



Case Study

ICL/TSS_RVK/STUDY/WHIT/01/0923

Project
The Whiteley, Bayswater W2

Architect
Foster + Partners

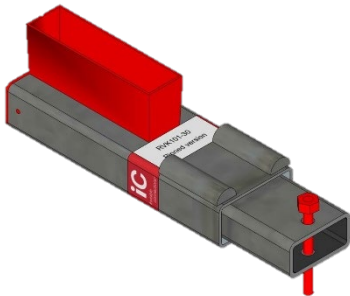
Engineer
AKT II

Main Contractor
Laing O'Rourke

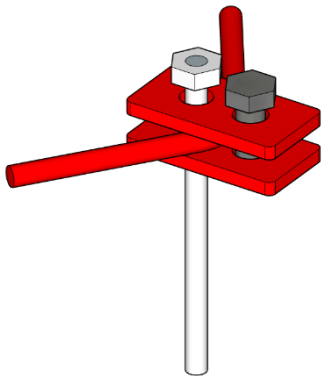
Concrete Frame Contractor
Expanded

Precaster
Forterra / Bison Precast

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



Twin Wall Extension Piece



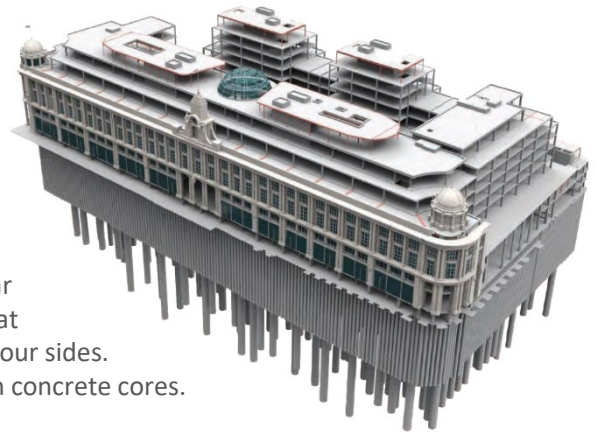
Project description

Situated in the heart of London, the regeneration of this iconic London landmark creates a mixed-use development of over 1 million sq. ft. The Whiteley includes 139 private residences, 20 new shops, cafes and restaurants, a central public courtyard, a car park, bowling alley, cinema, gym, hotel and spa, as well as multiple roof gardens and terraces.

Designed by award-winning architects, Foster + Partners, the project targets a BREEAM rating of 'Excellent', demonstrating its exemplary standards of sustainable and inclusive urban design and architecture.

To provide greater certainty for the client and to minimise disruption for the local community, an offsite manufacturing approach was adopted.

The redevelopment consisted of nine storeys above ground and three levels of basement. The historic Grade II art deco façade was retained and extended.

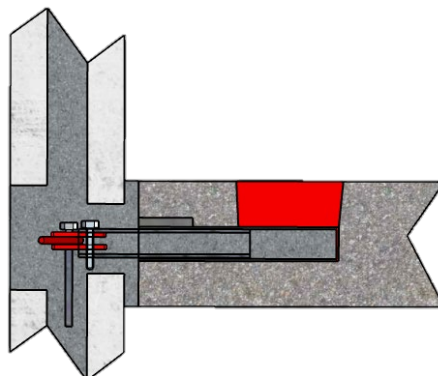


The site formed a rectangular box with a large clear space at the middle and buildings at four sides. Stability is provided by seven concrete cores.

Our role

The architect's design called for a fair-faced finish to the interior of the concrete cores. Core walls were constructed either in twin wall (ground floor and above), or a mix of solid wall and twin wall (basement).

The challenge for Invisible Connections was to provide a support solution which both anchored the landings to the walls, and achieved a blemish-free wall finish inside the core - and which also could be consistently applied to all 'twin wall to landing' connections, so as to meet the contractor's concern for cost savings and speed of installation.



