



AESTHETIC PRECAST

Local Blackfriars, Manchester

The flush façade of the precast concrete panels, cast-in balconies, the mitred corner jointing, windows with no reveals and minimal sills and green terracotta tiles set back by a few millimetres – all create a taut, modern appearance for Local Blackfriars, a new gated residential development in Manchester. Sandra Doran of Techrete reports.

Local Blackfriars is a gated residential development at the junction of Trinity Way and Blackfriars Road in Manchester, comprising 380 apartments, penthouses and townhouses across two distinctive towers. The Grade II-listed former public house, 'The Blackfriars' dates back to 1886 and was sensitively refurbished to serve as a gateway entrance to the development.

Domis Construction was the main contractor, with Techrete engaged to supply the reconstructed stone wall panels, terracotta-faced panels and roof panels, in addition to supplying the structural columns, which sit from the base of the buildings to the second floor.

While the design has a strikingly contemporary feel, it was important to Jon Matthews Architects to achieve the classical architectural order of top, middle and bottom. The columns at the ground and first floor, the polished concrete cladding and terracotta tiles in the middle and the acid-etched, ribbed concrete panels at the top all serve to achieve this intent.

The polished concrete cladding reflects the structure of the buildings behind to express the primary form of construction. The use of real joints and dummy joints in a post-and-beam arrangement brings order to an efficient panelisation design. The terracotta and exposed aggregate in the concrete celebrate the use of natural materials, while the glazed and polished finishes provide a robust and hardwearing surface for the Mancunian climate.

Finishes

The striking look of the towers was achieved using a combination of finishes. Throughout the buildings, the panels and the structural columns consist of granite-based reconstituted grey stone with a polished finish, while the roof was finished in an acid-etched dark-grey colour.

The terracotta tiles add to the vibrancy of the project and were randomly placed on the panels in three different shades of green. An acid-etched finish forms the base and crown of the development, which provides the buildings with an elongated appearance.

Above: Local Blackfriars' striking tower.

Above left: Supporting structural precast columns reach to the first floor.



The gantry crane transports a panel across the Techrete yard.

Columns

The structural, architectural, precast columns were installed with the frame of the buildings at ground to first floor levels.

Terrace Piekco connectors were used at the base of the columns, with reinforcement bar projecting from the top of the columns, which were cast into the floor slabs to hold the columns in place.

