

## KF57 Selection Tables

### Introduction

The suggested design method is through the **KingFlor Designer** software. The selection tables following are a simple, quick and efficient method of reaching a design solution. The designs arising from the tables are satisfactory for specification for projects, however the designer should be aware that potential optimisation could be achieved through the application of the **KingFlor Designer**.

### Notes on the Selection Tables

The tables have been formulated from the **KingFlor Designer** to cover typical scenarios and are based upon several assumptions that the designer should be aware of when specifying the floor system. These parameters are listed alongside the tables for easy reference and below as follows:

- Live loads of 1.5kPa, 3.0kPa and 5.0kPa catering for typical applications of residential housing, commercial office etc
- Assumed deflection limits for formwork and total deflections of span/240 and span/500 respectively
- Normal weight concrete
- Concrete strength  $f'c' = 25$  MPa
- Reinforcing steel yield  $f_{sy} = 500$  MPa
- Adjacent spans shall not differ in length by more than 5%

From the tables, the designer can obtain the required **KF57** gauge, slab thickness, reinforcement and propping requirements. There are 9 tables in this section for the 3 gauges - 0.60mm, 0.75mm and 1.00mm and the three span configurations - simply supported, double span and continuous span [ 3 or more spans ].

The slab depths have been limited to a practical maximum of 250mm. For cases of slab thicknesses above this upper limit refer to **KingFlor Designer**.

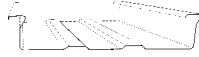
The Selection Tables assume the sheeting is

delivered and laid in single continuous lengths where total length is less than 16m. Where this is not desired the construction stage deflections and strength of the **KF57** sheeting must be checked independently by either the **KingFlor Designer** software or the propping tables in the Construction section of this manual. For projects where sheeting is desired to be delivered to the site in lengths greater than 16m, it is recommended that you contact Fielders for further advice.

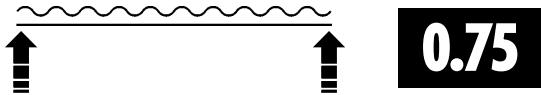
Allowance has been made for a construction Live Load of 1.0 kPa. Deflections are based upon self-weight of sheeting plus a wet concrete density of 2400 kg/m<sup>3</sup>. Ponding of concrete has been allowed for.

A formwork deflection limit of span/240 between permanent or temporary supports applies for these tables. This is considered aesthetically satisfactory for exposed soffits. Alternative deflection limits can be set for design using **KingFlor Designer** or the formwork tables in the Construction section of the manual.

These tables are based upon effective section properties of the sheeting in accordance with AS 4600:1996 "Cold formed steel structures". These figures have been listed previously in the manual under **KF57** general product data.



## KF57 Selection Tables – Simply Supported Span Configuration



**Table A1 - KF57 – 0.75mm BMT Design Table [ simply supported ]**

Span [mm]	Floor Loading		
	1.0kPa Dcs	3.0kPa Dcs	5.0kPa Dcs
1000	100	100	100
1250	100	100	100
1500	100	100	100
1750	100	100	100
2000	100	100	100
2250	100	100	100
2500	100	100	100
2750	100	100	100
3000	100	100	105
3250	100	105	120
3500	105	115	130
3750	120	130	145
4000	130	140	155
4250	140	150	170
4500	150	165	185
4750	160	175	195
5000	175	190	210
5250	185	205	225
5500	200	220	240
5750	215	235	>250
6000	230	250	
6250	245	>250	
6500	>250		

**Propping Legend**

	Unpropped
	1 row propping midspan
	2 rows propping 1/3 points
	3 rows propping 1/4 points
	4 rows propping 1/5 points
	>250 refer KF Designer

### Table Parameters:

#### Concrete Properties

Normal density concrete 2400kg/m<sup>3</sup>  
 Concrete Strength f'c' = 25 MPa  
 Exposure Classification A1

#### Deflection Criteria

Propping Deflection Limit < span/240  
 Final Deflection Limit < span/500

#### Reinforcement Properties

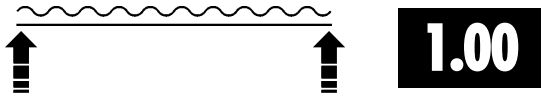
Steel Yield Strength f<sub>sy</sub> = 500 MPa  
 Degree of Crack Control - the reinforcement specified in table 2 should be adopted as a minimum and are assumed to be located with 20-30mm cover

