



**KINGFLOR<sup>®</sup>**  
COMPOSITE STEEL FORMWORK RANGE

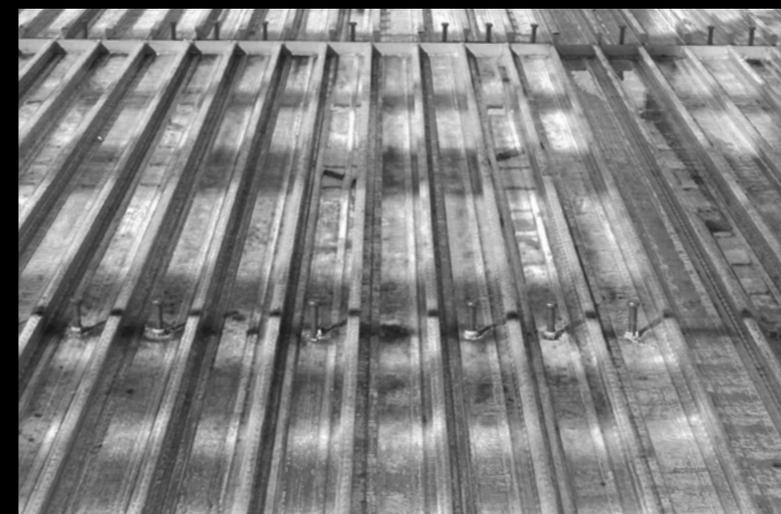
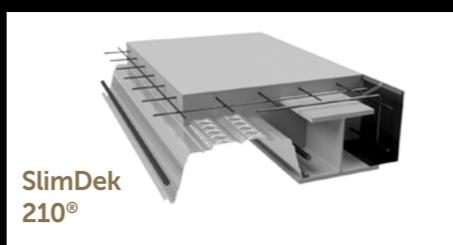
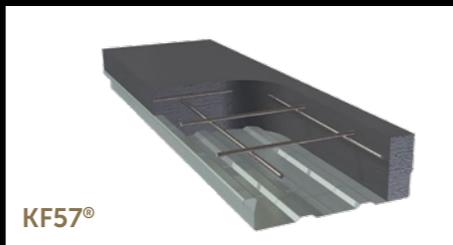
# PROFILES

Each of the five profiles in Fielders KingFlor® steel decking range have been developed to provide the most optimal flooring solution in the wide range of composite structural building construction types found in Australia.

KingFlor® steel decking provides the designer the ability to tailor a flooring solution whilst accessing the inherent benefits of steel decking over labour and material intensive ply timber and lost formwork alternatives. KingFlor® is manufactured from DECKFORM® by BlueScope Steel.

Supported by industry leading design software and Fielders design assistance the Fielders KingFlor® range can provide;

- Floor cycle time savings
- Construction schedule savings
- Material savings in concrete and reinforcement
- Savings in labour and site administration costs to your next project
- Concrete and steel framed building solutions.





## SLIMDEK 210®

LONG SPANS AND LOWER FLOOR DEPTHS

Fielders SlimDek 210® is a long spanning decking profile capable of achieving unprecedented unpropped spans during construction of up to 7m and propped spans of over 10m. When combined with Fielders SlimFlor® construction system, floor construction depth can be reduced to as little as 290mm.

- Large unpropped spans: Less propping congestion and easy access to the underside of the slab. This leads to reduced floor cycle times and overall construction schedule savings.
- Use of patented ReLok® system to maximise composite action.
- SlimFlor® construction: Floor system depths as low as 290mm.
- Concrete savings: SlimDek 210® effectively saves up to 170mm off the overall slab depth when compared to conventional concrete slabs. This represents significant savings in concrete costs, supporting framework and foundation loads.
- Creates fire and acoustic floor system solutions.
- Ideal in steel or concrete frame buildings.



### PROJECT SPECIFICS:

20,000m<sup>2</sup> of KingFlor®  
SlimDek 210®

### MATERIALS:

KingFlor® SlimDek 210®

### SYSTEM:

Fielders SlimDek 210®  
SlimFlor® system

### BUILDER:

Synergy Construct

## UNILODGE, GRAY ST, ADELAIDE

Unilodge is purpose built student accommodation situated in the western heart of Adelaide's CBD. It is a 17 floor structure; consisting of 16 floors of rooms and a roof deck, offering boutique accommodation for 772 students.

