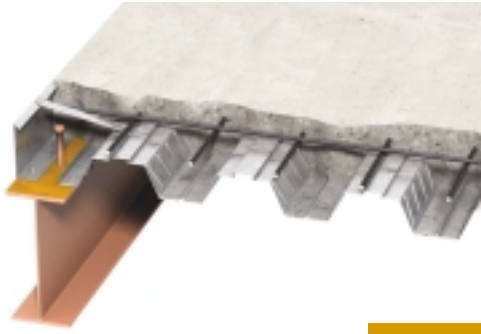
Multideck 80-V2
Features and Applications

Multideck 80-V2

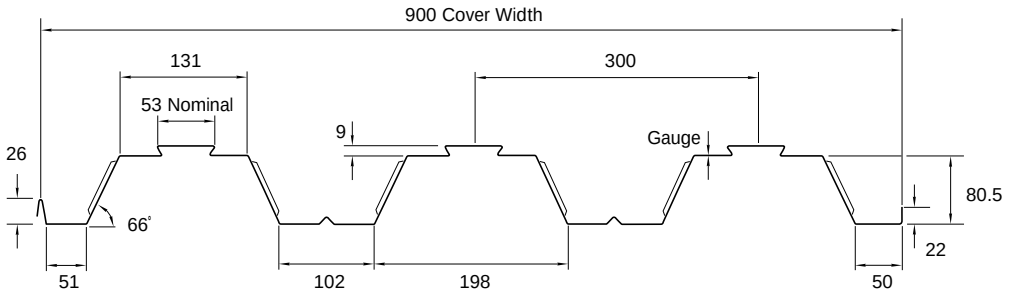
Multideck 80-V2 is designed to incorporate all the advantages of the Multideck 60-V2 but in a deeper profile to provide longer spans up to 5.4m unpropped.

- ### Concrete Volume Savings
  Due to its unique profile Multideck 80-V2 requires less concrete than other decks to achieve any given slab thickness.
- ### Quicker Installation
  The Multideck range has a wider standard cover width requiring fewer panels and sidelaps. No temporary supports required under most conditions. A wide range of accessories allows for easy installation of ceilings and services.
- ### Value for Money
  Bulk steel buying by Kingspan ensures a quality product at the right price.
- ### Technical Support
  The Multideck technical department provides a comprehensive design and advisory service to specifiers and end users. Further details are also available on the Kingspan Toolkit Software.

Multideck 80-V2
Specification and Design



Profile and Dimensions (mm)



Gauge = 1.0, 1.1 & 1.2mm

Maximum length: 12 metres

Section Properties per Metre Width

Normal Thickness (mm)	Self Weight		Height to Neutral Axis	Second Moment of Area (cm^4/m)	Steel Area (mm^2/m)	Ultimate Moment Capacity (kNm/m)	
	(kg/m^2)	(kN/m^2)	Sagging			Sagging	Hogging
1.00	11.49	0.113	42.50 mm	171.3	1413.00	12.62	9.94
1.10	12.64	0.124	43.10 mm	190.6	1560.00	14.39	11.33
1.20	13.83	0.136	45.00 mm	208.6	1705.33	16.42	12.73

Material Specification - 350N/mm² Steel

Steel strip for Multideck 80-V2 complies with BS EN 10143 and BS EN 10147 with a guaranteed minimum yield strength of $350N/mm^2$ and a minimum total coating mass (including both sides) of $275g/m^2$.

Concrete Volumes & Specification

Load/span tables are based on Grade 30 concrete, having a design strength of $30N/mm^2$.

Density of normal weight concrete: $2400kg/m^3$ at wet stage.

Density of lightweight concrete: $1900kg/m^3$ at wet stage.

All concrete used with Multideck in the construction of composite slabs should comply with the recommendations in BS 8110: 1997.

Reinforcement

Reinforcement of the slab to prevent cracking at all intermediate supports is required in BS 5950: Part 4 1994. Steel reinforcement for anti-crack or fire engineering purposes in accordance with British Standards: Hot rolled bars – BS 4449: 1997; Fabric reinforcement – BS 4483: 1998.

Embossments

Raised diagonal embossments in opposite directions on each face of the webs of the decking provide the mechanical connection between the steel and the hardened concrete.

References

Engineers are advised to consult SCI/MCRMA Technical Paper 13 'Composite Slabs and Beams using Steel Decking: Best Practice for Design and Construction'.

Volume & Weight of Composite Slabs

Slab Depth (mm)	Concrete Volume (m^3/m^2)	Weight (kN/m^2)			
		Normal weight Concrete		Lightweight Concrete	
		Wet	Dry	Wet	Dry
130	0.082	1.984	1.944	1.577	1.496
140	0.092	2.220	2.174	1.764	1.672
150	0.102	2.455	2.405	1.950	1.849
160	0.112	2.691	2.635	2.136	2.026
175	0.127	3.044	2.981	2.416	2.290
200	0.152	3.633	3.557	2.882	2.732
250	0.202	4.810	4.710	3.814	3.615

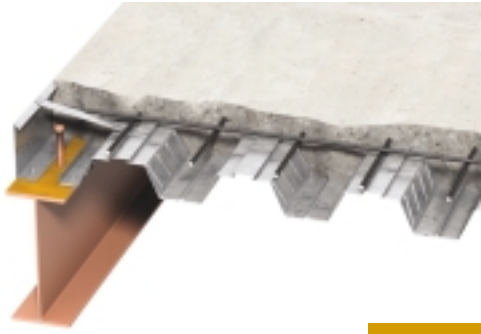
Notes:

1 Important - Concrete volumes do not take into account deflection.

2 Excludes weight of steel decking and relates only to weight of concrete.

3 Concrete volumes are based upon a calculated minimum value. (Nominal slab depth)
Account should be taken of deck and supporting structure deflections.

