

# Product Selection Guide

## Stair Landing Connections

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### TSS Telescopic Connectors

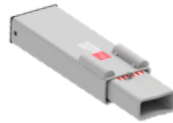
*Cord operated to deploy sliding inner tube. Hot dip galvanised as standard, for smoother operation and corrosion resistance. Cord operation means no hopper required, leaving no visible markings on top surface of landing. The TSS is ideal where no screed is intended and blemish free precast finish is required.*



**TSS 41** (standard version)  
 Use with REDiBOX PRF-STD (standard version)

Small, compact connector for lighter loads up to 40 kN.

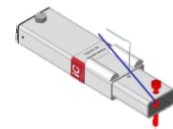
Cost-effective solution for thinner stair landings of thickness  $\geq 150$ mm.



**TSS 101** (standard version)  
 Use with REDiBOX PRF-STD (standard version)

Connector capacity up to 80 kN in a 200mm thick (min.) landing, increasing to 100 kN in a 265mm thick landing.

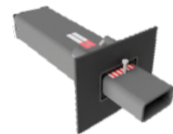
Versatile choice for most stair landing applications.



**TSS 81-30** (pinned version)  
 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  $\leq 30$  kN.

Robustness requirements achieved where only 2 walls are available for connection.



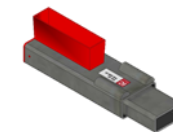
**TSS 102** (acoustic version)  
 Use with REDiBOX PRF-STD (standard version)

Incorporates sound deadening rubber composite between sliding components and landing/wall.

Minimises step-sound vibration from stairwell into adjacent rooms, for high specification applications.

### RVK Telescopic Connectors

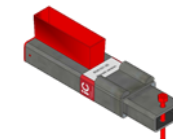
*Supplied 'black' as standard (also available galvanised on request). Sliding inner tube is deployed by a bolt mechanism, accessible via PVC hopper at landing surface. Cost-effective, rugged solution, typically for screeded landings.*



**RVK 101** (standard version)  
 Use with REDiBOX PRF-STD (standard version)

Connector capacity up to 80 kN in a 200mm thick (min.) landing, increasing to 100 kN in a 265mm thick landing.

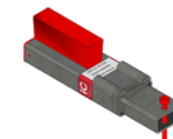
Popular and default choice for most stair landing applications.



**RVK 101-30** (pinned version)  
 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  $\leq 30$  kN.

Robustness requirements achieved where only 2 walls are available for connection.



**RVK 101-30-E20** (extended version)  
 Use with REDiBOX PRF-PIN (pinned version)

This connector has a longer inner tube section, suitable where design requires a large air gap  $\leq 40$ mm between landing and wall.

Spans large air gap between landing and wall, whilst maintaining secure embedment (in wall). Connector capacity  $\leq 60$  kN.

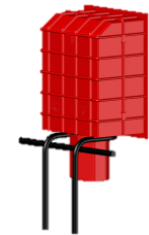
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## Stair Landing Accessories and Flight Connections

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### REDiBOX® Permanent Recess Formers

A simple means of creating wall recesses which have features and benefits to complement the TSS and RVK range of telescopic connectors for stair landing connections (can also be used with DTS connectors).



#### Product

#### Features

#### Benefits

#### REDiBOX PRF-STD (standard version)

Purpose designed 'left-in' component for creating recesses simply in precast or in situ concrete walls. Used in conjunction with TSS 41, TSS 101, TSS 102 and RVK 101 (also DTS range, when REDiBOX is rotated through 90°)

Provides generous tolerance for installation of stair landings. In contrast to traditional methods, no digging-out of polystyrene or timber is required.

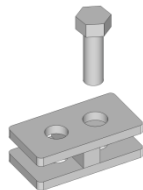
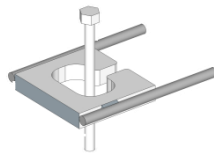
#### REDiBOX PRF-PIN (pinned version)

Purpose designed 'left-in' component for creating recesses simply, with an integral reinforced pocket (with supplied pin) for tying landings to walls. Used in conjunction with TSS 81-30, RVK 101-30 and RVK 101-30-E20.

Robustness requirements achieved where only 2 walls are available for connection.

### Retrofit Accessories

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



#### Pin Linkage Unit (for pinned applications)

Retrofitted into a concrete wall when a core hole is drilled. Used in conjunction with TSS 81-30, RVK 101-30 and RVK 101-30-E20.

A remedial solution for pinned connection details where recesses have been omitted or inaccurately positioned.

#### Extension Piece (for pinned applications)

Retrofitted between connector and recess former (pinned version) where distance between wall face to recess former pocket is larger than expected. Used in conjunction with TSS 81-30, RVK 101-30, RVK 101-30-E20 and REDiBOX PRF-PIN.

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.

### Flight to Landing Connectors

A method of connecting precast flights to precast (or in situ) landings, whilst providing adjustability and accommodating tie forces.



#### FTL Connectors

Product in development.

To be advised.

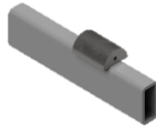
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## Medium Load Beam Connections

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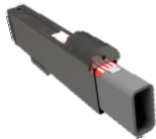
### DTF Fixed Connectors

A uniquely non-telescopic connector, originally designed to connect Double Tee precast floor elements to tops of walls and beams.



### DTS Telescopic Connectors

Versatile telescopic version of the DTF for connecting precast Double Tee floor elements, or for making medium load beam connections. A problem solver for miscellaneous applications.



Product	Features	Benefits
<b>DTF 120</b> (standard version) Use with REDiBOX PRF-STD (standard version)	Vertical shear capacity up to 120 kN	Non-telescopic mid load range connector for miscellaneous applications (including Double Tee flooring). An economical choice where telescopic functionality has no particular advantage.
<b>DTF 150</b> (standard version) Use with REDiBOX PRF-STD (standard version)	Vertical shear capacity up to 150 kN	
<b>DTS 120</b> (standard version) Use with REDiBOX PRF-STD (standard version)	Vertical shear capacity up to 120 kN	Telescopic mid load range connector for miscellaneous applications (including Double Tee flooring, slabs and beams). An economical choice for load applications which fall between the performance parameters of TSS/RVK stair landing connectors and BSF beam connectors.
<b>DTS 150</b> (standard version) Use with REDiBOX PRF-STD (standard version)	Vertical shear capacity up to 150 kN	

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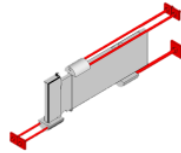
## High Load Beam Connections

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### BSF Telescopic Connectors

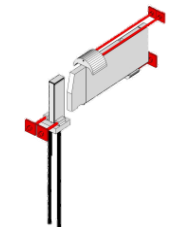
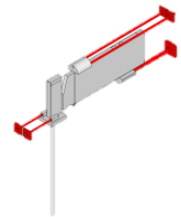
#### Beam to Beam Version

A three component system for connecting beams to beams (the end of a beam to the side of a beam). The system comprises a steel housing which is cast-in along the axis at the end of the first beam and which contains a heavy-duty steel 'knife' (bridging plate). A second steel housing is cast-in across the second beam and acts as a receiving unit for the knife which, when telescopically deployed, spans the joint between both beams - connecting them in shear.



#### Beam to Column Version

Similar to the beam to beam version, except the steel housing cast into the vertical column has integral reinforcement welded to the underside, which transfers any high shear forces into the column.



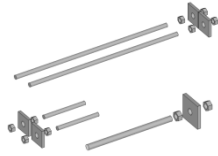
Product	Features	Benefits
<b>BSF 225 BB</b> (beam to beam version)	Vertical shear capacity up to 225 kN	A neat and undetectable method of connecting horizontal beams to each other, whilst accommodating high vertical shear forces. A problem solver for this traditional application conundrum for precast concrete frame construction.
<b>BSF 300 BB</b> (beam to beam version)	Vertical shear capacity up to 300 kN	
<b>BSF 450 BB</b> (beam to beam version)	Vertical shear capacity up to 450 kN	
<b>BSF 700 BB</b> (beam to beam version)	Vertical shear capacity up to 700 kN	
<b>BSF 1100 BB</b> (beam to beam version)	Vertical shear capacity up to 1100 kN	
<b>BSF 225 BC</b> (beam to column version)	Vertical shear capacity up to 225 kN	A pleasing alternative to the clumsiness of traditional 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.
<b>BSF 300 BC</b> (beam to column version)	Vertical shear capacity up to 300 kN	
<b>BSF 450 BC</b> (beam to column version)	Vertical shear capacity up to 450 kN	
<b>BSF 700 BC</b> (beam to column version)	Vertical shear capacity up to 700 kN	
<b>BSF 1100 BC</b> (beam to column version)	Vertical shear capacity up to 1100 kN	

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## BSF Accessories

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**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
<b>BSF Accessory Kits</b> 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.
<b>BOLT2BOX</b> 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.



**FERBOX®**  
*Provides continuity of reinforcement across construction joints, enabling uninterrupted construction of walls to full height. Easy, quick and reliable installation. A time honoured solution for concrete frame construction.*

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## Reinforcement Continuity Strip

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Product	Features	Benefits
<b>Off the shelf range</b>	Twin-leg U-bars and single leg hook-bars offered in standard reinforcement configurations and in fixed length casings.	Speed of delivery.
<b>Specials range</b>	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.
<b>Straightening tool</b>	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.

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Our product range continuously evolves to meet our customers' construction challenges. To stay informed, register your details at [invisibleconnections.co.uk](http://invisibleconnections.co.uk)