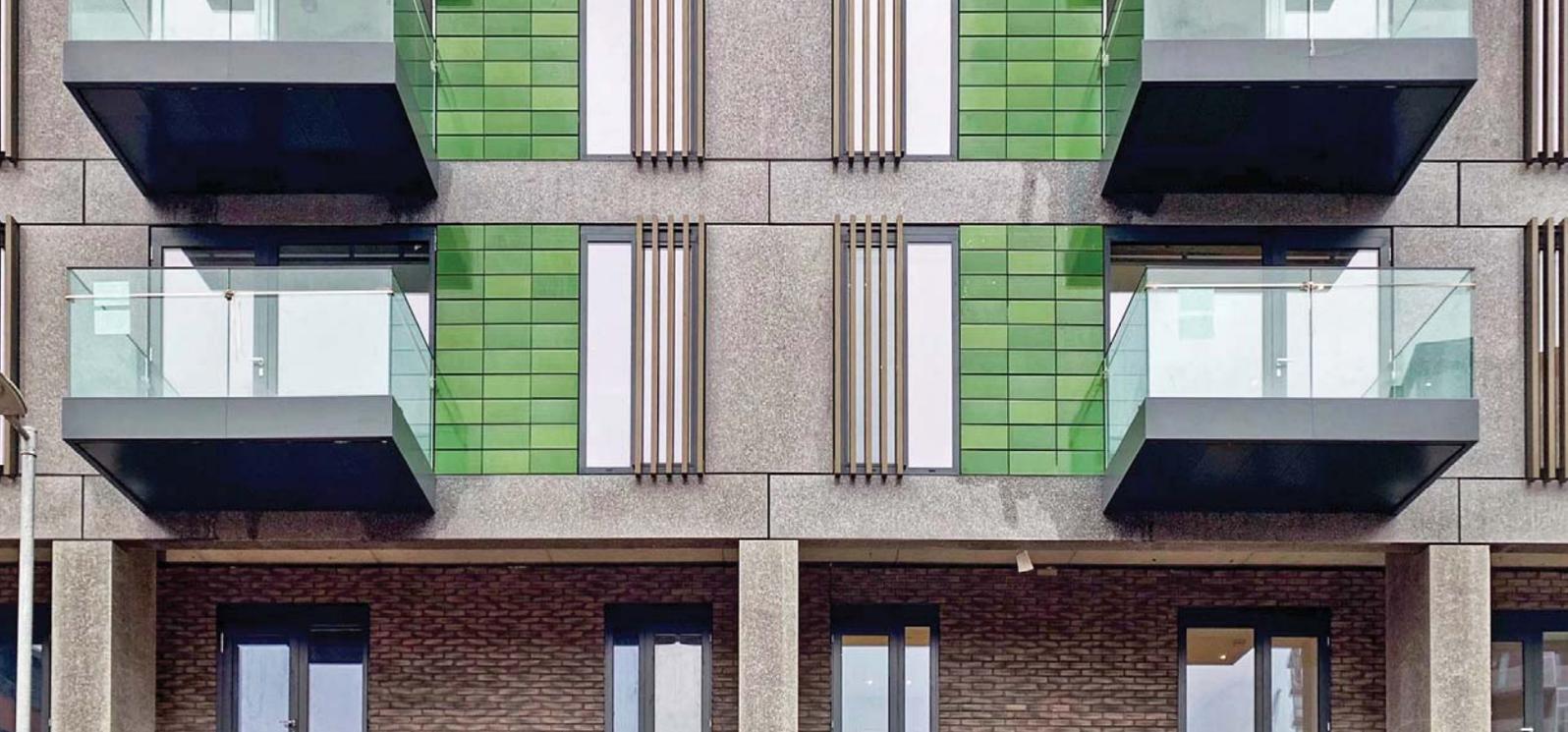
Balcony

For the first time, Techrete cast the balcony fittings into the concrete panels, so that the balconies could be fixed directly to the panels on-site. Traditionally, with installation of precast balcony and façade systems the precast façade panel is erected first, with the balcony panels being attached to the frame of the building at height, which can create possible health and safety issues. The method used for this project eliminated these issues by precasting the concrete panels off-site, with the supporting steel beams and the balcony being bolted to the façade panel at ground level. The panels and balconies were then lifted as one piece and bolted onto the building.

The panels were cast in extra-thick moulds to be sufficiently robust to support the balcony and other forces that act upon it, such as people and furniture.



The public piazza leads to a private south-facing garden for residents.



Green terracotta tiles add to the vibrancy of the towers.

Sustainability

In addition to the used balcony system being safer to erect than traditional balcony construction methods, the method of balcony erection on this project creates more energy efficiency in terms of reduced heat loss. Balconies, through thermal bridging, are considered to be the second greatest source of building enclosure heat loss in a multi-storey building after windows and doors (Finch *et al*⁽¹⁾). The thermal bridging is minimised because the cold bridging from the balcony is broken by the architectural precast panel and thermal insulation.

The inherent properties of precast concrete make it a natural choice for achieving sustainability in modern construction. For example, transport and waste are minimised and construction is faster. In addition, 42% of the water used in Techrete's production is harvested rainwater.

Integration

The flush façade of the concrete panels, the mitred corner jointing, the windows with no reveals and minimal sills, and terracotta tiles set back by a few millimetres all create a taut, modern appearance, which reflects the modern Manchester skyline and abstracts itself from the historic listed entrance area of the Black Friar pub, celebrating the differing styles of architecture. ■

Reference:

1. FINCH, G., HIGGINS, J. and HANAM, B. The importance of balcony and slab edge thermal bridges in concrete construction. *Proceedings of the 14th Canadian Conference on Building Science and Technology*, Toronto, Ontario, October 2014.



Side view of the balcony system.