

Product Selection Guide

Precast Concrete Stair Landing Connections

For technical and practical advice
 T +44 (0)1844 266000
 E technical@invisibleconnections.co.uk
 W invisibleconnections.co.uk

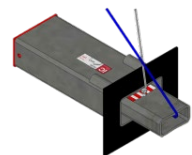
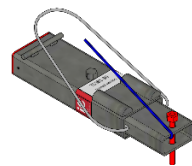
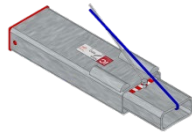
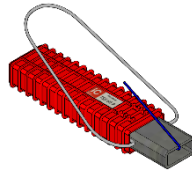
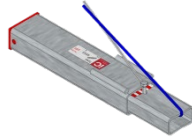
TSS Telescopic Connectors

The ultimate invisible connection for precast concrete stair landings.

Cord operated TSS connectors leave no blemish on the landing surface and are ideal for uncovered fair-faced concrete surfaces.

Hot dip galvanised options available, for smoother operation and corrosion resistance.

An elegant alternative to traditional RSAs or corbels.



Product	Features	Benefits
TSS 41 STD Use with REDiBOX PRF-STD (standard version)	Small, compact connector for lighter loads up to 40kN and stair landings of thickness $\geq 150\text{mm}$.	Cost-effective solution for thinner stair landings.
TSS 60P STD Use with REDiBOX PRF-STD (standard version)	Slim design enables thin landings and stair thicknesses $\geq 120\text{mm}$ (full capacity 170mm). Capacity up to 60kN. Recycled HDPE outer.	Sustainable, economical and lightweight connector for lighter loads.
TSS 101 STD Use with REDiBOX PRF-STD (standard version)	Connector capacity up to 80kN in a 200mm thick (min.) landing, increasing to 100kN in a 265mm thick landing.	Versatile choice for most stair landing applications.
TSS 81-30 PIN Use with REDiBOX PRF-PIN (pinned version)	Where walls are located only on 2 sides of landing, connector has to be pinned to wall to meet robustness requirements, providing axial capacity $\leq 30\text{kN}$.	Robustness requirements achieved where only 2 walls are available for connection.
TSS 102 STD Use with REDiBOX PRF-STD (standard version)	Incorporates sound deadening rubber composite between sliding components and landing/wall.	Minimises step-sound vibration from stairwell into adjacent rooms, for high specification applications.

Product Selection Guide

Precast Concrete Stair Landing Connections

For technical and practical advice
 T +44 (0)1844 266000
 E technical@invisibleconnections.co.uk
 W invisibleconnections.co.uk

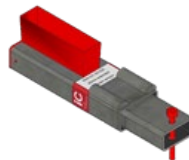
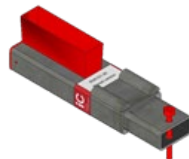
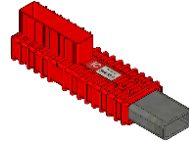
RVK Telescopic Connectors

Primarily intended to support precast stair landings off core walls.

The contractor's choice for easiest site deployment due to popular bolt ejection method.

Supplied 'black' as standard (also available galvanised on request). Sliding inner tube is deployed by a bolt mechanism, accessible via PVC hopper at landing surface.

Cost-effective, rugged solution, typically for landings which are screeded to level or which have other floor coverings.



Product	Features	Benefits
RVK 60P STD Use with REDiBOX PRF-STD (standard version)	Slim design enables thinner landings and stair thicknesses $\geq 120\text{mm}$ (full capacity 170mm). Capacity up to 60kN . Recycled HDPE outer.	Sustainable, economical and lightweight connector for light loads.
RVK 101 STD Use with REDiBOX PRF-STD (standard version)	Connector capacity up to 80kN in a 200mm thick (min.) landing, increasing to 100kN in a 265mm thick landing.	Popular and default choice for most stair landing applications.
RVK 101-30 PIN Use with REDiBOX PRF-PIN (pinned version)	Where walls are located only on 2 sides of landing, connector has to be pinned to wall to meet robustness requirements, providing axial capacity $\leq 30\text{kN}$.	Robustness requirements achieved where only 2 walls are available for connection.
RVK 101-30-E20 PIN Use with REDiBOX PRF-PIN (pinned version)	This connector has a longer inner tube section, suitable where design requires a large air gap $\leq 40\text{mm}$ between landing and wall. Connector capacity $\leq 60\text{kN}$.	Spans large air gap between landing and wall, whilst maintaining secure embedment (in wall).

Product Selection Guide

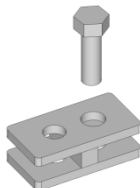
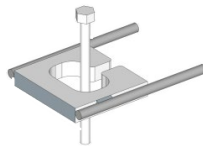
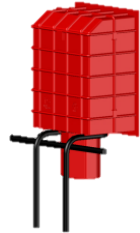
Wall Recess Formers and Stair Landing Accessories

For technical and practical advice
 T +44 (0)1844 266000
 E technical@invisibleconnections.co.uk
 W invisibleconnections.co.uk

REDiBOX® Permanent Recess Formers
 Purpose-designed 'left-in' components to simply and easily form recesses in precast or in situ concrete walls, avoiding the need to 'dig out' polystyrene or timber.

Accommodates different connector layouts. Fully sealed and sized to complement the sliding inner sections of TSS, RVK and DTS connectors (all load ranges), prior to receiving cementitious grout-fill.

Retrofit Accessories
 Remedial solutions for the odd occasion when something doesn't go quite to plan.



Product	Features	Benefits
REDiBOX PRF-STD Use in conjunction with all 'STD' connectors: TSS 41, TSS 101, TSS 102 and RVK 101 (also DTS range, when REDiBOX is rotated through 90°).	Connector and recess former are concealed entirely within the floor. Suitable when the landing can be fixed on three sides.	Provides generous tolerance for installation of stair landings: +/-35mm vertically, +/-40 horizontally
REDiBOX PRF-PIN Use in conjunction with all 'PIN' connectors: TSS 81-30, RVK 101-30 and RVK 101-30-E20.	Incorporates tie-pin to provide robustness compliance when used in conjunction with pinned connectors. Especially suitable when the landing can only be fixed on two ends.	Provides generous tolerance for installation of stair landings: +30/-10mm vertically, +/-40 horizontally
Pin Linkage Unit (for pinned applications) Used in conjunction with TSS 81-30, RVK 101-30 and RVK 101-30-E20.	Retrofitted into a concrete wall when a core hole is drilled.	A remedial solution for pinned connection details where recesses have been omitted or inaccurately positioned.
Extension Piece (for pinned applications) Used in conjunction with TSS 81-30, RVK 101-30, RVK 101-30-E20 and REDiBOX PRF-PIN.	Retrofitted between connector and recess former (pinned version) where distance between wall face to recess former pocket is larger than expected.	A remedial solution for pinned connection detail where recess has been set too deep into the wall, or where there is horizontal misalignment between the connector and recess former pocket.

Product Selection Guide

Medium Load Connections

For technical and practical advice
 T +44 (0)1844 266000
 E technical@invisibleconnections.co.uk
 W invisibleconnections.co.uk

DTS Telescopic Connectors

A versatile and structurally efficient connector for loads up to 150kN.

Originally designed for Double Tee floors, but also a perfect solution for small beam connections.

Cord operated to leave a blemish free surface.

Can accommodate round columns or skewed angle connections.



Product	Features	Benefits
DTS 120 Use with REDiBOX PRF-STD (standard version)	Vertical shear capacity up to 120kN	Mid load telescopic connector for miscellaneous applications (including Double Tee flooring, slabs and beams).
DTS 150 Use with REDiBOX PRF-STD (standard version)	Vertical shear capacity up to 150kN	An economical choice for load applications which fall between the performance parameters of TSS/RVK stair landing connectors and BSF beam connectors.

Product Selection Guide

High Load Connections

For technical and practical advice
 T +44 (0)1844 266000
 E technical@invisibleconnections.co.uk
 W invisibleconnections.co.uk

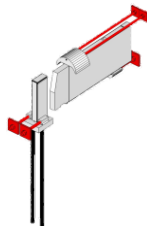
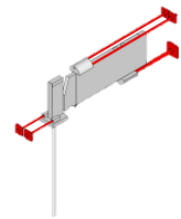
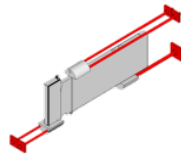
BSF Telescopic Connectors

Heavy duty yet elegant frame connection system for loads up to 1100kN.

Connects beams to beams or beams to columns, eliminating corbels or bracketry.

Accommodates high vertical shear forces.

Also suitable for round columns or skewed angle connections.



Product	Features	Benefits
BSF 225 BB (beam to beam version)	Vertical shear capacity up to 225kN	A neat and undetectable method of connecting horizontal beams to each other, whilst accommodating high vertical shear forces. A steel housing cast-in along the axis at the end of the supported beam contains a heavy duty steel 'knife' (bridging plate). A second steel housing cast-in across the primary beam acts as a receiving unit for the knife which is telescopically deployed. The knife spans the joint between both beams, connecting them in shear.
BSF 300 BB (beam to beam version)	Vertical shear capacity up to 300kN	
BSF 450 BB (beam to beam version)	Vertical shear capacity up to 450kN	
BSF 700 BB (beam to beam version)	Vertical shear capacity up to 700kN	
BSF 1100 BB (beam to beam version)	Vertical shear capacity up to 1100kN	
BSF 225 BC (beam to column version)	Vertical shear capacity up to 225kN	An attractive alternative to precast corbel supports which are complex to detail, expensive to form and make precast columns challenging to transport. In good engineering principle, the BSF transfers high loads close to the centre of the column, avoiding the load eccentricity inherent with corbel (and other similar) support methods. Use with BOLT2BOX where multiple connectors converge at the same height.
BSF 300 BC (beam to column version)	Vertical shear capacity up to 300kN	
BSF 450 BC (beam to column version)	Vertical shear capacity up to 450kN	
BSF 700 BC (beam to column version)	Vertical shear capacity up to 700kN	
BSF 1100 BC (beam to column version)	Vertical shear capacity up to 1100kN	

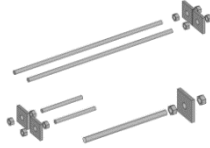
Product Selection Guide

BSF Accessories

For technical and practical advice
 T +44 (0)1844 266000
 E technical@invisibleconnections.co.uk
 W invisibleconnections.co.uk

BSF Accessory Kits

Attached by the precaster to BSF beam and column components.



BOLT2BOX

Where multiple beams join a column at the same height, a BOLT2BOX in the column prevents reinforcement and lateral restraints colliding.



Product	Features	Benefits
BSF Accessory Kits A range of kit packages for standard BSF applications.	High strength threaded studding, nuts and plate washers which the precaster attaches to BSF beam and column components. Column kits may be substituted by the BOLT2BOX.	Anchors BSF beam and column components to withstand potential concrete shrinkage forces.
BOLT2BOX Used in conjunction with BSF BC connectors and 2" or 3" U-bolts.	Accommodates convergence of up to 4 beam to column connections.	Prevents collision of reinforcement and lateral restraints. BSF column components are held securely and accurately in position during casting.

Product Selection Guide

Reinforcement Continuity Strip

For technical and practical advice
 T +44 (0)1844 266000
 E technical@invisibleconnections.co.uk
 W invisibleconnections.co.uk

FERBOX®

Designed to maintain continuity of reinforcement across construction joints in reinforced concrete structures. Enables uninterrupted construction of walls to full height.

Easy, quick and reliable installation.

Our made to measure range provides optimum efficiencies by satisfying design requirements, saving costly wastage and mitigating health and safety risks.



Product	Features	Benefits
Off the shelf range	Twin-leg U-bars and single leg hook-bars offered in standard reinforcement configurations and in fixed length casings.	Speed of delivery.
Specials range	19 different bar shape configurations, almost infinitely variable to application requirements, in bar diameters 10, 12 and 16mm.	Reinforcement design requirements are met (normally without compromise) and without any cutting or wastage on site.
Straightening tool	Sized to provide adequate leverage and to be a close fit around the reinforcement. A simple tool to ensure the best quality rebend on site.	A safe method of straightening bars, which also helps to ensure straightness of reinforcement at joint interface.

Our product range continuously evolves to meet our customers' construction challenges. To stay informed, register your details at invisibleconnections.co.uk