Glasgow. GHA identified 60 of these for the first phase of refurbishment. These properties were showing signs of movement with excessive cracking and water penetration, they also had extremely poor thermal performance resulting in high fuel bills for residents, pushing them into fuel poverty and were very unsightly.

Client Requirements:

The properties were constructed using a non-traditional Crosswall building method with a mixture of stone and brick cavity gable walls and timber studwork in-fill walls between piers. The client wanted to specify an external wall insulation system which would solve both the thermal and structural problems associated with the properties.

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

Structural External Wall Insulation (SPH125)



1. Substrate
2. Stainless steel wire space frame
3. 105mm Phenolic insulation core
4. Vertical and horizontal wires
5. Warren trusses
6. Basecoat render
7. Dash reciever and aggregate

Design Solution:

Structurerm's unique Structural External Wall Insulation (SEWI) and Wonderwall systems were specified for the external refurbishment of the buildings as they were able to offer solutions to each of GHA's requirements.

The SEWI system is based on the performance of a unique, lightweight stainless steel wire space frame with a 105mm Phenolic insulation core. The horizontal panel spanning method was used to provide a rigid, continuous envelope around the front and rear elevations.

To complete the system a 14-16mm layer of fibre reinforced basecoat followed by a 8-10mm layer of dash receiver and dash aggregate were applied. This finished layer provided the buildings with an attractive façade that fully met the client's aesthetic expectations.

On the gables and piers 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 plus an additional layer of 80mm PIR insulation. Autumn Glow brick slips were then fixed to the carrier sheet using a purpose made adhesive.

Results:

- The SEWI has stabilised the properties and anchored back areas of loose material.
- Thermal performance has improved greatly with the U value of the walls dropping from 0.92W/m2K to 0.19W/m2K.
- The carbon footprint has reduced as it now requires less fuel to heat each property to a comfortable temperature.
- The design of the properties has improved the appearance whilst maintaining a traditional look in keeping with existing surroundings.



3D computer generated images produced by Structurerm for Glasgow Housing Association