Multideck was used in the construction
of Omagh College, Co. Tyrone.
Photo Courtesy of Composite Design Ireland Ltd.



Multideck 80-V2 Load Tables (Notes)

When using load tables for Multideck 80-V2 please take into consideration the following notes:

1 All tabulated figures include the self weight of the slab.

2 All tabulated figures include a construction allowance of 1.5kN/m² and for spans less than 3m construction allowance is 4.5/span.

3 The suggested maximum ratios of slab span to slab depth are 30 for LWC and 35 for NWC to control deflections. Deflection under construction loading (wet concrete etc.) has been limited to that stipulated in BS 5950: Part 4 1994.

4 Minimum reinforcement mesh sizes provide 0.1% of the gross cross-sectional area of the concrete at the support.

5 The composite slabs should meet the requirements of BS 5950: Part 4 1994 with regard to their composite behaviour under normal imposed loads.

6 Total applied load referred to in the load tables is a working load based on factored combinations of live loads, finishes, ceilings, services and partitions, divided by a load factor of 1.60 (excluding slab self weight).

7 Temporary supports should remain in place until the concrete has achieved its 75% of its 28 day cube strength often available after 7 days.

8 Where ★ appears the addition of props gives no further benefit in these cases.

9 Propped loads assume props are equally spaced.

10 Deck must lie flat on all support beams. Point only contact will affect design loading.

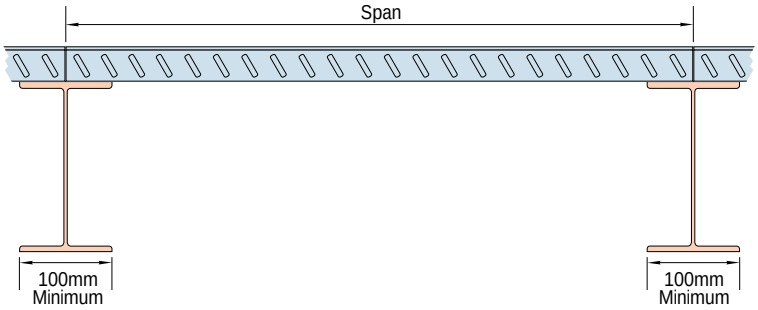
11 Where figures in red appear this shows the maximum permissible spans in situations where there is one stud per trough.

12 Span values are based on 100mm minimum support widths.

13 Construction stage spans are generally noted under the 4.0 kN/m² loads and shaded. For confirmation of maximum unpropped spans see page 65.

Tip: Use the Kingspan Toolkit CD with Word output to save time on your structural calculations.

Definition of Span (Construction Stage) When Using Kingspan Load Tables



Support widths greater than 100mm?
The span capacities shown on the following pages can be increased by the difference between the actual support widths and 100mm.

Example
Support widths 140mm and 200mm.
Span values can be increased by (140 + 200)/2 - 100 = 70mm.

MD80-V2 1.2mm double span deck (no props).
150mm thick slab- normal weight concrete.
Construction stage span from page 29.
4.0kN/m² load column = 4810mm.

with support widths of 140 and 200 the increased span capacity is 4810 + 70 = 4880mm.

Multideck 80-V2
Normal Weight Concrete Load Tables

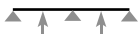
Unpropped - Load/Span Table (Steel - 350N/mm²)

Span (m) (see diagram page 27)

Span Type (Support Condition)	Slab Depth (mm)	Min Mesh Size	Gauge = 1.0 Total Applied Load (kN/m²) SLS 4.0	6.0	8.0	10.0	12.0	14.0
	130	A142	4.03	3.90	3.70	3.28	2.98	2.75
	140	A142	3.93	3.93	3.92 3.93	3.48 3.86	3.16 3.51	2.91 3.24
	150	A142	3.84	3.84	3.84	3.66 3.84	3.32 3.70	3.06 3.41
	160	A142	3.75	3.75	3.75	3.75	3.49 3.75	3.21 3.58
	175	A142	3.65	3.65	3.65	3.65	3.65	3.42 3.65
	200	A193	3.45	3.45	3.45	3.45	3.45	3.45
	250	A252	3.16	3.16	3.16	3.16	3.16	3.16
	130	A142	4.53	4.31	3.70	3.28	2.98	2.75
	140	A142	4.39	4.39	3.92 4.29	3.48 3.86	3.16 3.51	2.91 3.24
	150	A142	4.26	4.26	4.13 4.26	3.66 4.08	3.32 3.70	3.06 3.41
	160	A142	4.15	4.15	4.15	3.84 4.15	3.49 3.89	3.21 3.58
	175	A142	3.99	3.99	3.99	3.99	3.72 3.99	3.42 3.82
	200	A193	3.76	3.76	3.76	3.76	3.76	3.75 3.76
	250	A252	3.40	3.40	3.40	3.40	3.40	3.40

Propped - Load/Span Table (Steel - 350N/mm²)

Span (m) (see diagram page 27)

Span Type (Support Condition)	Slab Depth (mm)	Min Mesh Size	Gauge = 1.0 Total Applied Load (kN/m²) SLS 4.0	6.0	8.0	10.0	12.0	14.0
	130	A142	★	★	★	★	★	★
	140	A142	4.56 4.90	★	★	★	★	★
	150	A142	4.73 5.25	★ 4.52	★	★	★	★
	160	A142	4.87 5.42	4.21 4.69	★ 4.19	★	★	★
	175	A142	5.08 5.65	4.41 4.91	★ 4.40	★ 4.02	★	★
	200	A193	5.36 5.98	4.70 5.24	4.22 4.72	3.87 4.33	★ 4.02	★
	250	A252	5.81 6.49	5.16 5.77	4.68 5.24	4.31 4.83	4.02 4.51	3.78 4.24
	200	A193	★	★	★	★	★	★
	250	A252	★	★	★	★	★	★

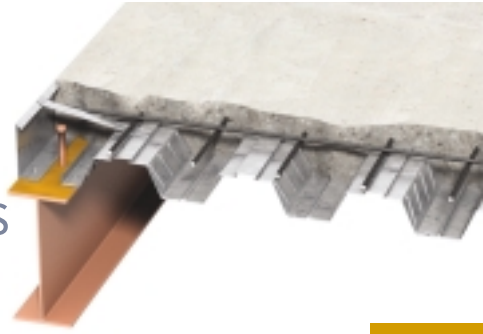
Notes:

Total applied load referred to in the above table is a working load based on factored combinations of live loads, finishes, ceilings, services and partitions, divided by a load factor of 1.60 (excluding slab self weight).

Figures in red are maximum permissible spans in situations where there is one stud per trough.

Permanent Support ▲ Temporary Support ↑

Multideck 80-V2
Normal Weight Concrete Load Tables



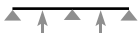
Unpropped - Load/Span Table (Steel - 350N/mm²)

Span (m) (see diagram page 27)

Span Type (Support Condition)	Slab Depth (mm)	Min Mesh Size	Gauge = 1.1mm						Gauge = 1.2mm					
			Total Applied Load (kN/m²) SLS						Total Applied Load (kN/m²) SLS					
			4.0	6.0	8.0	10.0	12.0	14.0	4.0	6.0	8.0	10.0	12.0	14.0
	130	A142	4.13	3.93	3.86	3.43	3.11	2.87	4.22	3.95	3.90	3.53	3.21	2.96
	140	A142	4.03	4.03	4.03	3.63 3.99	3.30 3.63	3.04 3.34	4.11	4.11	4.11	3.75 4.08	3.40 3.71	3.14 3.42
	150	A142	3.93	3.93	3.93	3.83 3.93	3.47 3.83	3.20 3.53	4.02	4.02	4.02	3.95 4.02	3.59 3.92	3.31 3.61
	160	A142	3.85	3.85	3.85	3.85	3.64 3.85	3.36 3.70	3.93	3.93	3.93	3.93	3.77 3.93	3.47 3.80
	175	A142	3.74	3.74	3.74	3.74	3.74	3.58 3.74	3.82	3.82	3.82	3.82	3.82	3.70 3.82
	200	A193	3.58	3.58	3.58	3.58	3.58	3.58	3.66	3.66	3.66	3.66	3.66	3.66
	250	A252	3.27	3.27	3.27	3.27	3.27	3.27	3.37	3.37	3.37	3.37	3.37	3.37
	130	A142	4.55	4.50	3.86	3.43	3.11	2.87	4.55	4.55	3.98	3.53	3.21	2.96
	140	A142	4.68	4.68	4.09 4.44	3.63 3.99	3.30 3.63	3.04 3.34	4.90	4.90	4.22 4.53	3.75 4.08	3.40 3.71	3.14 3.42
	150	A142	4.54	4.54	4.31 4.54	3.83 4.21	3.47 3.83	3.20 3.53	4.81	4.81	4.45 4.73	3.95 4.31	3.59 3.92	3.31 3.61
	160	A142	4.42	4.42	4.42	4.01 4.42	3.64 4.02	3.36 3.70	4.68	4.68	4.67 4.68	4.15 4.53	3.77 4.12	3.47 3.80
	175	A142	4.25	4.25	4.25	4.25	3.88 4.25	3.58 3.95	4.50	4.50	4.50	4.43 4.50	4.02 4.40	3.70 4.06
	200	A193	4.01	4.01	4.01	4.01	4.01	3.92 4.01	4.24	4.24	4.24	4.24	4.24	4.06 4.24
	250	A252	3.62	3.62	3.62	3.62	3.62	3.62	3.84	3.84	3.84	3.84	3.84	3.84

Propped - Load/Span Table (Steel - 350N/mm²)

Span (m) (see diagram page 27)

Span Type (Support Condition)	Slab Depth (mm)	Min Mesh Size	Gauge = 1.1mm						Gauge = 1.2mm					
			Total Applied Load (kN/m²) SLS						Total Applied Load (kN/m²) SLS					
			4.0	6.0	8.0	10.0	12.0	14.0	4.0	6.0	8.0	10.0	12.0	14.0
	130	A142	★	★	★	★	★	★	★	★	★	★	★	★
	140	A142	4.76 4.90	★	★	★	★	★	★	★	★	★	★	★
	150	A142	4.93 5.25	★ 4.67	★	★	★	★	5.08 5.25	★	★	★	★	★
	160	A142	5.08 5.59	★ 4.84	★	★	★	★	5.24 5.60	★ 4.95	★	★	★	★
	175	A142	5.29 5.84	4.60 5.08	★ 4.55	★	★	★	5.47 5.97	4.75 5.20	★ 4.66	★	★	★
	200	A193	5.59 6.18	4.90 5.42	4.41 4.88	4.04 4.47	★ 4.15	★	5.78 6.33	5.07 5.56	4.57 5.01	★ 4.59	★ 4.26	★
	250	A252	6.06 6.71	5.38 5.96	4.89 5.42	4.51 5.00	4.20 4.66	3.95 4.36	6.27 6.89	5.58 6.13	5.07 5.57	4.67 5.14	4.35 4.79	4.09 4.51
	200	A193	★	★	★	★	★	★	★	★	★	★	★	★
	250	A252	★	★	★	★	★	★	★	★	★	★	★	★

Notes:

Total applied load referred to in the above table is a working load based on factored combinations of live loads, finishes, ceilings, services and partitions, divided by a load factor of 1.60 (excluding slab self weight).

Figures in red are maximum permissible spans in situations where there is one stud per trough.

Permanent Support ▲ Temporary Support ↑

Multideck 80-V2
Lightweight Concrete Load Tables

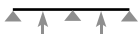
Unpropped - Load/Span Table (Steel - 350N/mm²)

Span (m) (see diagram page 27)

Span Type (Support Condition)	Slab Depth (mm)	Min Mesh Size	Gauge = 1.0					
			Total Applied Load (kN/m²) SLS					
			4.0	6.0	8.0	10.0	12.0	14.0
	130 LWC	A142	4.19	3.66	3.32	3.25	2.98	2.75
	140 LWC	A142	4.14	3.90	3.55	3.48 3.50	3.16 3.48	2.91 3.21
	150 LWC	A142	4.05	4.05	3.77	3.66 3.75	3.32 3.67	3.06 3.38
	160 LWC	A142	3.96	3.96	3.96	3.84 3.96	3.49 3.85	3.21 3.55
	175 LWC	A142	3.85	3.85	3.85	3.85	3.72 3.85	3.42 3.79
	200 LWC	A193	3.69	3.69	3.69	3.69	3.69	3.69
	250 LWC	A252	3.40	3.40	3.40	3.40	3.40	3.40
	130 LWC	A142	4.19	3.90	3.70	3.28	2.98	2.75
	140 LWC	A142	4.47	4.20	3.92 4.20	3.48 3.83	3.16 3.48	2.91 3.21
	150 LWC	A142	4.55	4.50	4.13 4.50	3.66 4.04	3.32 3.57	3.06 3.38
	160 LWC	A142	4.44	4.44	4.33 4.44	3.84 4.24	3.49 3.85	3.21 3.55
	175 LWC	A142	4.28	4.28	4.28	4.10 4.28	3.72 4.11	3.42 3.79
	200 LWC	A193	4.06	4.06	4.06	4.06	4.06	3.75 4.06
	250 LWC	A252	3.70	3.70	3.70	3.70	3.70	3.70

Propped - Load/Span Table (Steel - 350N/mm²)

Span (m) (see diagram page 27)

Span Type (Support Condition)	Slab Depth (mm)	Min Mesh Size	Gauge = 1.0					
			Total Applied Load (kN/m²) SLS					
			4.0	6.0	8.0	10.0	12.0	14.0
	130 LWC	A142	★	★	★	★	★	★
	140 LWC	A142	★	★	★	★	★	★
	150 LWC	A142	4.65	★	★	★	★	★
	160 LWC	A142	4.89	★ 4.80	★	★	★	★
	175 LWC	A142	5.25	4.58 5.06	★ 4.50	★	★	★
	200 LWC	A193	5.68 6.00	4.91 5.43	4.38 4.84	★ 4.41	★	★
	250 LWC	A252	6.22 6.88	5.44 6.02	4.89 5.42	4.48 4.91	4.15 4.27	3.76 3.77
	200 LWC	A193	★	★	★	★	★	★
	250 LWC	A252	★	★	★	★	★	★

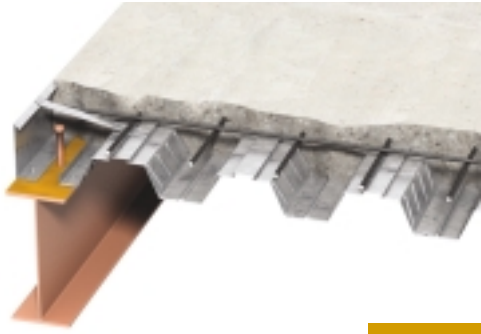
Notes:

Total applied load referred to in the above table is a working load based on factored combinations of live loads, finishes, ceilings, services and partitions, divided by a load factor of 1.60 (excluding slab self weight).

Figures in red are maximum permissible spans in situations where there is one stud per trough.

Permanent Support ▲ Temporary Support ↑

Multideck 80-V2
Lightweight Concrete Load Tables



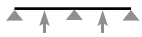
Unpropped - Load/Span Table (Steel - 350N/mm²)

Span (m) (see diagram page 27)

Span Type (Support Condition)	Slab Depth (mm)	Min Mesh Size	Gauge = 1.1mm						Gauge = 1.2mm					
			Total Applied Load (kN/m²) SLS						Total Applied Load (kN/m²) SLS					
			4.0	6.0	8.0	10.0	12.0	14.0	4.0	6.0	8.0	10.0	12.0	14.0
	130 LWC	A142	4.25	3.71	3.37	3.25	3.11	2.87	4.28	3.73	3.39	3.25	3.21	2.96
	140 LWC	A142	4.25	3.96	3.60	3.50	3.30 3.50	3.04 3.32	4.34	3.98	3.62	3.50	3.40 3.50	3.14 3.39
	150 LWC	A142	4.15	4.15	3.82	3.75	3.47 3.75	3.20 3.50	4.24	4.23	3.85	3.75	3.59 3.75	3.31 3.58
	160 LWC	A142	4.06	4.06	4.06	4.00	3.64 3.96	3.36 3.67	4.15	4.15	4.08	4.00	3.77 4.00	3.47 3.76
	175 LWC	A142	3.95	3.95	3.95	3.95	3.88 3.95	3.58 3.92	4.03	4.03	4.03	4.03	4.02 4.03	3.70 4.02
	200 LWC	A193	3.79	3.79	3.79	3.79	3.79	3.79	3.87	3.87	3.87	3.87	3.87	3.87
	250 LWC	A252	3.52	3.52	3.52	3.52	3.52	3.52	3.62	3.62	3.62	3.62	3.62	3.62
	130 LWC	A142	4.25	3.90	3.86	3.43	3.11	2.87	4.28	3.90	3.90	3.53	3.21	2.96
	140 LWC	A142	4.53	4.20	4.09 4.20	3.63 3.96	3.30 3.59	3.04 3.32	4.56	4.20	4.20	3.75 4.05	3.40 3.68	3.14 3.39
	150 LWC	A142	4.82	4.50	4.31 4.50	3.83 4.18	3.47 3.79	3.20 3.50	4.85	4.50	4.45 4.50	3.95 4.28	3.59 3.89	3.31 3.58
	160 LWC	A142	4.73	4.73	4.52 4.73	4.01 4.38	3.64 3.98	3.36 3.67	5.00	4.80	4.67 4.80	4.15 4.49	3.77 4.08	3.47 3.76
	175 LWC	A142	4.56	4.56	4.56	4.28 4.56	3.88 4.25	3.58 3.92	4.83	4.83	4.83	4.43 4.81	4.02 4.36	3.70 4.02
	200 LWC	A193	4.32	4.32	4.32	4.32	4.26 4.32	3.92 4.29	4.58	4.58	4.58	4.58	4.41 4.58	4.06 4.39
	250 LWC	A252	3.94	3.94	3.94	3.94	3.94	3.94	4.17	4.17	4.17	4.17	4.17	4.17

Propped - Load/Span Table (Steel - 350N/mm²)

Span (m) (see diagram page 27)

Span Type (Support Condition)	Slab Depth (mm)	Min Mesh Size	Gauge = 1.1mm						Gauge = 1.2mm					
			Total Applied Load (kN/m²) SLS						Total Applied Load (kN/m²) SLS					
			4.0	6.0	8.0	10.0	12.0	14.0	4.0	6.0	8.0	10.0	12.0	14.0
	130 LWC	A142	★	★	★	★	★	★	★	★	★	★	★	★
	140 LWC	A142	★	★	★	★	★	★	★	★	★	★	★	★
	150 LWC	A142	★	★	★	★	★	★	★	★	★	★	★	
	160 LWC	A142	4.95	★ 4.80	★	★	★	★	★	★	★	★	★	★
	175 LWC	A142	5.31	4.78 5.23	★ 4.65	★	★	★	5.33	4.94 5.25	★	★	★	★
	200 LWC	A193	5.92 6.00	5.12 5.61	4.57 5.01	★ 4.57	★	★	6.00	5.30 5.76	4.73 5.14	★ 4.69	★	★
	250 LWC	A252	6.49 7.11	5.68 6.23	5.11 5.61	4.68 5.06	4.34 4.40	★	6.71 7.30	5.88 6.40	5.29 5.77	4.85 5.19	4.50 4.51	★
	200 LWC	A193	★	★	★	★	★	★	★	★	★	★	★	★
	250 LWC	A252	★	★	★	★	★	★	★	★	★	★	★	★

Notes:

Total applied load referred to in the above table is a working load based on factored combinations of live loads, finishes, ceilings, services and partitions, divided by a load factor of 1.60 (excluding slab self weight).

Figures in red are maximum permissible spans in situations where there is one stud per trough.

Permanent Support ▲ Temporary Support ↑

Multideck 80-V2
Fire Performance

Fire Performance

1 The fire resistance tables for Multideck 80-V2 following are based upon fire test data from full scale tests performed at the Warrington Fire Research Centre, April 1991.

2 All stated slab depths comply with the minimum fire insulation criteria of BS 476: Part 20 1987.

3 The composite slab is assumed to be continuous over one or more intermediate supports. i.e. minimum double span.

4 The fire resistance load tables are for continuous spans only with no propping. For 2 hour fire rating or propped and single span conditions use the Kingspan Toolkit Software or contact Kingspan Technical Services.

5 Minimum laps should be 300mm for A142 mesh and 400mm for A193 and A252 mesh.

6 The mesh should be placed between 20 & 40mm from the upper surface of the slab. (This range caters for lap areas.)

7 The tables are based upon Grade 30 concrete, reinforcement having a yield strength of 460N/mm^2.

8 The tables must be read in conjunction with load/span tables for Multideck 80-V2 to verify the structural integrity of the composite slab.

9 The values in all the tables are relevant to unpropped construction.

10 The tables take into account the reduced partial factor of 0.8 as permitted in BS 5950: Part 8 for non-permanent imposed loads. The tables are presented in terms of total specified imposed load (non-permanent and permanent). It is assumed that the permanent imposed loads for partitions, finishes, ceilings and services are equivalent to 1.7kN/m^2 in all cases. The tables are therefore appropriate for office type applications.

For other applications where the imposed loads are almost entirely permanent the total load should be adjusted accordingly before reading from the tables,

eg:
150mm normal weight concrete plantroom slab and A142 mesh
7.5kN/m^2 live load
1.2kN/m^2 50mm screed finish 0.5kn/m^2 ceilings and services
1 hour fire rating

Multideck 80-V2 profile
Total applied load = 1.2 + 0.5 + 7.5/0.8 = 11.075kN/m^2
From table opposite maximum span = 3.16m.

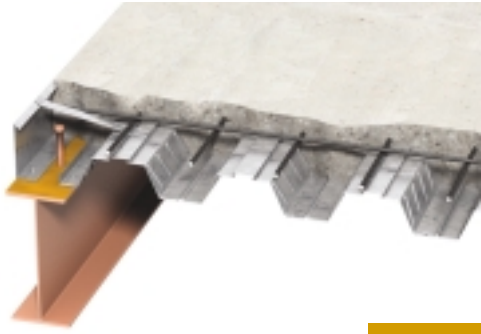
11 The * denotes that the mesh provided, although satisfying the fire resistance requirement, does not comply with the minimum anti-crack reinforcement requirement of BS 5950: Part 4.

Refer to standard load/span tables for minimum mesh requirements.

12 For load span conditions beyond the scope of these tables the Kingspan Toolkit Software should be used which includes the Fire Engineering Method as detailed in the SCI Publication 056.

See following pages for Multideck 80-V2 Fire Resistance Tables.

Multideck 80-V2
Fire Resistance Load Tables



Normal Weight Concrete

Span (m)

Slab Depth (mm)	Min Mesh Size	Fire rating: 1.0 hour									Fire rating: 1.5 hours								
		Total Applied Load (kN/m²)									Total Applied Load (kN/m²)								
		4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00
140	A142	4.09	3.85	3.65	3.48	3.34	3.21	3.09	2.99	2.90	–	–	–	–	–	–	–	–	–
140	A193	4.37	4.12	3.91	3.73	3.57	3.44	3.31	3.20	3.10	–	–	–	–	–	–	–	–	–
140	A252	4.67	4.40	4.17	3.97	3.81	3.67	3.53	3.41	3.30	–	–	–	–	–	–	–	–	–
150	A142	4.29	4.05	3.85	3.67	3.52	3.39	3.27	3.17	3.07	3.60	3.40	3.23	3.08	2.96	2.85	2.75	2.66	2.58
150	A193	4.60	4.35	4.13	3.94	3.78	3.64	3.51	3.40	3.29	3.90	3.68	3.50	3.34	3.21	3.09	2.98	2.88	2.79
150	A252	4.93	4.65	4.42	4.21	4.04	3.89	3.75	3.63	3.52	4.21	3.97	3.77	3.60	3.46	3.33	3.21	3.11	3.01
160	A142	4.45	4.21	4.00	3.83	3.67	3.54	3.42	3.31	3.21	3.79	3.58	3.41	3.25	3.13	3.02	2.91	2.82	2.74
160	A193	4.79	4.53	4.31	4.11	3.95	3.81	3.67	3.56	3.45	4.11	3.89	3.70	3.54	3.40	3.28	3.16	3.06	2.97
160	A252	5.14	4.86	4.62	4.42	4.24	4.09	3.94	3.82	3.70	4.45	4.21	4.00	3.83	3.67	3.54	3.42	3.31	3.21
175	A142	4.54	4.31	4.11	3.94	3.78	3.65	3.52	3.42	3.32	3.99	3.79	3.61	3.46	3.32	3.21	3.10	3.01	2.92
175	A193	4.89	4.64	4.43	4.23	4.07	3.93	3.79	3.68	3.57	4.35	4.13	3.94	3.77	3.62	3.50	3.38	3.28	3.18
175	A252	5.25	4.98	4.74	4.52	4.36	4.21	4.06	3.94	3.82	4.71	4.47	4.26	4.08	3.92	3.78	3.65	3.54	3.43
200	*A142	4.67	4.45	4.25	4.08	3.93	3.80	3.68	3.57	3.47	4.12	3.93	3.76	3.60	3.48	3.36	3.25	3.16	3.07
200	A193	5.02	4.78	4.57	4.38	4.23	4.09	3.95	3.83	3.72	4.50	4.28	4.10	3.93	3.79	3.66	3.54	3.44	3.34
200	A252	5.38	5.12	4.89	4.69	4.52	4.37	4.23	4.11	3.99	4.88	4.64	4.44	4.26	4.11	3.97	3.84	3.73	3.62
250	*A142	4.86	4.65	4.47	4.31	4.17	4.04	3.92	3.82	3.72	4.27	4.09	3.93	3.79	3.67	3.56	3.45	3.36	3.27
250	*A193	5.21	4.99	4.80	4.62	4.47	4.33	4.20	4.09	3.98	4.65	4.45	4.28	4.12	3.99	3.87	3.75	3.65	3.56
250	A252	5.57	5.33	5.13	4.94	4.78	4.63	4.49	4.37	4.26	5.03	4.82	4.64	4.47	4.32	4.19	4.06	3.95	3.85

Lightweight Concrete

Span (m)

Slab Depth (mm)	Min Mesh Size	Fire rating: 1.0 hour									Fire rating: 1.5 hours								
		Total Applied Load (kN/m²)									Total Applied Load (kN/m²)								
		4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00
130 LWC	A142	3.90	3.83	3.61	3.43	3.27	3.14	3.02	2.92	2.82	-	-	-	-	-	-	-	-	-
130 LWC	A193	3.90	3.90	3.87	3.67	3.50	3.36	3.23	3.12	3.01	-	-	-	-	-	-	-	-	-
130 LWC	A252	3.90	3.90	3.90	3.87	3.74	3.59	3.44	3.32	3.21	-	-	-	-	-	-	-	-	-
140 LWC	A142	4.20	4.09	3.86	3.66	3.50	3.36	3.23	3.12	3.02	3.73	3.49	3.30	3.14	3.00	2.88	2.77	2.68	2.59
140 LWC	A193	4.20	4.20	4.15	3.94	3.77	3.62	3.48	3.36	3.25	4.06	3.80	3.59	3.42	3.26	3.13	3.01	2.91	2.81
140 LWC	A252	4.20	4.20	4.20	4.17	4.03	3.87	3.72	3.59	3.47	4.20	4.11	3.88	3.68	3.52	3.38	3.25	3.14	3.04
150 LWC	A142	4.50	4.29	4.06	3.86	3.69	3.55	3.41	3.30	3.19	3.97	3.73	3.53	3.36	3.21	3.09	2.97	2.87	2.78
150 LWC	A193	4.50	4.50	4.37	4.16	3.97	3.82	3.67	3.55	3.43	4.34	4.07	3.85	3.66	3.50	3.37	3.24	3.13	3.03
150 LWC	A252	4.50	4.50	4.50	4.44	4.27	4.10	3.94	3.81	3.68	4.50	4.42	4.18	3.97	3.80	3.65	3.51	3.39	3.28
160 LWC	A142	4.71	4.43	4.20	4.00	3.83	3.68	3.54	3.42	3.31	4.17	3.92	3.72	3.54	3.39	3.26	3.14	3.04	2.94
160 LWC	A193	4.80	4.79	4.54	4.32	4.13	3.98	3.83	3.70	3.58	4.57	4.30	4.07	3.87	3.71	3.57	3.43	3.32	3.21
160 LWC	A252	4.80	4.80	4.80	4.64	4.44	4.27	4.11	3.97	3.84	4.80	4.67	4.42	4.21	4.03	3.88	3.73	3.61	3.49
175 LWC	*A142	4.81	4.53	4.30	4.11	3.93	3.79	3.65	3.54	3.42	4.30	4.05	3.85	3.67	3.52	3.39	3.26	3.16	3.06
175 LWC	A193	5.16	4.90	4.65	4.43	4.25	4.09	3.94	3.81	3.69	4.71	4.44	4.22	4.02	3.86	3.72	3.58	3.46	3.35
175 LWC	A252	5.25	5.20	4.99	4.76	4.56	4.39	4.23	4.09	3.96	5.13	4.84	4.60	4.38	4.20	4.04	3.89	3.77	3.65
200 LWC	*A142	4.96	4.70	4.47	4.27	4.11	3.96	3.82	3.70	3.59	4.41	4.18	3.98	3.80	3.65	3.52	3.40	3.29	3.19
200 LWC	A193	5.35	5.06	4.82	4.61	4.42	4.26	4.11	3.98	3.86	4.83	4.57	4.35	4.16	4.00	3.86	3.72	3.60	3.49
200 LWC	A252	5.74	5.43	5.17	4.94	4.74	4.57	4.41	4.27	4.14	5.26	4.98	4.74	4.53	4.35	4.19	4.04	3.92	3.80
250 LWC	*A142	5.20	4.95	4.74	4.54	4.38	4.24	4.10	3.98	3.86	4.59	4.38	4.19	4.02	3.87	3.74	3.62	3.52	3.42
250 LWC	*A193	5.59	5.32	5.09	4.88	4.71	4.55	4.40	4.27	4.15	5.02	4.78	4.57	4.39	4.23	4.09	3.95	3.84	3.73
250 LWC	A252	5.98	5.69	5.45	5.23	5.04	4.87	4.71	4.57	4.44	5.45	5.19	4.96	4.76	4.59	4.44	4.29	4.17	4.05

Multideck 80-V2
Fire Resistance Load Tables
Dramix® Reinforced Concrete
(20kg/m³ RC-80/60-BN)

1 Hour Fire Rating - Normal Weight Concrete

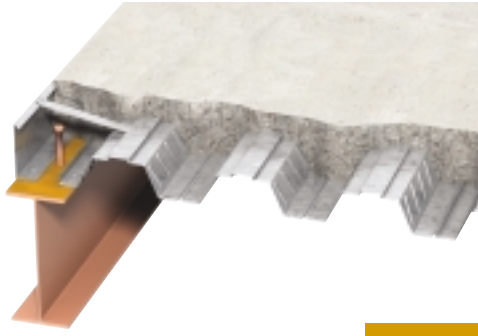
Slab Depth (mm)	Span (m)						
	Gauge 1.0mm						
	Total Applied Load (kN/m²)						
	2.0	4.0	5.0	6.7	8.0	10.0	12.0
150	4.96	4.16	3.88	3.52	3.31	3.05	2.84
160	5.09	4.30	4.02	3.66	3.44	3.17	2.96
170	5.20	4.42	4.15	3.78	3.56	3.29	3.07
180	5.31	4.55	4.27	3.91	3.68	3.41	3.19
190	5.41	4.66	4.39	4.02	3.80	3.52	3.29
200	5.52	4.77	4.50	4.13	3.90	3.62	3.39
210	5.62	4.88	4.61	4.24	4.02	3.73	3.49
220	5.72	5.00	4.73	4.36	4.13	3.84	3.60
230	5.82	5.11	4.84	4.47	4.23	3.94	3.70
240	5.92	5.21	4.95	4.57	4.34	4.05	3.80
250	6.01	5.31	5.05	4.68	4.45	4.15	3.91

1.5 Hour Fire Rating - Normal Weight Concrete

Slab Depth (mm)	Span (m)						
	Gauge 1.0mm						
	Total Applied Load (kN/m²)						
	2.0	4.0	5.0	6.7	8.0	10.0	12.0
160	3.95	3.34	3.13	2.84	2.68	2.47	2.31
170	4.07	3.47	3.25	2.97	2.80	2.59	2.41
180	4.20	3.59	3.38	3.09	2.92	2.70	2.53
190	4.32	3.73	3.51	3.21	3.04	2.81	2.63
200	4.45	3.85	3.63	3.34	3.16	2.93	2.75
210	4.55	3.96	3.74	3.45	3.27	3.03	2.84
220	4.67	4.09	3.87	3.56	3.38	3.14	2.95
230	4.77	4.19	3.97	3.66	3.48	3.23	3.05
240	4.88	4.30	4.08	3.77	3.59	3.34	3.15
250	4.98	4.41	4.19	3.88	3.69	3.45	3.24

Notes:
These tables are not applicable to slabs where the deck is supplied in single span lengths (use Multideck Design software to determine suitable bottom bar requirements)

Multideck 80-V2
Fire Resistance Load Tables
Dramix® Reinforced Concrete
(20kg/m³ RC-80/60-BN)



1 Hour Fire Rating - Normal Weight Concrete

Slab Depth (mm)	Span (m)													
	Gauge 1.1mm							Gauge 1.2mm						
	Total Applied Load (kN/m²)							Total Applied Load (kN/m²)						
	2.0	4.0	5.0	6.7	8.0	10.0	12.0	2.0	4.0	5.0	6.7	8.0	10.0	12.0
150	5.14	4.31	4.03	3.66	3.43	3.16	2.95	5.31	4.45	4.16	3.77	3.55	3.27	3.04
160	5.26	4.45	4.16	3.78	3.55	3.28	3.06	5.43	4.59	4.30	3.91	3.67	3.39	3.16
170	5.38	4.57	4.29	3.91	3.68	3.40	3.17	5.55	4.73	4.43	4.04	3.80	3.52	3.28
180	5.49	4.70	4.42	4.04	3.80	3.52	3.29	5.66	4.85	4.55	4.16	3.93	3.63	3.40
190	5.59	4.81	4.53	4.15	3.92	3.63	3.40	5.77	4.97	4.67	4.28	4.04	3.74	3.50
200	5.70	4.93	4.65	4.27	4.03	3.74	3.51	5.87	5.08	4.79	4.40	4.16	3.85	3.61
210	5.80	5.04	4.76	4.38	4.14	3.84	3.61	5.97	5.19	4.90	4.51	4.27	3.96	3.71
220	5.90	5.15	4.88	4.49	4.25	3.95	3.71	6.07	5.30	5.02	4.63	4.38	4.07	3.82
230	5.99	5.26	4.98	4.60	4.36	4.06	3.81	6.17	5.41	5.13	4.73	4.49	4.18	3.93
240	6.09	5.37	5.09	4.71	4.47	4.16	3.91	6.26	5.52	5.23	4.84	4.59	4.28	4.02
250	6.18	5.47	5.20	4.81	4.57	4.27	4.02	6.34	5.61	5.33	4.94	4.70	4.38	4.13

1.5 Hour Fire Rating - