



**Bartley Green  
Birmingham**

**Sector: Social Housing  
Low Rise  
Refurbishment**

Airey semi-detached property after refurbishment



Before refurbishment



During installation of the Structural Cladding



**Client:**  
Birmingham City Council

**Building Type:**  
Airey Semi-Detached &  
Terrace

**Project Size:**  
22 Properties 2250m<sup>2</sup>

**Product:**  
Structural External Wall  
Insulation & Render Finish

## Project Background:

Structherm is working closely with Birmingham City Council (BCC) on its large scale, five year, housing refurbishment programme. The scheme involves around 68,000 properties of which 12,000 are of non-traditional construction encompassing over 40 different building types.

At Bartley Green the council had 22 non-traditional Airey precast concrete properties which are “Designated Defective” by the British Research Establishment (BRE). The load bearing concrete columns are prone to cracking which can cause the property to become structurally unstable whilst the concrete cladding panels are often inadequate allowing rain water to penetrate and provide almost no thermal qualities.

## Client Requirements:

BCC wanted a cost effective solution for externally refurbishing the houses and one that would:

- Allow residents to remain in their homes during the work.
- Solve the structural problems associated with any cracking of the concrete columns.
- Create a watertight and thermally efficient building envelope.
- Improve the external appearance of the houses.

## Design Solution:

Thorough inspections of the concrete columns it showed that their condition was better than expected and only localised repairs had to be carried out. The concrete cladding panels were removed and Structherm’s unique Structural External Wall Insulation system incorporating 80mm thick Enhanced EPS insulation installed in their place. To complete the refurbishment a Macerend Brick Effect render was applied to the ground floors and a high performance through coloured Acrylic render finish was applied to the first floors.

## Results:

- The Structural External Wall Insulation was installed while residents remained in their homes.
- The concrete columns were repaired and the Structural External Wall Insulation has provided further structural support.
- Thermal performance has improved greatly with the U value dropping from 1.56W/m<sup>2</sup>K to 0.29W/m<sup>2</sup>K.
- The aesthetic appearance of the properties has greatly improved and they are now watertight due to the high performance render finishes applied.



Airey semi-detached properties after refurbishment showing Macerend brick effect render to ground floor and Acrylic render to first floor.