Using the SlimFlor® system incorporating SlimDek 210® 1.2mm and 1.5mm sections were used to achieve spans of 6 and 7m respectively. This allowed for elimination of propping costs and reduced construction times.

Faced with a challenging construction schedule Fielders worked with the design team to incorporate ASB (UC) steel beams with SlimDek 210® to create lower profile floor zones and reduce the construction schedule.

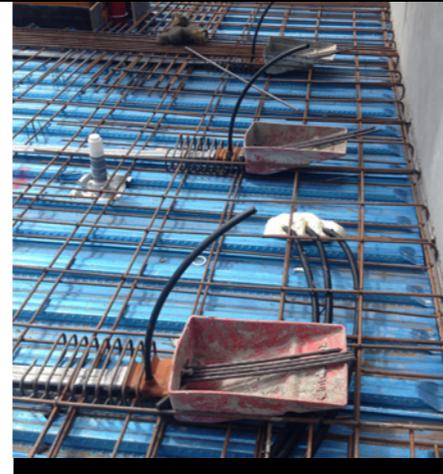


## KF40®

ECONOMICAL PROFILE FOR REAL SAVINGS

Fielders KF40® is a revolutionary steel formwork solution suitable for concrete slabs in all types of construction. KF40® combines the performance of a traditional flat pan profile with the unmatched economy and concrete saving of a trapezoidal deck.

- SquashCut™ ends: No end caps needed. Also provides rigid and secure platform during construction.
- Unique off-set lap: Enables shear studs to be placed centrally in the pan in the most optimal position.
- Unique profile: Concrete savings up to 40kg/m<sup>2</sup> (16mm off slab depth).
- Lower 40mm rib height: Suitable for post-tensioning ducts.
- Wide 742mm cover: Providing an economical decking solution.
- Strong re-entrant features: KF40® has been specifically designed to provide a strong and reliable shear bond performance giving strong composite slabs.



**PROJECT SPECIFICS:**  
70,000m<sup>2</sup> of KingFlor® KF40®

**MATERIALS:**  
KingFlor® KF40®

**ARCHITECT:**  
Koichi Takada  
Allen Jack + Cottier

**CONTRACTOR:**  
Crown International

## V BY CROWN, PARRAMATTA

V by Crown is a world-class apartment tower recently constructed in Parramatta, NSW. The \$309m residential apartment building soars an impressive 29 storeys high and is superbly finished with a luxurious glazed mirrored exterior.

Fielders were contracted by Crown International and Allen Jack & Cottier Architects to provide multiple solutions including 70,000m<sup>2</sup> of KingFlor® KF40® steel framework for the new development.

KingFlor® KF40® was chosen for this project due to its trapezoidal shape saving the project 16mm of concrete (1120m<sup>3</sup> of concrete) across the entire project of 70,000m<sup>2</sup>. KF40®'s unique design with wider coverage will not only save on preparatory costs, it also allows for the floor laying to be executed faster.



## KF70®

LARGER SPANS FOR GREATER SAVINGS

Fielders KF70® is a market leading steel formwork solution for composite concrete slabs in concrete and steel-framed construction. It's the answer to increased market demand for a lightweight profile capable of large spans. The KF70® profile displaces 26mm of concrete from the total slab depth to achieve a lightweight slab solution.

- Significant saving in concrete costs, supporting framework and foundation loads.
- SquashCut™ ends: No end caps needed. Also provides rigid and secure platform during construction.
- Unique off-set lap: Enables shear studs to be placed centrally in the pan in the most optimal position.
- Large unpropped spans: Less propping congestion and easy access to the underside of the slab.
- Strong re-entrant features: KF70® gives a strong and reliable shear bond performance making strong composite slabs.
- KF70® effectively saves 26mm of concrete off the overall slab depth by concrete volume compared to conventional slabs.



## CROWN TOWERS, PERTH

Fielders worked in collaboration with architecture firm, YWS, and builder, Brookfield Multiplex, on the \$750m, 500 room expansion of the Crown Towers Perth. Fielders were commissioned to supply the building with 20,000m<sup>2</sup> of KingFlor® KF70® steel formwork, which was used for its lightweight large span profiles.

