

## 4.6 KF70® Composite Slab Properties Tables

### Index of KF70® Composite Slab Properties Tables

**Table 4.6.A** KF70 Composite Slab Properties 0.75 BMT

**Table 4.6.B** KF70 Composite Slab Properties 1.00 BMT

### KF70® Composite Slab Properties



**KF70®**

**0.75**

Dcs (mm)	Slab Weight (kPa)	Equivalent Concrete Quantity (mm <sup>3</sup> /mm <sup>2</sup> )	Design Strength in Positive Bending $\phi M_{uo+}$ (kNm/m)	Gross Second Moment of Area - I (x10 <sup>6</sup> mm <sup>4</sup> /m)★	Cracked Section Second Moment of Area - I <sub>cr</sub> (x10 <sup>6</sup> mm <sup>4</sup> /m)★
120	2.27	94	37.8	118.18	47.16
125	2.39	99	40.2	133.51	52.54
130	2.51	104	42.6	150.26	58.22
135	2.63	109	45.0	168.35	64.31
140	2.75	114	47.5	188.02	70.78
145	2.87	119	49.9	209.11	77.50
150	3.00	124	52.3	231.87	84.69
155	3.12	129	54.7	256.28	92.11
160	3.24	134	57.1	282.43	100.01
165	3.36	139	59.6	310.31	108.15
170	3.48	144	62.0	340.10	116.76
175	3.60	149	64.4	371.77	125.61
180	3.72	154	66.8	405.43	134.93
185	3.84	159	69.2	441.14	144.57
190	3.96	164	71.7	478.98	154.52
195	4.08	169	74.1	518.87	164.95
200	4.20	174	76.5	561.06	175.62
205	4.32	179	78.9	605.54	186.76
210	4.44	184	81.3	652.38	198.21
215	4.56	189	83.8	701.60	210.06
220	4.68	194	86.2	753.34	222.23
225	4.80	199	88.6	807.62	234.79
230	4.92	204	91.0	864.42	247.74
235	5.04	209	93.4	923.98	261.10
240	5.16	214	95.9	986.24	274.76
245	5.28	219	98.3	1051.25	288.82
250	5.40	224	100.7	1119.11	303.28

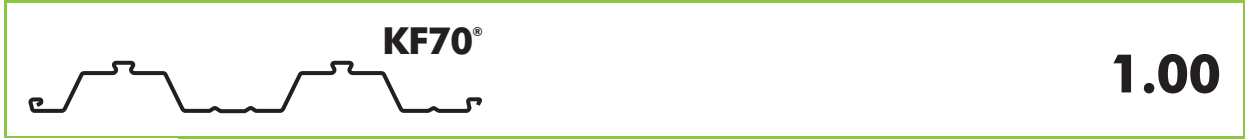
**Table 4.6.A KF70® Composite Slab Properties - 0.75 BMT**

**Parameters**

★ Values are given in transformed concrete sections, 25MPa.

Modular ratio 7.9.

## KF70® Composite Slab Properties



Dcs (mm)	Slab Weight (kPa)	Equivalent Concrete Quantity (mm <sup>3</sup> /mm <sup>2</sup> )	Design Strength in Positive Bending $\phi M_{uo+}$ (kNm/m)	Gross Second Moment of Area - I (x10 <sup>6</sup> mm <sup>4</sup> /m)★	Cracked Section Second Moment of Area - I <sub>cr</sub> (x10 <sup>6</sup> mm <sup>4</sup> /m)★
120	2.27	94	40.9	123.48	58.14
125	2.39	99	45.4	139.44	64.94
130	2.51	104	50.2	156.82	72.05
135	2.63	109	55.2	175.62	79.71
140	2.75	114	60.2	195.92	87.77
145	2.87	119	63.5	217.80	96.30
150	2.99	124	66.7	241.35	105.23
155	3.11	129	69.9	266.55	114.71
160	3.23	134	73.1	293.49	124.58
165	3.36	139	76.4	322.32	134.93
170	3.48	144	79.6	352.97	145.76
175	3.60	149	82.8	385.68	157.05
180	3.72	154	86.1	420.28	168.74
185	3.84	159	89.3	457.02	180.99
190	3.96	164	92.5	495.88	193.63
195	4.08	169	95.7	536.96	206.82
200	4.20	174	99.0	580.26	220.41
205	4.32	179	102.2	625.92	234.55
210	4.44	184	105.4	673.95	249.17
215	4.56	189	108.6	724.43	264.18
220	4.68	194	111.8	777.44	279.74
225	4.80	199	115.1	833.06	295.78
230	4.92	204	118.3	891.20	312.21
235	5.04	209	121.3	852.11	329.19
240	5.16	214	124.8	1015.78	346.65
245	5.28	219	128.0	1082.30	364.66
250	5.40	224	131.2	1151.66	385.44

**Table 4.6.B KF70® Composite Slab Properties - 1.00 BMT**

**Parameters**

★ Values are given in transformed concrete sections, 25MPa.  
Modular ratio 7.9.

## 4.8 KF70® Composite Slab Span Tables

### Index of KF70® Composite Slab Tables

<b>Table 4.8.A</b>	KF70 Composite Slab Spans- Single Spans 0.75 BMT
<b>Table 4.8.B</b>	KF70 Composite Slab Spans- Single Spans 1.00 BMT
<b>Table 4.8.C</b>	KF70 Composite Slab Spans- Double Spans 0.75 BMT
<b>Table 4.8.D</b>	KF70 Composite Slab Spans- Double Spans 1.00 BMT
<b>Table 4.8.E</b>	KF70 Composite Slab Spans - Continuous Spans 0.75 BMT
<b>Table 4.8.F</b>	KF70 Composite Slab Spans - Continuous Spans 1.00 BMT

### Composite Slab Span Tables Notes

The composite slab span tables are to be used to design KingFlor composite slabs that do not have a fire requirement and meet the assumptions below. For a fire rated slab refer to the fire resistance tables. For designs outside the parameters below and specified on the tables refer to the KingFlor Designer Suite or your local Fielders representative. For propping requirements refer to the temporary propping tables.

#### Notation

Dcs = depth of composite slab.  
L = Span between permanent supports.  
Bars - N12@200 indicates N12 bars at 200mm centers.

#### Loads

Construction Live Load 1.0kPa  
Ceiling & Services Load 0.35kPa  
Partitions Load 0.5kPa

#### Short & Long-Term Factors

Short-term factor  $\psi = 0.7$   
Long-term factor  $\psi = 0.4$   
Combination-term factor  $\psi = 0.4$

#### Concrete Properties

Normal wet density of concrete 2400kg/m<sup>3</sup>  
Normal dry density of concrete 2350 kg/m<sup>3</sup>  
Concrete strength  $f'_c = 25\text{MPa}$   
Exposure Classification A1 with moderate crack control  
Cover to top reinforcement is 30mm

#### Reinforcing

Steel Yield Strength  $f_{sy} = 500\text{MPa}$

#### Mesh

Mesh is to be located in the top of the slab. Where the mesh code ends with a 'T' (eg. RL918T), the larger bars are to be located perpendicular to the decking ribs with the smaller perpendicular bars on top. Laps in mesh are to occur midspan.

#### Bars

Bars where required, are to be placed over internal permanent supports, on top of mesh. Length of bars are to be 0.6 x larger span + width of support. The bars are to be located 0.3 x span from edge of support for internal supports.

#### Spans

Spans L1, L2, L3 etc. cannot differ by more than 5% from both L1 and Ln.

Span is considered to be the larger of L1, L2...Ln.

Support width 50mm

The composite slab tables have been prepared with the assumptions stated above. More refined designs can be obtained from Fielders or by using the KingFlor Designer Suite. Contact your local Fielders representative for design assistance.