Overall Slab Depth	Minimum Fabric Size for Exposure Classification A1, A2		
	Degree of Crack Control		
Dcs	Minor	Moderate	Strong
100	RF52	RF62	RF82
110	RF52	RF72	RF92
120	RF52	RF72	RF92
130	RF62	RF82	RF102
140	RF62	RF92	RF81
150	RF62	RF92	RF81
160	RF72	RF92	RF918
170	RF72	RF92	RF918
180	RF72	RF102	RF918
190	RF82	RF102	RF1018
200	RF82	RF81	RF1018
210	RF82	RF81	RF1018
220	RF82	RF81	RF1118
230	RF92	RF81	RF1118
240	RF92	RF918	RF1118
250	RF92	RF918	RF1118

#### Fire Rating

Zero Fire Rating assumed - Note for floors requiring an FRL, typically additional bottom reinforcement may be required to supplement the decking. Refer to the **KingFlor Designer** software for details.

## KF57 Selection Tables – Simply Supported Span Configuration



**Table A2 - KF57 – 1.00mm BMT Design Table [ simply supported ]**

Span [mm]	Floor Loading		
	1.0kPa Dcs	3.0kPa Dcs	5.0kPa Dcs
1000	100	100	100
1250	100	100	100
1500	100	100	100
1750	100	100	100
2000	100	100	100
2250	100	100	100
2500	100	100	100
2750	100	100	100
3000	100	100	105
3250	100	105	115
3500	105	115	130
3750	115	125	140
4000	130	140	155
4250	140	150	165
4500	150	160	180
4750	160	175	195
5000	175	185	210
5250	185	200	225
5500	200	215	240
5750	210	230	>250
6000	225	245	
6250	240	>250	
6500	>250		

<b>Propping Legend</b>		Unpropped
		1 row propping midspan
		2 rows propping 1/3 points
		3 rows propping 1/4 points
		4 rows propping 1/5 points
		>250 refer KF Designer

### Table Parameters:

#### Concrete Properties

Normal density concrete 2400kg/m<sup>3</sup>  
 Concrete Strength f'c' = 25 MPa  
 Exposure Classification A1

#### Deflection Criteria

Propping Deflection Limit < span/240  
 Final Deflection Limit < span/500

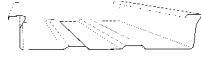
#### Reinforcement Properties

Steel Yield Strength f<sub>sy</sub> = 500 MPa  
 Degree of Crack Control - the reinforcement specified in table 2 should be adopted as a minimum and are assumed to be located with 20-30mm cover

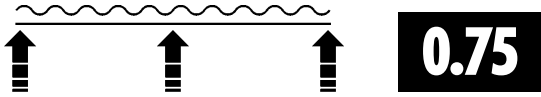
Overall Slab Depth	Minimum Fabric Size for Exposure Classification A1, A2		
	Degree of Crack Control		
Dcs	Minor	Moderate	Strong
	100	RF52	RF62
110	RF52	RF72	RF92
120	RF52	RF72	RF92
130	RF62	RF82	RF102
140	RF62	RF92	RF81
150	RF62	RF92	RF81
160	RF72	RF92	RF918
170	RF72	RF92	RF918
180	RF72	RF102	RF918
190	RF82	RF102	RF1018
200	RF82	RF81	RF1018
210	RF82	RF81	RF1018
220	RF82	RF81	RF1118
230	RF92	RF81	RF1118
240	RF92	RF918	RF1118
250	RF92	RF918	RF1118

#### Fire Rating

Zero Fire Rating assumed - Note for floors requiring an FRL, typically additional bottom reinforcement may be required to supplement the decking. Refer to the **KingFlor Designer** software for details.



## KF57 Selection Tables – Double Span Configuration



**Table B1 - KF57 – 0.75mm BMT Design Table [ double span ]**

Span [mm]	Floor Loading					
	1.0kPa		3.0kPa		5.0kPa	
	Dcs	Ast-	Dcs	Ast-	Dcs	Ast-
1000	100	90	100	90	100	90
1250	100	90	100	90	100	90
1500	100	90	100	90	100	100
1750	100	90	100	110	100	140
2000	100	100	100	140	100	200
2250	100	120	100	170	100	240
2500	100	150	100	210	100	295
2750	100	180	100	255	100	355
3000	100	215	100	305	100	425
3250	100	255	100	360	100	500
3500	100	295	100	420	100	580
3750	100	340	100	475	105	625
4000	100	390	105	520	115	655
4250	105	420	115	540	125	670
4500	110	445	120	570	135	705
4750	120	465	130	605	140	760
5000	125	500	140	630	150	780
5250	135	525	150	655	160	825
5500	145	550	155	705	170	850
5750	155	580	165	740	180	875
6000	165	600	175	760	190	940
6250	170	640	185	800	200	970
6500	180	670	195	825	210	1,010
6750	190	720	205	875	220	1,050
7000	205	735	215	905	235	1,090
7250	210	780	225	940	245	1,140
7500	225	800	235	1,010	>250	
7750	>250		>250			
8000						
8250						

**Propping Legend**

- Unpropped
- 1 row propping midspan
- 2 rows propping 1/3 points
- 3 rows propping 1/4 points
- 4 rows propping 1/5 points
- >250 refer KF Designer

**Table Parameters:**

**Concrete Properties**

Normal density concrete 2400kg/m<sup>3</sup>  
 Concrete Strength f'c' = 25 MPa  
 Exposure Classification A1

**Deflection Criteria**

Propping Deflection Limit < span/240  
 Final Deflection Limit < span/500

**Reinforcement Properties**

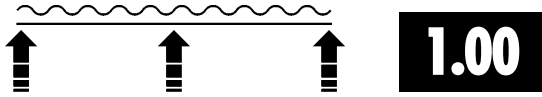
Steel Yield Strength f<sub>sy</sub> = 500 MPa  
 Degree of Crack Control - the reinforcement specified in table 2 should be adopted as a minimum and are assumed to be located with 20-30mm cover

Overall Slab Depth	Minimum Fabric Size for Exposure Classification A1, A2		
	Degree of Crack Control		
Dcs	Minor	Moderate	Strong
100	RF52	RF62	RF82
110	RF52	RF72	RF92
120	RF52	RF72	RF92
130	RF62	RF82	RF102
140	RF62	RF92	RF81
150	RF62	RF92	RF81
160	RF72	RF92	RF918
170	RF72	RF92	RF918
180	RF72	RF102	RF918
190	RF82	RF102	RF1018
200	RF82	RF81	RF1018
210	RF82	RF81	RF1018
220	RF82	RF81	RF1118
230	RF92	RF81	RF1118
240	RF92	RF918	RF1118
250	RF92	RF918	RF1118

**Fire Rating**

Zero Fire Rating assumed - Note for floors requiring an FRL, typically additional bottom reinforcement may be required to supplement the decking. Refer to the **KingFlor Designer** software for details.

## KF57 Selection Tables – Double Span Configuration



**Table B2 - KF57 – 1.00mm BMT Design Table  
[ double span ]**

Span [mm]	Floor Loading					
	1.0kPa		3.0kPa		5.0kPa	
	Dcs	Ast-	Dcs	Ast-	Dcs	Ast-
1000	100	90	100	90	100	90
1250	100	90	100	90	100	90
1500	100	90	100	90	100	100
1750	100	90	100	100	100	140
2000	100	100	100	120	100	200
2250	100	130	100	170	100	240
2500	100	160	100	210	100	295
2750	100	185	100	255	100	355
3000	100	215	100	305	100	425
3250	100	255	100	360	100	500
3500	100	295	100	420	100	580
3750	100	340	100	475	105	625
4000	100	390	105	520	115	655
4250	100	440	110	570	125	685
4500	110	455	120	580	130	735
4750	120	475	130	615	140	760
5000	125	500	135	640	150	780
5250	135	525	145	670	160	825
5500	145	550	155	705	170	850
5750	155	580	165	740	180	905
6000	165	615	175	760	185	970
6250	175	640	185	800	195	1,010
6500	180	685	195	825	205	1,050
6750	190	720	205	875	220	1,050
7000	200	760	215	905	230	1,090
7250	210	800	225	970	240	1,140
7500	220	825	235	1,010	>250	
7750	235	875	245	1,050		
8000	245	905	>250			
8250	>250					

**Propping Legend**

- Unpropped
- 1 row propping midspan
- 2 rows propping 1/3 points
- 3 rows propping 1/4 points
- 4 rows propping 1/5 points
- >250 refer KF Designer

**Table Parameters:**

**Concrete Properties**

Normal density concrete 2400kg/m<sup>3</sup>  
 Concrete Strength f'c' = 25 MPa  
 Exposure Classification A1

**Deflection Criteria**

Propping Deflection Limit < span/240  
 Final Deflection Limit < span/500

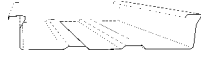
**Reinforcement Properties**

Steel Yield Strength f<sub>sy</sub> = 500 MPa  
 Degree of Crack Control - the reinforcement specified in table 2 should be adopted as a minimum and are assumed to be located with 20-30mm cover

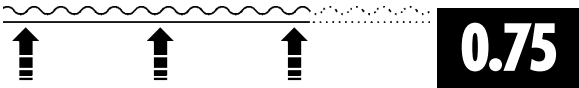
Overall Slab Depth	Minimum Fabric Size for Exposure Classification A1, A2		
	Degree of Crack Control		
Dcs	Minor	Moderate	Strong
100	RF52	RF62	RF82
110	RF52	RF72	RF92
120	RF52	RF72	RF92
130	RF62	RF82	RF102
140	RF62	RF92	RF81
150	RF62	RF92	RF81
160	RF72	RF92	RF918
170	RF72	RF92	RF918
180	RF72	RF102	RF918
190	RF82	RF102	RF1018
200	RF82	RF81	RF1018
210	RF82	RF81	RF1018
220	RF82	RF81	RF1118
230	RF92	RF81	RF1118
240	RF92	RF918	RF1118
250	RF92	RF918	RF1118

**Fire Rating**

Zero Fire Rating assumed - Note for floors requiring an FRL, typically additional bottom reinforcement may be required to supplement the decking. Refer to the **KingFlor Designer** software for details.



## KF57 Selection Tables – Continuous Span Configuration



**Table C1 - KF57 – 0.75mm BMT Design Table  
[ continuous span ]**

Span [mm]	Floor Loading					
	1.0kPa		3.0kPa		5.0kPa	
	Dcs	Ast-	Dcs	Ast-	Dcs	Ast-
1000	100	90	100	90	100	90
1250	100	90	100	90	100	90
1500	100	90	100	90	100	90
1750	100	90	100	90	100	120
2000	100	90	100	110	100	150
2250	100	100	100	140	100	190
2500	100	120	100	170	100	235
2750	100	145	100	200	100	285
3000	100	170	100	245	100	340
3250	100	200	100	290	100	400
3500	100	235	100	335	105	440
3750	100	275	100	385	110	475
4000	100	310	110	395	120	500
4250	105	340	120	420	130	515
4500	110	355	125	440	140	540
4750	120	375	135	465	150	570
5000	130	390	145	485	160	590
5250	140	410	155	505	170	615
5500	150	430	165	530	185	640
5750	160	460	175	560	195	670
6000	170	480	185	580	205	705
6250	180	500	195	615	215	740
6500	190	525	205	640	230	760
6750	200	560	220	670	240	800
7000	210	580	230	705	>250	
7250	225	605	245	720		
7500	235	640	>250			
7750	>250					
8000						
8250						

**Propping Legend**

- Unropped
- 1 row propping midspan
- 2 rows propping 1/3 points
- 3 rows propping 1/4 points
- 4 rows propping 1/5 points
- >250 refer KF Designer

**Table Parameters:**

**Concrete Properties**

Normal density concrete 2400kg/m<sup>3</sup>  
 Concrete Strength f'c' = 25 MPa  
 Exposure Classification A1

**Deflection Criteria**

Propping Deflection Limit < span/240  
 Final Deflection Limit < span/500

**Reinforcement Properties**

Steel Yield Strength f<sub>sy</sub> = 500 MPa  
 Degree of Crack Control - the reinforcement specified in table 2 should be adopted as a minimum and are assumed to be located with 20-30mm cover

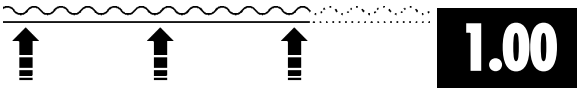
Overall Slab Depth	Minimum Fabric Size for Exposure Classification A1, A2		
	Degree of Crack Control		
Dcs	Minor	Moderate	Strong
100	RF52	RF62	RF82
110	RF52	RF72	RF92
120	RF52	RF72	RF92
130	RF62	RF82	RF102
140	RF62	RF92	RF81
150	RF62	RF92	RF81
160	RF72	RF92	RF918
170	RF72	RF92	RF918
180	RF72	RF102	RF918
190	RF82	RF102	RF1018
200	RF82	RF81	RF1018
210	RF82	RF81	RF1018
220	RF82	RF81	RF1118
230	RF92	RF81	RF1118
240	RF92	RF918	RF1118
250	RF92	RF918	RF1118

**Fire Rating**

Zero Fire Rating assumed - Note for floors requiring an FRL, typically additional bottom reinforcement may be required to supplement the decking. Refer to the **KingFlor Designer** software for details.



## KF57 Selection Tables – Continuous Span Configuration



**Table C2 - KF57 – 1.00mm BMT Design Table  
[ continuous span ]**

Span [mm]	Floor Loading					
	1.0kPa		3.0kPa		5.0kPa	
	Dcs	Ast-	Dcs	Ast-	Dcs	Ast-
1000	100	90	100	90	100	90
1250	100	90	100	90	100	90
1500	100	90	100	90	100	90
1750	100	90	100	90	100	120
2000	100	90	100	110	100	150
2250	100	100	100	140	100	190
2500	100	125	100	180	100	235
2750	100	150	100	220	100	285
3000	100	180	100	255	100	340
3250	100	215	100	290	100	400
3500	100	245	100	335	100	465
3750	100	275	100	385	110	485
4000	100	310	105	420	120	500
4250	105	340	115	435	130	525
4500	110	365	125	450	140	550
4750	120	375	135	465	145	580
5000	130	390	145	485	155	615
5250	140	410	155	505	170	625
5500	150	435	165	530	180	655
5750	160	460	175	560	190	685
6000	170	485	185	590	200	720
6250	180	505	195	630	215	740
6500	190	530	205	640	225	780
6750	200	560	215	670	240	800
7000	210	590	230	705	250	850
7250	225	615	240	740	>250	
7500	235	640	>250			
7750	>250					
8000						
8250						

**Propping Legend**

- Unpropped
- 1 row propping midspan
- 2 rows propping 1/3 points
- 3 rows propping 1/4 points
- 4 rows propping 1/5 points
- >250 refer KF Designer

**Table Parameters:**

**Concrete Properties**

Normal density concrete 2400kg/m<sup>3</sup>  
Concrete Strength f'c' = 25 MPa  
Exposure Classification A1

**Deflection Criteria**

Propping Deflection Limit < span/240  
Final Deflection Limit < span/500

**Reinforcement Properties**

Steel Yield Strength f<sub>sy</sub> = 500 MPa  
Degree of Crack Control - the reinforcement specified in table 2 should be adopted as a minimum and are assumed to be located with 20-30mm cover

Overall Slab Depth	Minimum Fabric Size for Exposure Classification A1, A2		
	Degree of Crack Control		
	Dcs	Minor	Moderate
100	RF52	RF62	RF82
110	RF52	RF72	RF92
120	RF52	RF72	RF92
130	RF62	RF82	RF102
140	RF62	RF92	RF81
150	RF62	RF92	RF81
160	RF72	RF92	RF918
170	RF72	RF92	RF918
180	RF72	RF102	RF918
190	RF82	RF102	RF1018
200	RF82	RF81	RF1018
210	RF82	RF81	RF1018
220	RF82	RF81	RF1118
230	RF92	RF81	RF1118
240	RF92	RF918	RF1118
250	RF92	RF918	RF1118

**Fire Rating**

Zero Fire Rating assumed - Note for floors requiring an FRL, typically additional bottom reinforcement may be required to supplement the decking. Refer to the **KingFlor Designer** software for details.