Fielders KingFlor® KF70® was the solution of choice and specified by Brookfield Multiplex for its cost efficient composite steel

formwork system, due to its longer span, deeper profile and easy installation, in comparison to other formwork options.

One of the major benefits of using Fielders KingFlor® KF70® was the ability to install the sheets in a small space restricted by scaffolding as well as the significant cost savings the profile offers. Due to restricted space to install, the contractors were able to lay the sheeting from the underside of the platform and then crimp the sheets once the area above was clear.

### PROJECT SPECIFICS:

20,000m<sup>2</sup> of KingFlor®  
KF70® 1.00mm BMT  
G550 steel

### MATERIALS:

KingFlor® KF70®

### ARCHITECT:

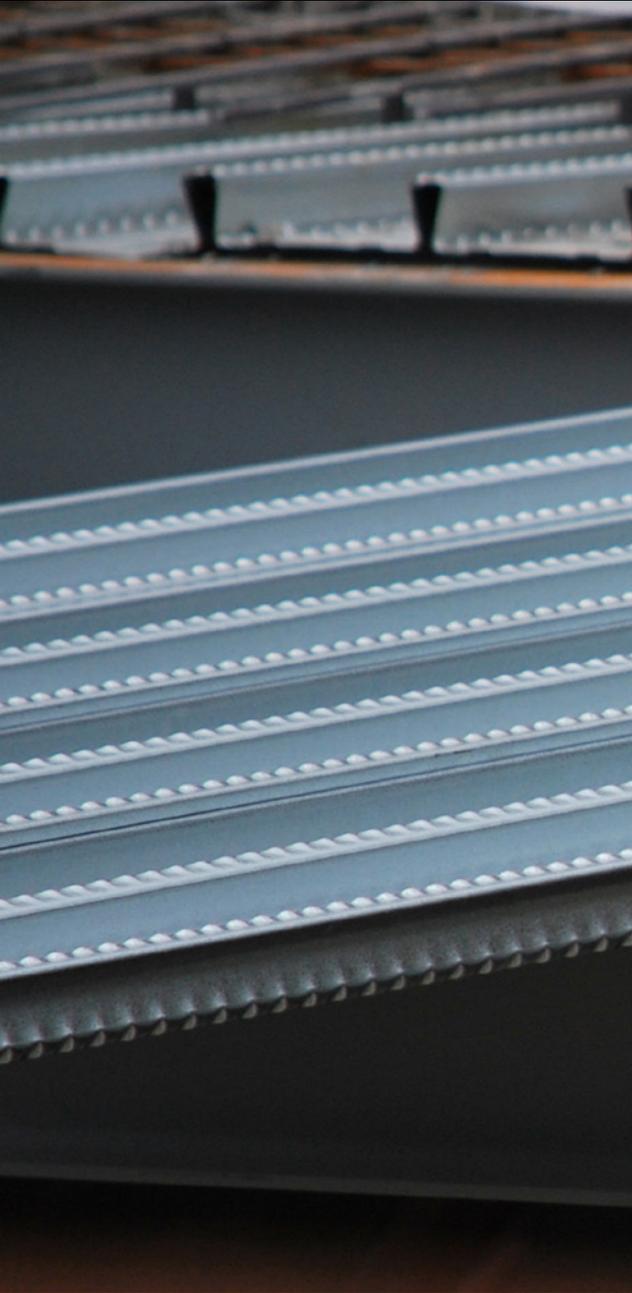
YWS

### BUILDER:

Brookfield Multiplex

### CONTRACTOR:

Perth Rigging Company



## RF55®

A STRONG AND RELIABLE SOLUTION

Fielders RF55® is a traditional flat pan or 're-entrant' profile. It provides unmatched performance in suspended concrete slabs. Used in both concrete and steel frame construction it utilises patented technology to achieve superior spanning capabilities, less deflection and greater composite strength than similar re-entrant profiles.

