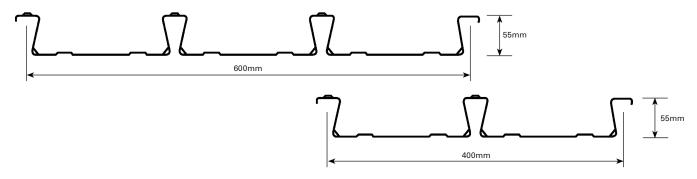


KingFlor® RF55®



Fielders RF55® is a traditional flat pan or 're-entrant' profile that provides unmatched performance in suspended concrete slabs. RF55® is used in both concrete and steel frame construction and utilises patented technology to achieve superior spanning capabilities, less deflection and greater composite strength than similar re-entrant profiles. RF55® comes complete with a range of accessories allowing for easy suspension of ceilings and services.



RF55® Features and Benefits

Feature	Benefit
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® Material Specifications

RF55® is manufactured from G550 (550 MPa Yield Stress) steel with a Base Metal Thickness (BMT) of 0.60mm, 0.75mm, and 1.00mm. The thicknesses of 0.90mm and 1.20mm BMT are also available on request. The galvanised coating thickness is a Z350 (350 g/m²) in accordance with AS 1397:2001.

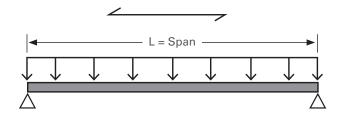
RF55® is available in two sheet widths. The traditional 600mm wide cover, 3-PAN, and the easy to handle, 400mm wide cover, 2-PAN. The RF55®-2P is equivalent in all aspects technically to the RF55®-3P. Similarly, the recommendations for RF55® in construction also apply to both RF55®-3P and RF55®-2P. Please check with your local branch as to which version applies in your state.

Material Properties	0.6 BMT	0.75 BMT	0.9 BMT	1.0 BMT
Mass Area – Average mass of 2-PAN deck per plan area (kg/m²)	8.57	10.56	12.55	13.87
Mass Area – Average mass of 3-PAN deck per plan area (kg/m²)	8.38	10.32	12.27	13.56
Mass Linear – Mass of individual 2-PAN length (kg/m)	3.43	4.22	5.02	5.55
Mass Linear – Mass of individual 3-PAN length (kg/m)	5.03	6.19	7.36	8.14
Zinc Coating (g/m²) (Z350)	350	350	350	350
Yield Strength (MPa)	550	550	550	550

RF55® Formwork/Slab Span Tables Single Span

Single Slab Span (L) on Steel support

Formwork deflection limits L/130



Slab Depth (mm)	Nu	0.6 mber of p	BMT rops per s	span	Nu		BMT props per s	span	Nu		BMT props per s	span	1.0 BMT Number of props per span				
Slab [(mm)	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3	
90	2400	[5400]	[8150]	[10850]	2700	[6700]	[10200]	[13600]	2850	[7900]	[11100]	[15100]	2950	[8150]	[11550]	[15650]	
100	2350	[5250]	[7900]	[10550]	2600	[6500]	[9900]	[13200]	2800	[7650]	[10800]	[14700]	2850	[8000]	[11200]	[15250]	
110	2250	[5150]	[7700]	[10300]	2550	[6350]	[9600]	[12850]	2700	[7450]	[10550]	[14350]	2800	[7850]	[10900]	[14850]	
120	2200	[5000]	[7500]	[10000]	2500	[6200]	[9350]	[12500]	2650	[7250]	[10300]	[14000]	2750	[7650]	[10700]	[14550]	
130	2150	[4900]	[7350]	[9800]	2450	[6000]	[9150]	[12200]	2550	[7050]	[10050]	[13700]	2650	[7450]	[10450]	[14200]	
140	2100	4750	[7150]	[9550]	2400	[5900]	[8900]	[11900]	2500	[6900]	[9850]	[13400]	2600	[7250]	[10200]	[13900]	
150	2050	4650	[7000]	[9350]	2350	[5750]	[8700]	[11650]	2450	[6700]	[9650]	[13100]	2550	[7100]	[10000]	[13650]	
160	2050	4550	[6850]	[9150]	2300	[5650]	[8500]	[11400]	2400	[6600]	[9450]	[12900]	2500	[6950]	[9800]	[13400]	
170	2000	4500	[6750]	[9000]	2250	5550	[8400]	[11200]	2400	[6450]	[9300]	[12650]	2450	[6800]	[9650]	[13150]	
180	1950	4400	[6600]	[8800]	2200	5400	[8200]	[11000]	2350	[6350]	[9150]	[12450]	2400	[6650]	[9500]	[12950]	
190	1900	4300	6500	[8650]	2150	5300	[8050]	[10750]	2300	6200	[9000]	[12250]	2400	6550	[9350]	[12750]	
200	1900	4250	6350	[8500]	2100	5200	[7900]	[10600]	2250	6100	[8850]	[12050]	2350	6450	[9200]	[12550]	
210	1850	4150	6250	[8350]	2100	5100	[7750]	[10350]	2200	5950	[8700]	[11850]	2300	6300	[9050]	[12350]	
220	1800	4100	6150	[8200]	2050	5050	7600	[10200]	2200	5850	[8600]	[11700]	2250	6200	[8950]	[12200]	
230	1800	4000	6050	[8050]	2050	4950	7500	[10000]	2150	5750	[8500]	[11550]	2250	6100	[8800]	[12000]	
240	1750	3950	5950	7950	2000	4850	7400	[9850]	2150	5700	8350	[11400]	2200	6000	[8700]	[11850]	
250	1750	3900	5850	7800	2000	4800	7250	[9700]	2100	5600	8250	[11250]	2150	5900	8600	[11700]	
260	1700	3850	5800	7700	1950	4750	7150	[9550]	2050	5550	8150	[11150]	2150	5800	8500	[11550]	
280	1650	3750	5600	7500	1900	4600	6950	9250	2050	5350	8000	[10800]	2100	5650	8300	[11300]	
300	1650	3650	5500	7350	1800	4500	6750	9000	2000	5200	7750	10450	2050	5500	8050	[11050]	
320	1600	3600	5400	7200	1750	4350	6550	8750	1950	5050	7550	10150	2000	5350	7850	10750	
340	1550	3500	5250	7000	1700	4250	6400	8500	1900	4950	7350	9900	2000	5250	7650	10500	
360	1550	3400	5150	6850	1700	4150	6200	8300	1850	4800	7200	9650	1950	5100	7500	10200	
380	1500	3350	5000	6700	1650	4050	6050	8100	1800	4700	7050	9450	1850	5000	7300	10000	
400	1450	3250	4900	6500	1600	3950	5950	7900	1750	4600	6900	9250	1850	4850	7150	9750	

Notes:

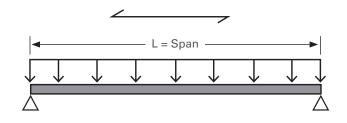
- Concrete density: 24kN/m3.
- RF55® strength and serviceability capacities are based on full scale test results.
- An additional concrete weight due to ponding of (0.7x deflection limit) 24.0kN/m³ has been considered for Strength and serviceability limit states.
- The spans in the above table include a minimum bearing width of 50mm on each end support.
- Supports shall be effectively rigid and strong to support construction loads.
- The information contained in this publication is intended for guidance only. This information should only be use by a qualified structural engineer.
- $7. \quad \text{The practical limit for span to slab depth ratio is considered to be 35 for single spans,} \\$ 40 for continuous spans. Values above these limits are listed in [] brackets.
- The spans in the tables are based on the condition that RF55® sheets are fully restrained in the direction perpendicular to the sheet span.
- 9. Tables are based on the following maximum construction loads:
 - Workmen and equipment: 1kN/m²
 - Mounting of concrete: $2kN/m^2$ over an area of 1.6m x 1.6m and zero on the rest of the area Stacking of material on RF55® before placement of concrete: $1kN/m^2$

 - The table does not consider axial loads on the product
 - Allowance for weight of reinforcement as well as the effect of ponding is included

