

Project

Town House, Kingston University

Architect

Grafton Architects

Engineer

AKT II

Main Contractor

Willmott Dixon

Concrete Frame Contractor

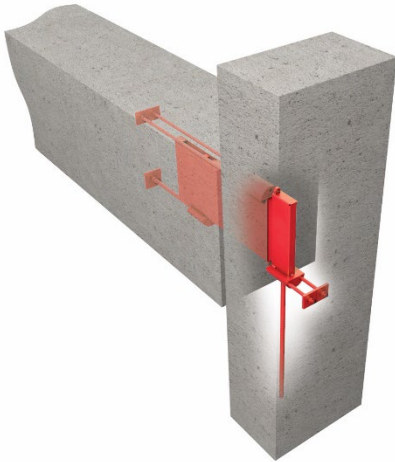
PCE Hybrid

Precaster

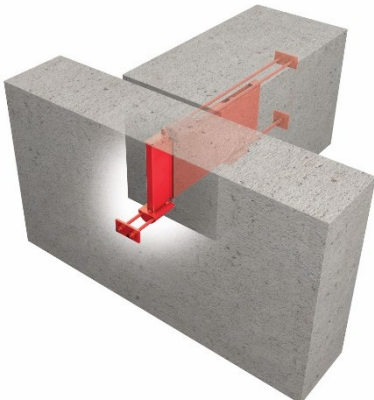
Techrete

Product(s) supplied

BSF Beam to Column Connectors



BSF Beam to Beam Connectors



Project description

The 2021 RIBA Stirling Prize winning Town House is a £50m teaching building which provides Kingston with a vibrant, elegant and inspiring landmark. Housing the university's library and archives, dance studios, theatre, quiet learning spaces as well as publicly accessible cafes, roof terrace and a covered courtyard, the innovative design seamlessly connects the student population with the wider community.

A series of concrete loggias form the grand yet contemporary front façade.

Inside, polished concrete flooring contrast with wooden stairs leading to open plan mezzanines. Space and natural light are maximised throughout.



Precast concrete rationale

A precast concrete structural frame was decided on early in the project for environmental, aesthetic and commercial reasons. Adopting offsite construction methods also alleviated challenges of the urban site location.

Roger Forsdyke, MD of Willmott Dixon in London & South explains:

“From the outset we knew that the exposed concrete frame would be a key feature of this landmark building... The decision was made to switch from an in situ concrete solution to a precast, manufactured offsite solution. This would ensure a quality finish could be achieved offsite and easily assembled on a tight site constrained by residential properties and the live main campus building. The precast element was also a neat solution for the concealment of essential building services that were necessary to provide the electrical and cooling services for the entire building”

Design innovation reduces carbon impact

A reduced-carbon concrete mix (36 per cent GGBS replacing OPC) was used for the structural frame to significantly lower the project's carbon footprint. Using precast concrete lessened the programme impact of slower curing times and further decreased the carbon footprint by reducing waste (compared to pouring concrete in-situ). Casting offsite enabled the same look and consistency as Portland stone to be achieved (a planning requirement).

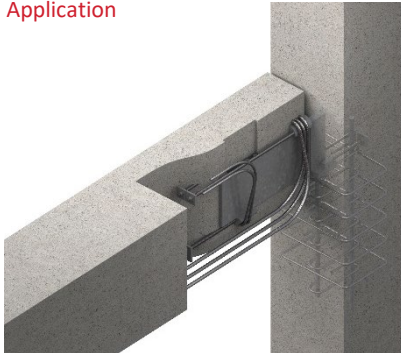
Ian Edwards, director of delivery at Willmott Dixon adds:

“The precast concrete frame is integral to Town House’s design. Exposed concrete runs throughout the entirety of the building and there are no surface fixings meaning it is open to close scrutiny. Perfection was paramount - there was no room for blemishes or air pockets, which would have impacted on the sleek finish”

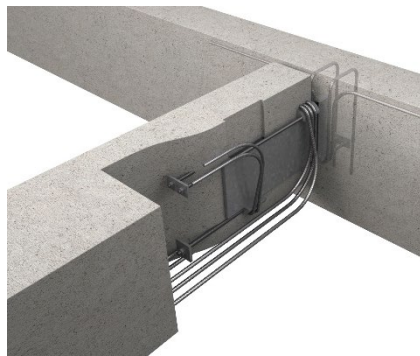


Case Study

Application



BSF BC



BSF BB

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.

Invisible Connections Ltd

Unit 6, Thame Forty
Jane Morbey Road
Thame, Oxfordshire OX9 3RR

+44 (0)1844 266000

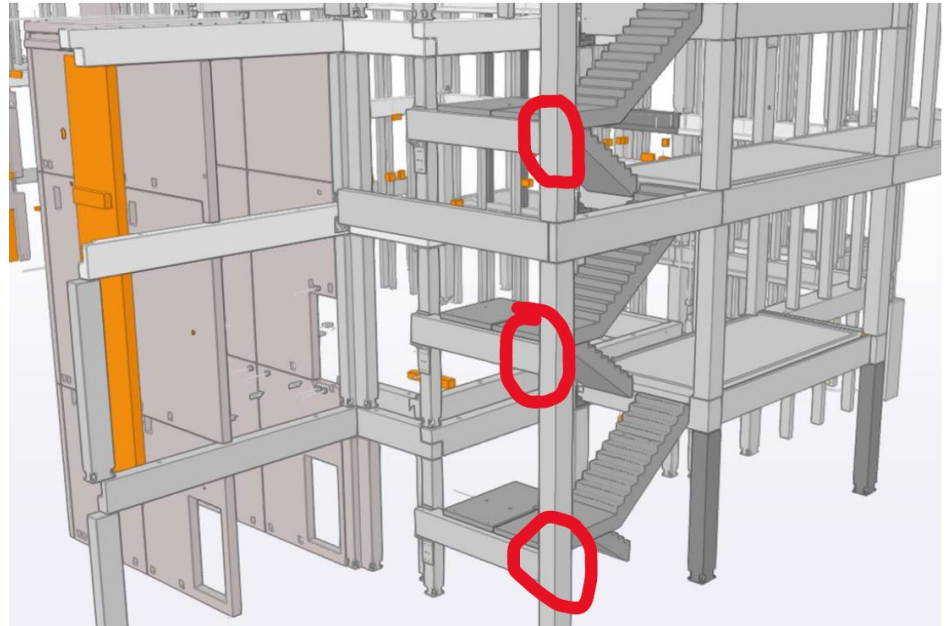
sales@invisibleconnections.co.uk

invisibleconnections.co.uk

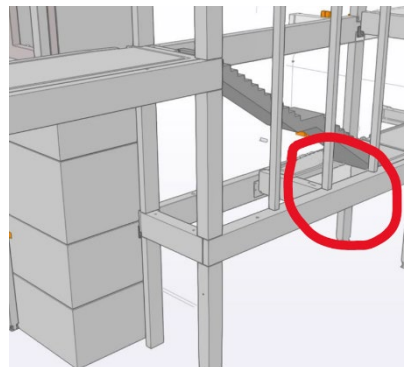
Our role

High load BSF BC and BB connectors were used to join beams to columns, and beams to beams at multiple locations in the colonnade.

By eliminating the requirement for corbels, BSF telescopic connectors create clean architectural lines and maximise space.



Choosing BSF connectors offers advantages over traditional corbels:



- Provides an invisible means of connection, enabling the architect to achieve their desired finish;
- Can result in thinner, shorter and less complex columns, reducing material usage and embodied carbon;
- Simplifies column detailing, manufacture and transportation;
- Connects beams to beams, or beams to columns, and can accommodate round columns or skewed angle connections.

Outcome

Kingston University's Town House won the prestigious Stirling Prize in 2021. Judges praised the scheme for being 'a theatre for life' and 'well deserving of international acclaim and attention.'

In 2022, Town House won the EU Prize for Contemporary Architecture - Mies van der Rohe Award

celebrates excellence
contribution to sustainable
development and citizens' well-being.

The scheme achieved BREEAM Excellent in design, with embodied carbon reduced through structural efficiencies.