## KF70® Composite Slab Spans Single Spans 0.75 BMT



Span (mm)	Live Load 1.5kPa			Live Load 3.0 kPa			Live Load 5.0kPa		
	Dcs	Mesh	Bars	Dcs	Mesh	Bars	Dcs	Mesh	Bars
1,000	130	SL82	-	130	SL82	-	130	SL82	-
1,250	130	SL82	-	130	SL82	-	130	SL82	-
1,500	130	SL82	-	130	SL82	-	130	SL82	-
1,750	130	SL82	-	130	SL82	-	130	SL82	-
2,000	130	SL82	-	130	SL82	-	130	SL82	-
2,250	130	SL82	-	130	SL82	-	130	SL82	-
2,500	130	SL82	-	130	SL82	-	130	SL82	-
2,750	130	SL82	-	130	SL82	-	130	SL82	-
3,000	130	SL82	-	130	SL82	-	130	SL82	-
3,250	130	SL82	-	130	SL82	-	135	SL92	-
3,500	130	SL82	-	135	SL82	-	150	SL92	-
3,750	130	SL82	-	145	SL92	-	160	SL102	-
4,000	140	SL92	-	155	SL102	-	175	SL81	-
4,250	150	SL102	-	170	SL102	-	190	SL81	-
4,500	165	SL102	-	180	SL81	-	200	SL81	-
4,750	175	SL81	-	195	SL81	-	220	RL918T	-
5,000	190	SL81	-	215	RL918T	-	240	RL1018T	-
5,250	210	RL918T	-	230	RL918T	-	250	RL1018T	-
5,500	225	RL918T	-	245	RL1018T	-	265	RL1018T	-
5,750	240	RL1018T	-	260	RL1018T	-	285	RL1118T	-
6,000	255	RL1018T	-	275	RL1118T	-	300	RL1118T	-
6,250	270	RL1018T	-	290	RL1118T	-	315	RL1118T	-
6,500	285	RL1118T	-	310	RL1118T	-	330	RL1218T	-
6,750	305	RL1118T	-	325	RL1118T	-	350	RL1218T	-
7,000	315	RL1118T	-	340	RL1218T	-	365	RL1218T	-

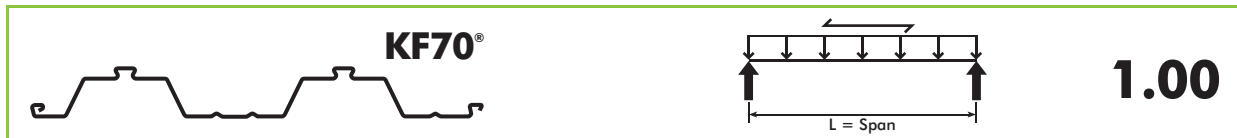
Table 4.8.A KF70® Composite Slab Spans - Single Spans 0.75 BMT

### Deflection Criteria

Construction Deflection = L/240  
 Incremental Deflection = L/500  
 Total Deflection = L/250

Refer to the start of this section for additional parameters used to calculate the above table.

**KF70® Composite Slab Spans**  
Single Spans 1.00 BMT



Span (mm)	Live Load 1.5kPa			Live Load 3.0 kPa			Live Load 5.0kPa		
	Dcs	Mesh	Bars	Dcs	Mesh	Bars	Dcs	Mesh	Bars
1,000	130	SL82	-	130	SL82	-	130	SL82	-
1,250	130	SL82	-	130	SL82	-	130	SL82	-
1,500	130	SL82	-	130	SL82	-	130	SL82	-
1,750	130	SL82	-	130	SL82	-	130	SL82	-
2,000	130	SL82	-	130	SL82	-	130	SL82	-
2,250	130	SL82	-	130	SL82	-	130	SL82	-
2,500	130	SL82	-	130	SL82	-	130	SL82	-
2,750	130	SL82	-	130	SL82	-	130	SL82	-
3,000	130	SL82	-	130	SL82	-	130	SL82	-
3,250	130	SL82	-	130	SL82	-	135	SL82	-
3,500	130	SL82	-	130	SL82	-	145	SL92	-
3,750	130	SL82	-	140	SL92	-	160	SL102	-
4,000	135	SL92	-	155	SL102	-	170	SL102	-
4,250	150	SL92	-	165	SL102	-	185	SL81	-
4,500	160	SL102	-	180	SL81	-	200	SL81	-
4,750	175	SL81	-	190	SL81	-	215	RL918T	-
5,000	185	SL81	-	210	RL918T	-	230	RL918T	-
5,250	200	SL81	-	225	RL918T	-	245	RL1018T	-
5,500	220	RL918T	-	240	RL1018T	-	260	RL1018T	-
5,750	230	RL918T	-	255	RL1018T	-	275	RL1118T	-
6,000	245	RL1018T	-	270	RL1018T	-	295	RL1118T	-
6,250	265	RL1018T	-	285	RL1118T	-	310	RL1118T	-
6,500	280	RL1118T	-	300	RL1118T	-	325	RL1118T	-
6,750	295	RL1118T	-	320	RL1118T	-	345	RL1218T	-
7,000	315	RL1118T	-	335	RL1218T	-	360	RL1218T	-

**Table 4.8.B KF70® Composite Slab Spans - Single Spans 1.00 BMT**

**Deflection Criteria**

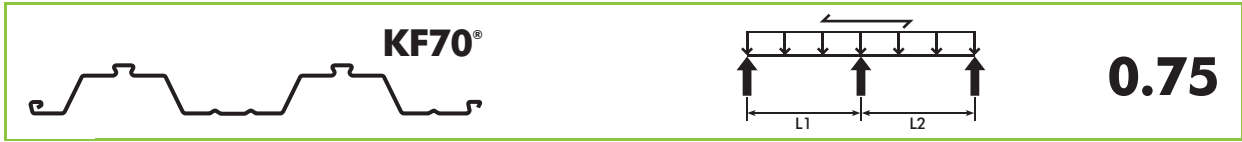
Construction Deflection =  $L/240$

Incremental Deflection =  $L/500$

Total Deflection =  $L/250$

Refer to the start of this section for additional parameters used to calculate the above table.

## KF70® Composite Slab Spans Double Spans 0.75 BMT



Span (mm)	Live Load 1.5kPa			Live Load 3.0 kPa			Live Load 5.0kPa		
	Dcs	Mesh	Bars	Dcs	Mesh	Bars	Dcs	Mesh	Bars
1,000	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
1,250	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
1,500	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
1,750	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,000	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,250	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,500	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,750	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,000	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,250	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,500	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@350
3,750	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@275
4,000	130	SL82	N12@400	130	SL82	N12@375	145	SL92	N12@300
4,250	130	SL82	N12@400	135	SL82	N12@300	150	SL92	N12@250
4,500	130	SL82	N12@400	135	SL82	N12@250	160	SL102	N12@275
4,750	130	SL82	N12@325	145	SL92	N12@250	175	SL81	N12@375
5,000	135	SL82	N12@275	150	SL92	N12@225	185	SL81	N12@325
5,250	145	SL92	N12@300	160	SL102	N12@250	195	SL81	N12@300
5,500	155	SL102	N12@350	170	SL102	N12@225	200	SL81	N12@250
5,750	165	SL102	N12@300	175	SL81	N12@275	220	RL918T	N12@150
6,000	170	SL102	N12@275	185	SL81	N12@250	225	RL918T	N12@150
6,250	180	SL81	N12@350	200	SL81	N12@225	225	RL918T	N16@225
6,500	190	SL81	N12@325	210	RL918T	N16@275	230	RL918T	N16@225
6,750	200	SL81	N12@275	225	RL918T	N16@275	245	RL1018T	N16@200
7,000	215	RL918T	N16@300	235	RL918T	N16@250	255	RL1018T	N16@200

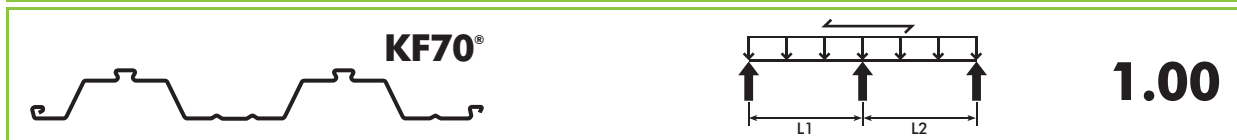
Table 4.8.C KF70® Composite Slab Spans - Double Spans 0.75 BMT

### Deflection Criteria

Construction Deflection = L/240  
 Incremental Deflection = L/500  
 Total Deflection = L/250

Refer to the start of this section for additional parameters used to calculate the above table.

## KF70® Composite Slab Spans Double Spans 1.00 BMT



Span (mm)	Live Load 1.5kPa			Live Load 3.0 kPa			Live Load 5.0kPa		
	Dcs	Mesh	Bars	Dcs	Mesh	Bars	Dcs	Mesh	Bars
1,000	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
1,250	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
1,500	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
1,750	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,000	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,250	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,500	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,750	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,000	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,250	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,500	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@350
3,750	130	SL82	N12@400	130	SL82	N12@400	135	SL82	N12@300
4,000	130	SL82	N12@400	130	SL82	N12@275	140	SL92	N12@275
4,250	130	SL82	N12@400	140	SL92	N12@400	150	SL92	N12@250
4,500	130	SL82	N12@400	150	SL92	N12@275	160	SL102	N12@275
4,750	130	SL82	N12@325	150	SL92	N12@275	170	SL81	N12@250
5,000	135	SL82	N12@275	160	SL102	N12@300	180	SL81	N12@300
5,250	140	SL92	N12@275	170	SL102	N12@275	190	SL81	N12@250
5,500	150	SL92	N12@275	175	SL81	N12@300	200	SL81	N12@225
5,750	160	SL102	N12@300	180	SL81	N12@275	200	RL918T	N12@200
6,000	170	SL102	N12@275	185	SL81	N12@225	210	RL918T	N16@250
6,250	190	SL81	N12@400	195	SL81	N12@225	215	RL918T	N16@225
6,500	190	SL81	N12@325	205	RL918T	N16@275	225	RL918T	N16@200
6,750	195	SL81	N12@275	220	RL918T	N16@250	240	RL1018T	N16@200
7,000	215	RL918T	N16@300	230	RL918T	N16@250	250	RL1018T	N16@200

**Table 4.8.D KF70® Composite Slab Spans - Double Spans 1.00 BMT**

### Deflection Criteria

Construction Deflection = L/240

Incremental Deflection = L/500

Total Deflection = L/250

Refer to the start of this section for additional parameters used to calculate the above table.