RF55® Formwork/Slab Span Tables Single Span

Single Slab Span (L) on Steel support

Formwork deflection limits L/240



Slab Depth (mm)	0.6 BMT Number of props per span					0.75 mber of p	BMT rops per s	span	Nu	0.9 mber of p	BMT rops per s	span	1.0 BMT Number of props per span				
Slab [(mm)	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3	
90	2100	[5550]	[8050]	[10950]	2250	[6300]	[8800]	[11950]	2400	[6750]	[9400]	[12800]	2500	[7000]	[9750]	[13250]	
100	2050	[5350]	[7800]	[10600]	2200	[6100]	[8500]	[11600]	2300	[6550]	[9100]	[12400]	2400	[6800]	[9450]	[12850]	
110	2000	[5200]	[7550]	[10300]	2100	[5950]	[8250]	[11250]	2250	[6350]	[8850]	[12000]	2350	[6600]	[9200]	[12500]	
120	1900	[5100]	[7350]	[10000]	2050	[5800]	[8050]	[10950]	2200	[6200]	[8600]	[11700]	2250	[6450]	[8950]	[12200]	
130	1850	[4950]	[7050]	[9750]	2000	[5650]	[7850]	[10700]	2150	[6050]	[8400]	[11400]	2200	[6250]	[8700]	[11850]	
140	1750	4850	[6850]	[9400]	1950	[5500]	[7650]	[10450]	2100	[5900]	[8200]	[11150]	2150	[6150]	[8500]	[11600]	
150	1700	4750	[6600]	[9100]	1900	[5400]	[7500]	[10200]	2050	[5750]	[8000]	[10950]	2100	[6000]	[8350]	[11350]	
160	1650	4650	[6450]	[8850]	1850	5300	[7350]	[10000]	2000	[5650]	[7800]	[10700]	2050	[5900]	[8100]	[11150]	
170	1650	4550	[6250]	[8600]	1800	5200	[7150]	[9800]	1950	5550	[7650]	[10450]	2050	5750	[7950]	[10850]	
180	1600	4450	6050	[8350]	1750	5100	[6950]	[9550]	1900	5450	[7450]	[10200]	2000	5650	[7750]	[10600]	
190	1550	4350	5900	[8150]	1700	5000	[6800]	[9350]	1850	5350	[7300]	[10000]	1950	5550	[7600]	[10350]	
200	1500	4300	5750	[7950]	1650	4900	6650	[9100]	1800	5250	[7150]	[9750]	1900	5450	[7400]	[10150]	
210	1500	4200	5650	[7750]	1650	4850	6500	[8900]	1750	5150	7000	[9600]	1850	5350	7300	[9950]	
220	1450	4100	5500	7600	1600	4750	6350	[8750]	1750	5050	6850	[9400]	1800	5250	7150	[9750]	
230	1400	4050	5450	7400	1600	4650	6250	[8550]	1700	4950	6700	[9200]	1800	5150	7000	[9600]	
240	1400	3950	5300	7300	1550	4550	6100	[8400]	1650	4850	6600	[9050]	1750	5050	6900	[9450]	
250	1350	3900	5200	7150	1500	4500	6000	8250	1650	4800	6500	[8900]	1700	5000	6800	[9300]	
260	1350	3800	5100	7050	1500	4350	5900	8100	1600	4750	6400	8750	1700	4900	6700	[9150]	
280	1300	3700	4950	6800	1450	4250	5700	7850	1550	4600	6200	8500	1650	4800	6500	8900	
300	1250	3550	4750	6500	1400	4100	5550	7600	1500	4450	6000	8250	1600	4650	6300	8650	
320	1250	3450	4600	6300	1350	4000	5400	7400	1500	4300	5850	8000	1550	4550	6150	8400	
340	1200	3350	4450	6150	1300	3900	5250	7200	1450	4200	5700	7800	1500	4400	6000	8200	
360	1200	3250	4350	5950	1300	3800	5100	7050	1400	4100	5550	7650	1450	4300	5850	8000	
380	1150	3150	4300	5800	1250	3700	5000	6850	1350	4000	5500	7450	1400	4200	5700	7850	
400	1150	3100	4200	5750	1250	3600	4850	6700	1350	3950	5350	7350	1400	4100	5600	7700	

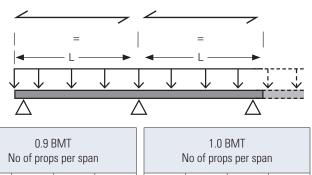
Notes:

- 1. Concrete density: 24kN/m³.
- 2. RF55® strength and serviceability capacities are based on full scale test results.
- An additional concrete weight due to ponding of (0.7x deflection limit) 24.0kN/m³ has been considered for Strength and serviceability limit states.
- 4. The spans in the above table include a minimum bearing width of 50mm on each end support.
- 5. Supports shall be effectively rigid and strong to support construction loads.
- The information contained in this publication is intended for guidance only.
 This information should only be use by a qualified structural engineer.
- The practical limit for span to slab depth ratio is considered to be 35 for single spans, 40 for continuous spans. Values above these limits are listed in [] brackets.
- 8. The spans in the tables are based on the condition that RF55® sheets are fully restrained in the direction perpendicular to the sheet span.
- 9. Tables are based on the following maximum construction loads:
 - Workmen and equipment: 1kN/m²
 - Mounting of concrete: $2kN/m^2$ over an area of 1.6m x 1.6m and zero on the rest of the area
 - Stacking of material on RF55® before placement of concrete: 1kN/m²
 - The table does not consider axial loads on the product
 - ${\mathord{\text{--}}}$ Allowance for weight of reinforcement as well as the effect of ponding is included

RF55® Formwork/Slab Span Tables Continuous Span

Continuous: 3 Spans (L) on steel support

Formwork deflection limits L/130



Slab Depth (mm)	N	0.6 l o of prop		an	N		BMT os per spa	n	1		BMT os per spa	n	1.0 BMT No of props per span				
Slab (mm)	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3	
90	2700	[5400]	[8150]	[10850]	3350	[6800]	[10200]	[13600]	[3700]	[7500]	[11300]	[15050]	[3800]	[7800]	[11700]	[15600]	
100	2600	[5250]	[7900]	[10550]	3250	[6600]	[9900]	[13200]	3600	[7300]	[11000]	[14650]	3700	[7600]	[11400]	[15200]	
110	2550	[5150]	[7700]	[10300]	3200	[6400]	[9650]	[12850]	3500	[7150]	[10700]	[14300]	3650	[7400]	[11100]	[14800]	
120	2500	[5000]	[7500]	[10000]	3100	[6250]	[9350]	[12500]	3400	[6950]	[10450]	[13950]	3550	[7200]	[10850]	[14450]	
130	2450	4900	[7350]	[9800]	3000	[6100]	[9150]	[12200]	3350	[6800]	[10200]	[13600]	3450	[7050]	[10600]	[14150]	
140	2350	4750	[7150]	[9550]	2950	[5950]	[8900]	[11900]	3250	[6650]	[10000]	[13350]	3400	[6900]	[10400]	[13850]	
150	2300	4650	[7000]	[9350]	2900	5800	[8700]	[11650]	3200	[6500]	[9800]	[13050]	3300	[6800]	[10150]	[13550]	
160	2250	4550	[6850]	[9150]	2850	5700	[8550]	[11400]	3150	6400	[9650]	[12850]	3250	[6650]	[10000]	[13300]	
170	2250	4500	6750	[9000]	2750	5600	[8400]	[11200]	3100	6300	[9450]	[12600]	3200	6550	[9800]	[13100]	
180	2200	4400	6600	[8800]	2700	5500	[8250]	[11000]	3050	6200	[9300]	[12400]	3150	6450	[9650]	[12900]	
190	2150	4300	6500	[8650]	2650	5350	[8050]	[10750]	3000	6100	[9150]	[12200]	3100	6350	[9500]	[12700]	
200	2100	4250	6350	[8500]	2600	5250	7900	[10550]	2950	6000	[9000]	[12000]	3050	6250	[9350]	[12500]	
210	2050	4150	6250	8350	2550	5150	7750	[10350]	2900	5900	[8850]	[11800]	3000	6150	[9200]	[12300]	
220	2050	4100	6150	8200	2500	5100	7650	[10200]	2850	5800	8750	[11650]	2950	6050	[9050]	[12100]	
230	2000	4000	6050	8050	2500	5000	7500	[10000]	2800	5750	8600	[11500]	2900	5950	8950	[11950]	
240	1950	3950	5950	7950	2450	4900	7400	[9850]	2750	5650	8500	[11350]	2900	5900	8850	[11800]	
250	1950	3900	5850	7800	2400	4850	7250	9700	2750	5600	8400	[11200]	2850	5800	8700	[11650]	
260	1900	3850	5800	7700	2350	4750	7150	9550	2700	5550	8300	[11100]	2800	5750	8600	[11500]	
280	1850	3750	5600	7500	2300	4600	6950	9250	2650	5400	8100	10800	2750	5600	8450	[11250]	
300	1800	3650	5500	7350	2250	4500	6750	9000	2550	5200	7850	10450	2650	5500	8250	11000	
320	1750	3600	5400	7200	2150	4350	6550	8750	2500	5050	7600	10150	2600	5350	8000	10700	
340	1750	3500	5250	7000	2100	4250	6400	8500	2450	4950	7400	9900	2550	5200	7800	10450	
360	1700	3400	5150	6850	2050	4150	6200	8300	2400	4800	7250	9650	2500	5100	7650	10200	
380	1650	3350	5000	6700	2000	4050	6050	8100	2350	4700	7050	9450	2400	4950	7450	9950	
400	1600	3250	4900	6500	1950	3950	5950	7900	2300	4600	6900	9250	2350	4850	7300	9750	