Our solution involved extending RVK pinned telescopic connector inners into recesses already built into the twin walls (during manufacture) from inside the core.

Then, from outside the stair core, a Twin Wall Extension Piece (with an integral reinforcement tail) was attached to the telescopic connector inner. Finally, the anchorage pin could then be inserted to the outer hole of the extension piece, before grouting.

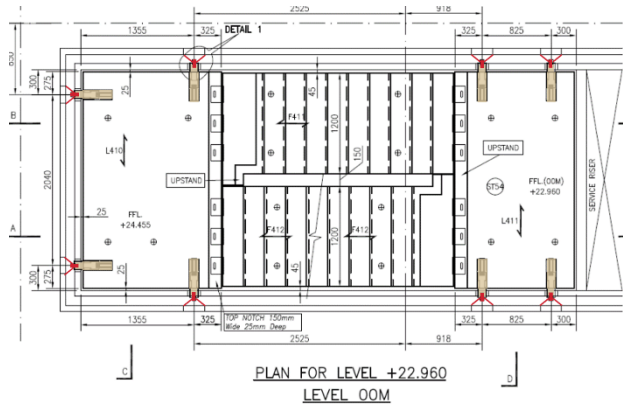


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About Invisible Connections

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.

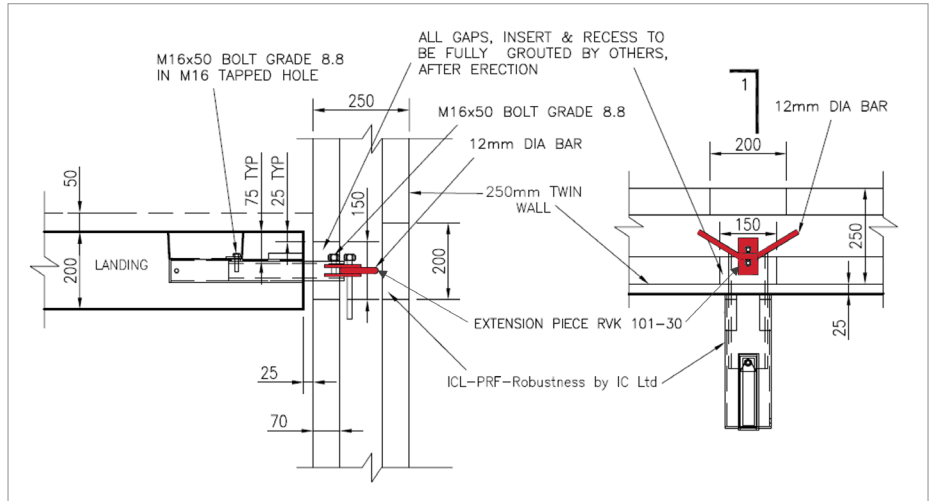
All our products meet industry demands for improved safety, construction efficiency and cost competitiveness.



Key:
 RVK 101-30 PIN connector
 Twin wall extension piece

Pinned (PIN) connectors (PIN) anchor the precast element to the core wall, in line with PD6687-1 requirements.

Pinned connectors were necessary where the core design meant that stairs could only be supported off two walls.



Section and plan view showing arrangement of Twin Wall Extension Piece and RVK 101-30 telescopic connector

Installation proved to be quick and easy. The interior walls were left with a flawless finish above and below the landings. Once fully grouted, holes outside the core were covered with plaster / plasterboard as specified.

Outcome

Our solution provided the architect with the desired blemish-free finish to the inside of the core.

Structural requirements of PD6687-1 were fulfilled simply and efficiently.

Consistency of method enabled rapid installation of the stairs and landings, delivering programme efficiencies whilst also providing a safe means of circulation throughout the building for follow-on trades.



Outside of the stair core showing recesses built into the twin wall



Pockets in twin walls ready to receive RVK connectors at The Whiteley



RVK connectors (e.g. circled) support precast landings off core walls prior to grouting

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