## KF70® Composite Slab Spans Continuous Spans 0.75 BMT



Span (mm)	Live Load 1.5kPa			Live Load 3.0 kPa			Live Load 5.0kPa		
	Dcs	Mesh	Bars	Dcs	Mesh	Bars	Dcs	Mesh	Bars
1,000	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
1,250	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
1,500	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
1,750	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,000	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,250	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,500	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,750	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,000	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,250	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,500	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,750	130	SL82	N12@400	130	SL82	N12@400	135	SL82	N12@400
4,000	130	SL82	N12@400	130	SL82	N12@400	140	SL92	N12@400
4,250	130	SL82	N12@400	135	SL82	N12@400	150	SL92	N12@350
4,500	130	SL82	N12@400	145	SL92	N12@400	160	SL102	N12@400
4,750	135	SL82	N12@400	155	SL102	N12@400	170	SL102	N12@350
5,000	145	SL92	N12@400	165	SL102	N12@400	180	SL81	N12@400
5,250	155	SL102	N12@400	175	SL81	N12@350	195	SL81	N12@400
5,500	165	SL102	N12@400	185	SL81	N12@400	200	SL81	N12@375
5,750	175	SL81	N12@400	190	SL81	N12@400	215	RL918T	N12@200
6,000	185	SL81	N12@400	205	RL918T	N12@275	235	RL918T	N16@300
6,250	195	SL81	N12@400	220	RL918T	N12@225	240	RL1018T	N16@300
6,500	210	RL918T	N12@275	230	RL918T	N12@200	250	RL1018T	N16@300
6,750	220	RL918T	N12@250	240	RL1018T	N12@200	270	RL1018T	N16@300
7,000	235	RL918T	N12@225	250	RL1018T	N12@175	275	RL1118T	N16@275

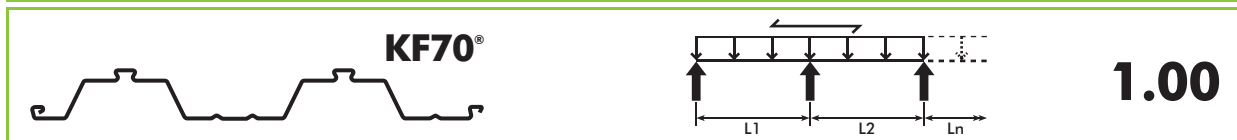
**Table 4.8.E KF70® Composite Slab Spans - Continuous Spans 0.75 BMT**

**Deflection Criteria**

Construction Deflection = L/240  
 Incremental Deflection = L/500  
 Total Deflection = L/250

Refer to the start of this section for additional parameters used to calculate the above table.

## KF70® Composite Slab Spans Continuous Spans 1.00 BMT



Span (mm)	Live Load 1.5kPa			Live Load 3.0 kPa			Live Load 5.0kPa		
	Dcs	Mesh	Bars	Dcs	Mesh	Bars	Dcs	Mesh	Bars
1,000	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
1,250	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
1,500	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
1,750	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,000	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,250	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,500	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
2,750	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,000	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,250	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,500	130	SL82	N12@400	130	SL82	N12@400	130	SL82	N12@400
3,750	130	SL82	N12@400	130	SL82	N12@400	135	SL82	N12@400
4,000	130	SL82	N12@400	130	SL82	N12@400	135	SL92	N12@375
4,250	130	SL82	N12@400	130	SL82	N12@400	145	SL92	N12@325
4,500	130	SL82	N12@400	140	SL92	N12@400	155	SL102	N12@375
4,750	135	SL82	N12@400	150	SL92	N12@400	170	SL102	N12@350
5,000	145	SL92	N12@400	160	SL102	N12@400	180	SL81	N12@400
5,250	155	SL102	N12@400	170	SL102	N12@400	190	SL81	N12@400
5,500	165	SL102	N12@400	180	SL81	N12@400	200	SL81	N12@350
5,750	170	SL81	N12@400	190	SL81	N12@400	210	RL918T	N16@300
6,000	185	SL81	N12@400	200	SL81	N12@400	225	RL918T	N16@300
6,250	190	SL81	N12@400	215	RL918T	N12@225	235	RL918T	N16@300
6,500	200	SL81	N12@400	225	RL918T	N12@200	245	RL1018T	N16@300
6,750	215	RL918T	N12@250	235	RL918T	N16@300	260	RL1018T	N16@275
7,000	230	RL918T	N12@225	250	RL1018T	N16@300	275	RL1118T	N16@275

**Table 4.8.F KF70® Composite Slab Spans - Continuous Spans 1.00 BMT**

### Deflection Criteria

Construction Deflection = L/240

Incremental Deflection = L/500

Total Deflection = L/250

Refer to the start of this section for additional parameters used to calculate the above table.