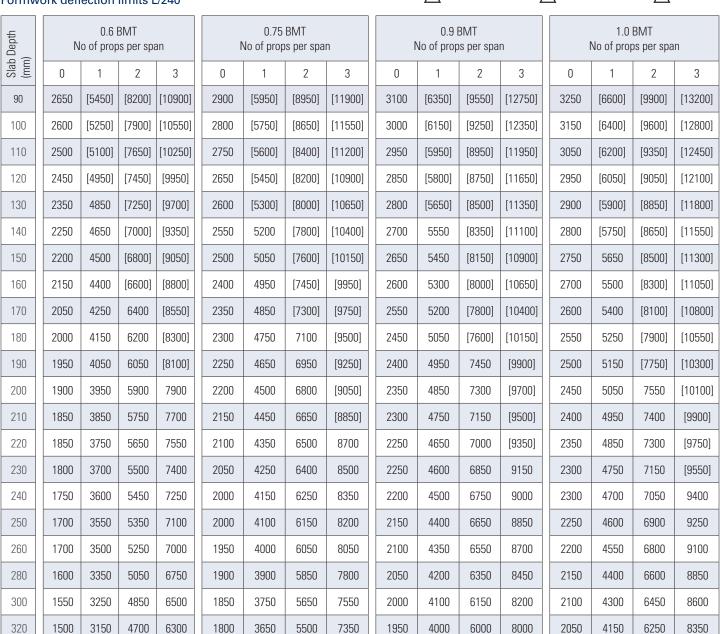
Notes:

- 1. Concrete density: 24kN/m³.
- RF55® strength and serviceability capacities are based on full scale test results.
- An additional concrete weight due to ponding of (0.7x deflection limit) 24.0kN/m³ has been considered for Strength and serviceability limit states.
- 4. The spans in the above table include a minimum bearing width of 50mm on each end support.
- 5. Supports shall be effectively rigid and strong to support construction loads.
- 6. The information contained in this publication is intended for guidance only. This information should only be use by a qualified structural engineer.
- The practical limit for span to slab depth ratio is considered to be 35 for single spans, 40 for continuous spans. Values above these limits are listed in [] brackets.
- 8. The spans in the tables are based on the condition that RF55® sheets are fully restrained in the direction perpendicular to the sheet span.
- 9. Tables are based on the following maximum construction loads:
 - Workmen and equipment: 1kN/m²
 - Mounting of concrete: $2kN/m^2$ over an area of 1.6m x 1.6m and zero on the rest of the area
 - Stacking of material on RF55® before placement of concrete: 1kN/m²
 - The table does not consider axial loads on the product
 - $\boldsymbol{\mathsf{-}}\,\mathsf{Allowance}$ for weight of reinforcement as well as the effect of ponding is included

RF55® Formwork/Slab Span Tables Continuous Span

Continuous: 3 Spans (L) on steel support

Formwork deflection limits L/240



Notes:

Concrete density: 24kN/m3. 1.

