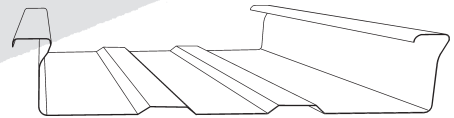


KINGFLOR®

KF57® Savings on Reinforcing Costs.



Fielders KF57®

Fielders KF57® steel formwork incorporates a closed rib profile that is fully embedded in the concrete slab. The KF57® rib exhibits excellent resistance to overheating and distortion under fire load and contributes significantly to the positive bending capacity of the slab in fire.

Fire tests conducted for Fielders by the Centre of Environmental Safety & Risk Engineering at the Victorian University of Technology show that the area of reinforcing for a KF57® slab may be reduced or eliminated compared to alternative profiles due to the contribution of the rib.

Reduction in Steel Reinforcement Area in Fire (mm²/m) - KF57®

	Base metal thickness _{bmt} (mm)		
FRL	0.60	0.75	1.00
30	209	261	348
60	199	248	331
90	228	285	381
120	217	270	361
180	267	334	446

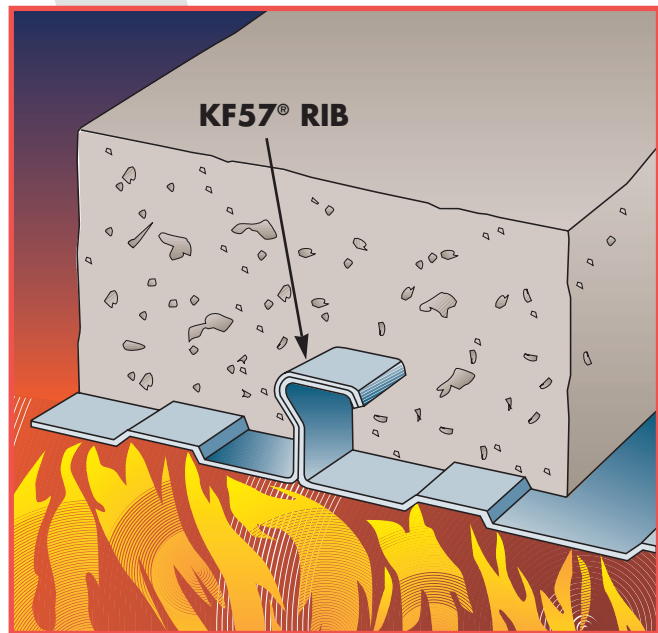
Table 1.0

The following assumptions have been made in the derivation of the values given in the table above

1. The steel reinforcement replaced is assumed to have a design yield stress of 500MPa.
2. The centroid of the steel area is 55mm above the slab soffit and located at least 30mm horizontally away from the rib.
3. Values in Table 1.0 apply to mesh and bar reinforcement.
4. Performance data can only be used for Fielders KF57 due to its unique rib geometry.

Steel area values in Table fluctuate with increasing fire resistance levels as a result of:

- The changes in rib and reinforcement temperatures with increased fire exposure time are not the same and not constant due to the different heat transfer mechanisms associated with rib and reinforcement.
- The different strength reduction factors assumed for the reinforcing steel and cold-formed sheeting.



The closed rib of Fielders KF57® profile prevents heat from entering. The thermal insulation performance of KF57® is comparable to a solid slab.

Design Procedure

Use Fielders KingFlor Designer Software to design the KF57 slab including fire design, and reduce the positive fire emergency reinforcing by the amount shown in the table above.

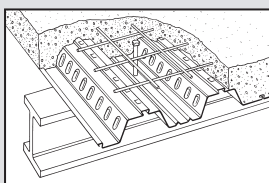


Fielders KingFlor Designer 2 Software now available online www.fielders.com.au

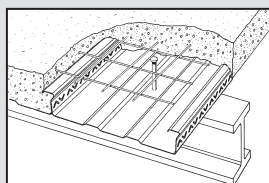


Offering Solutions to Tomorrow's Problems

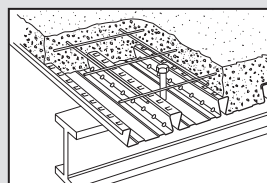
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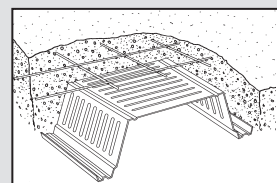
KF70®



KF57®



RF55®



CF210®