

Project
Portlands Place, Stratford E20

Architect
Hawkins\Brown

Engineer
Walsh

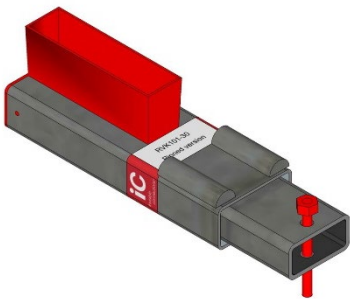
Main Contractor
Mace

Precast Concrete Specialist
PCE

Precaster
Oranmore Precast

Product(s) supplied

RVK 101-30 PIN
Precast Concrete Stair Landing Connector (100kN/30kN, Bolt Operated, Popular For Screeded Landings, Pinned Anchorage)



REDiBOX PRF-PIN
Concrete Wall Permanent Recess Former - Pinned



Project description

Portlands Place (also known as East Village NO6), is a high rise residential project in Stratford, part of the regeneration of the former 2012 London Olympics site. The £180 million scheme comprises 524 homes across two towers (26 and 30 storeys), and two connecting 10-storey blocks. A 26m long sky-bridge on the 10th floor links rooftop amenity spaces.

To achieve high quality and fast construction, the project team developed an offsite engineered hybrid construction approach called High Rise System (HRS). This modular process incorporates the use of precast components with in situ concrete to form the twin-wall cores, alongside offsite fabrication of the façade, bathrooms and M&E services.

The benefits of the innovative, pre-assembly method include rapid construction, reduced waste and embodied carbon, as well as improved site safety because less time is spent working at height.

Our role

For structural efficiency and speed of installation, telescopic connectors were chosen to support the precast stair flights with integral landings off core walls.

Since only one end of the landing was available for the connection, a pair of RVK 101-30 PIN connectors were cast into the end of the landing (Fig. 1). Pinned telescopic connectors anchor the precast element to the structure, in line with PD6687-1 robustness requirements.

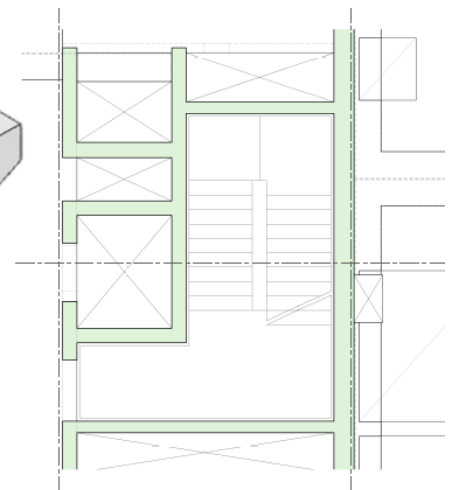
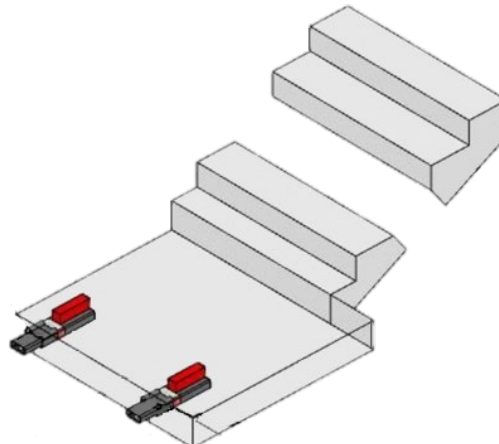


Figure 1: Integral flight and landing with connectors on end

Figure 2: Typical Stair Plan

About Invisible Connections

We are the specialists in hidden structural connections for precast and in situ construction. Our range of telescopic connectors are purpose-designed to overcome the challenges of traditional construction and have multiple applications. We are also the manufacturers of FERBOX® bespoke reinforcement continuity strip.

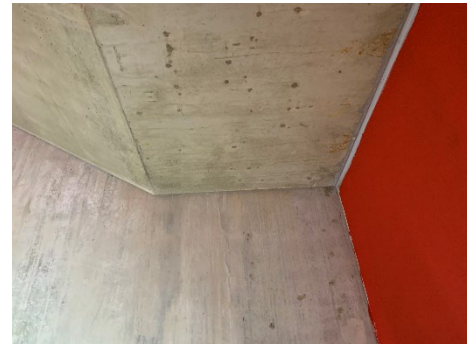
All our products meet industry demands for improved safety, construction efficiency and cost competitiveness.

RVK 101-30 PIN connectors in combination with REDiBOX recess formers were decided on, for the following reasons:

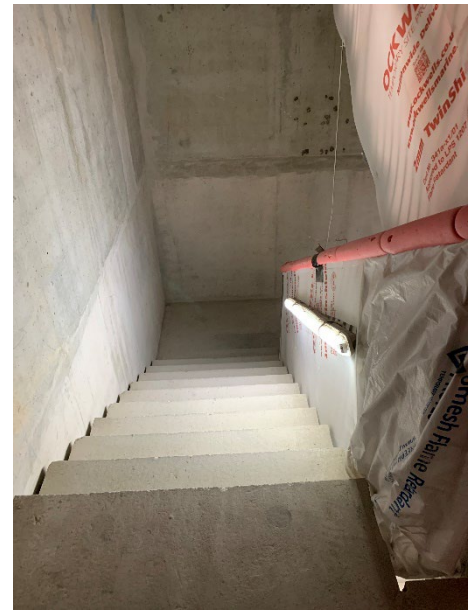
- To meet robustness requirements simply and efficiently, with no additional measures or expenditure.
- Flights and landings were able to be precision ‘dropped into place’ in sync with the programme; hook time reduced.
- Rapid installation of the stairs was possible, providing safe access and egress for construction works; less time spent working at height.
- Material usage and wastage was minimised (compared to conventional steel angles). Fire protection was inherent.
- Task complexity was reduced; less skilled labour required.
- By eliminating RSAs, clean architectural lines were achieved.



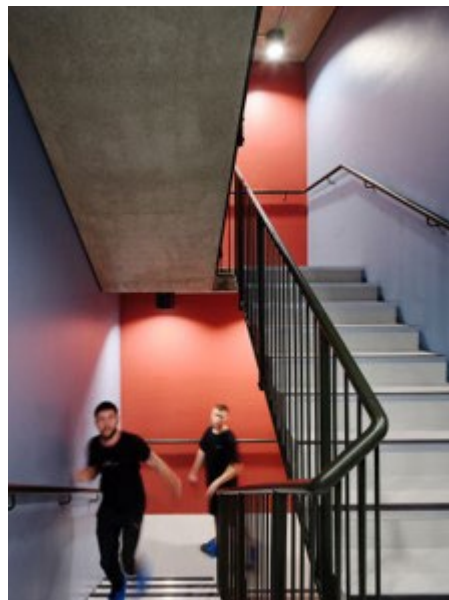
Top of landing showing grouted-in RVK hopper



Clean, uncluttered soffit of landing



Stairwell under construction



Completed main stairwell

RVK connectors are quickly and easily deployed (via a hopper at landing surface) and ideal for landings which are screeded to level, painted or have other floor coverings.

Outcome

On site, the buildings rose at the rate of a floor a week. Two cranes were used for the entire process. According to Mace and Hawkins\Brown, adopting HRS led to 25% programme savings, a 40% reduction in site traffic (which entailed less environmental disruption, noise, and pollution), 75% less waste and 15% reduction in embodied carbon across the project.