- Stronger composite strength: RF55® is stronger than similar decks due to the patented ReLok® corner embossments. ReLok® develops a strong mechanical interlock with the concrete slab.
- Greater spanning capacities: RF55® is stronger than similar decks in positive bending and end shear due to the dovetail ribs which resist lateral deflection.
- RF55® is available in two sheet widths. The traditional 600mm wide cover, 3 pan (3P), and the easy to handle, 400mm wide cover, 2 pan (2P).
- The RF55®-2P is equivalent in all aspects technically to the RF55®-3P. Similarly, the recommendations for RF55® in construction also apply to both RF55®-3P and RF55®-2P.



## 480 QUEEN STREET, BRISBANE

Constructed as Brisbane's first steel tower in 30 years, 480 Queen Street is a premium grade commercial office development incorporating a publicly accessible pedestrian street and elevated park for Brisbane's Central Business District.

KingFlor® RF55® was chosen for the Queen Street project due to its superior spanning capability and lower preparatory costs. RF55®'s reduced need for temporary props allowed a fast-track construction to assist the builders in on-time completion.

The supply of the KingFlor® RF55® decking profile commenced in 2014.

The entire development was completed and open to the public in February 2016.

### PROJECT SPECIFICS:

68,000m<sup>2</sup> of KingFlor® RF55®

**MATERIALS:** KingFlor® RF55®

**ARCHITECT:** BVN

**STRUCTURAL ENGINEER:** Aurecon

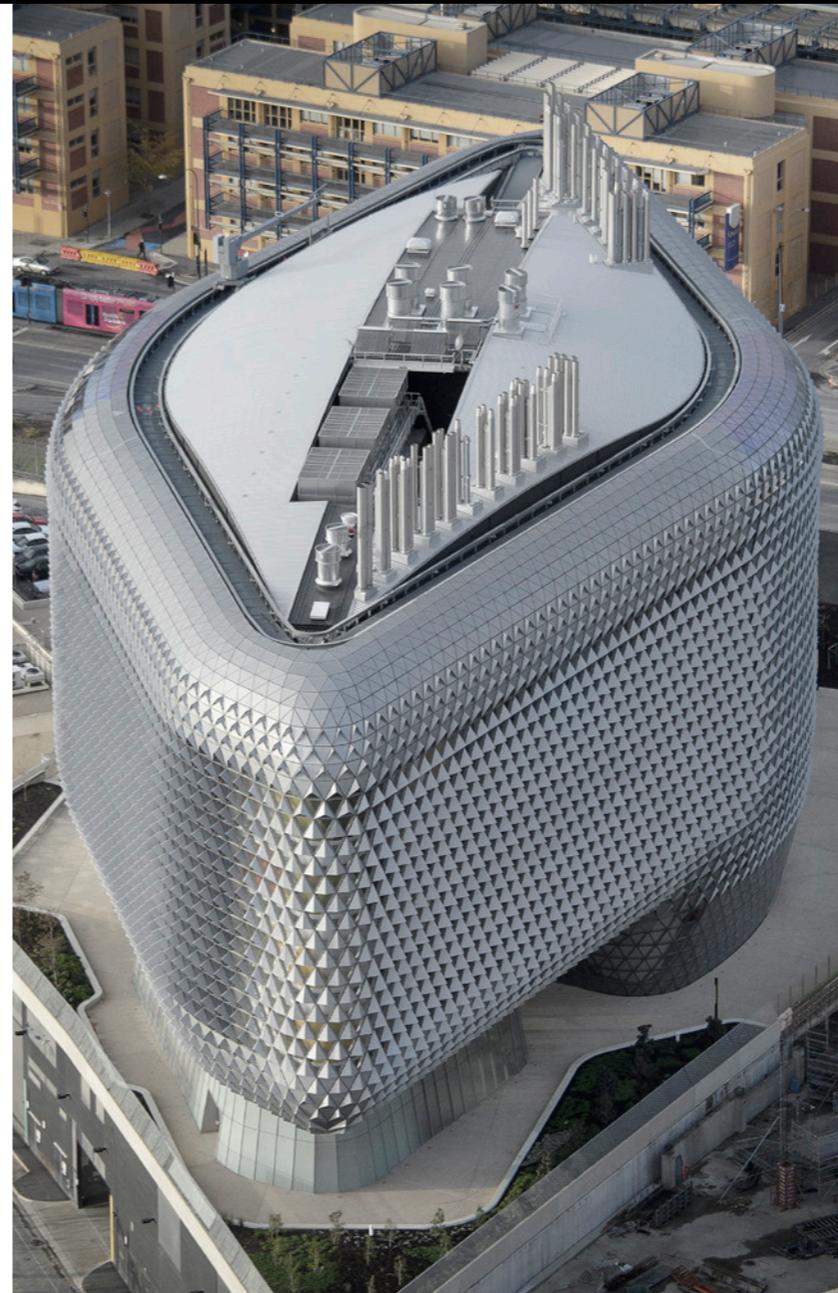


## KF57®

INSTALLATION MADE EASY

Fielders KF57® provides steel formwork solutions suitable for composite concrete slabs in concrete and steel framed construction. Light, easy to use, steel decking designed to combine with a concrete slab to produce a composite concrete slab system. KF57® incorporates an improved deck profile with deeper pan stiffeners.

- Permanent composite formwork system: Once laid, KF57® becomes a permanent part of the slab, eliminating the need for formwork stripping.
- Unique profile: Wide pans allow for clear access for in-floor services.
- Minimal propping: Less propping congestion and easy access to the underside of the slab.
- Supplied pre-cut to length, with 300mm wide cover: Quick to install.
- Reinforcing mesh can be laid directly on to the ribs: In many applications there is no need for mesh support stools.
- Closed rib profile, fully embedded in concrete slab: Major reduction in fire reinforcement, designed to provide a strong and reliable shear bond performance giving strong composite slabs.



## SOUTH AUSTRALIAN HEALTH AND MEDICAL RESEARCH INSTITUTE

The \$200 million South Australian Health and Medical Research Institute (SAHMRI) building in Adelaide's CBD has redefined the city's north-western skyline. Designed by architectural firm Woods Bagot, the world-class building was constructed to house up to 700 researchers as the state's leading medical research facility.

Fielders were contracted to provide 3,000m<sup>2</sup> of KingFlor® KF57® structural formwork, for the new development. It was chosen for the SAHMRI building due to its longer spanning capability and lower preparatory costs. KF57®'s reduced need for temporary props allowed a fast-track construction to assist the builders in on-time completion.

KingFlor® KF57® was installed in the SAHMRI building throughout the floor-by-floor construction of the complex.

**PROJECT SPECIFICS:** 3,000m<sup>2</sup> of KingFlor® KF57®

**MATERIALS:** KingFlor® KF57®

**ARCHITECT:** Woods Bagot

**CONTRACTOR:** System Formwork



## PT PLUS™

### DESIGN SOLUTIONS

In the past, due to a lack of research, Australian structural design engineers have often completely ignored the presence of steel decking, foregoing many of its benefits and ignoring potential problems. Working with the structural engineering faculties of leading Australian Universities, Fielders have lead research into the behaviour of prestressed and post-tensioned composite floors incorporating steel decking. This research has led firstly to the development of partial shear connection strength theory and from that theory, sound models and methodologies for strength design of post-tensioned composite slabs.

Fielders have used these methodologies to develop structural design tools for engineers to support the KingFlor® range.

### PT PLUS™ MOMENT CAPACITY TABLES

Fielders' market leading research has lead to the development of PT Plus™, a completely new set of design positive moment capacity tables to assist with the design of one-way, post-tensioned composite slabs incorporating Fielders' KingFlor® composite steel formwork profiles and bonded prestressing strands as tensile reinforcement in the slab bottom face. Fielders are able to assist structural design engineers in incorporating a PT Plus™ solution to their project, thereby **accessing potential savings by utilising the KingFlor®'s contribution to the slab.**

### KINGFLOR® DESIGNER SOFTWARE

Fielders KingFlor® Designer Suite Software is the most comprehensive and reliable way to design and specify every aspect of your suspended composite slab in both steel frame and concrete frame construction.

KingFlor® Designer Suite includes KingBeam for composite beam design with KingFlor® profiles. KingSlab and KingFire is also available on KingFlor® Designer Suite for the optimal design of KingFlor® in concrete frame construction.

Talk to your local Fielders Design Team to show you how or visit [fielders.com.au](http://fielders.com.au)



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