- RF55® strength and serviceability capacities are based on full scale test results.
- An additional concrete weight due to ponding of (0.7x deflection limit) 24.0kN/m³ has been considered for Strength and serviceability limit states.
- The spans in the above table include a minimum bearing width of 50mm on each end support.
- Supports shall be effectively rigid and strong to support construction loads.
- The information contained in this publication is intended for guidance only. This information should only be use by a qualified structural engineer.
- The practical limit for span to slab depth ratio is considered to be 35 for single spans, 40 for continuous spans. Values above these limits are listed in [] brackets.

The spans in the tables are based on the condition that RF55® sheets are fully restrained in the direction perpendicular to the sheet span.

- Tables are based on the following maximum construction loads:
 - Workmen and equipment: 1kN/m²
 - Mounting of concrete: 2kN/m² over an area of 1.6m x 1.6m and zero on the rest of the area
 - Stacking of material on RF55® before placement of concrete: 1kN/m²
 - The table does not consider axial loads on the product
 - Allowance for weight of reinforcement as well as the effect of ponding is included

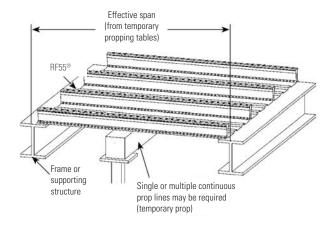
Installing Fielders RF55®

Temporary Propping

If temporary propping is required (refer to the temporary propping tables), props should be placed at the correct centres prior to laying the RF55® sheets. Generally, timber or steel bearers with a minimum dimension of 75mm x 75mm are used on vertical props. The props should be installed so as to prevent settlement during loading by wet concrete and other construction loads.

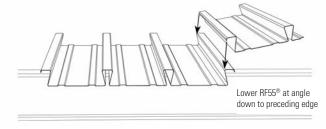
300mm wide ply strips, may be positioned above the header bearers to assist in dispersing the load and minimise any local deformation of the decking due to the headers.

Temporary props should only be removed after the slab has reached sufficient strength (at least 75% of the specified 28-day strength). The full design load may only be applied once the slab has achieved 28-day strength.

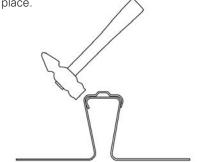


Laying RF55®

 Place the RF55® sheet over the supports ensuring a minimum end bearing of 50mm. If supporting on a brick or masonry wall, provide a separating strip such as malthoid.



2. Tap the female rib with a hammer at a 45° angle to lock it into place.

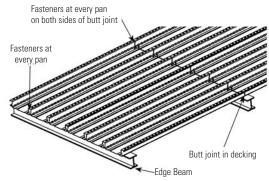


Fasteners and Locations

The decking must be positively fixed to the supporting structure in order to avoid movement and excessive deflection during the pouring of concrete.

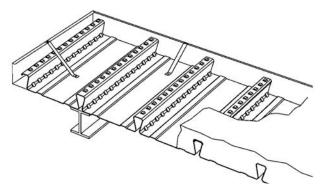
When fixing to a steel support structure, shot fired pins or self-drilling/tapping fasteners should be used. Provide one fastener in each pan at every support.

In the case of other support systems, such as brickwork, block work and concrete, the RF55® sheets must be temporarily held in place against wind and other effects until the concrete is poured.



Edge-form

Galvanised steel edge-forms can be used for the retention of wet concrete to the correct level at the decked floor perimeters. Edge-form is usually shot-fired to the steel support structure or to the RF55® deck and the top of the trim is connected back to the decking with restraint straps at approximately 600mm centres using either pop-rivets or self-drilling screws.



Reinforcement

Place all reinforcement in strict accordance with the structural engineer's drawings and specification.

Concrete placement

The specified grade of concrete and any chemical admixtures must be in strict accordance with AS 3600:2018 and the structural engineer's drawings and specification. The deck must be clear of any excess dirt, grease or debris as this inhibits bonding between the deck and concrete.

Ensure that concrete is applied evenly over the decking surface, as mounding of the wet concrete will cause excessive local loading.

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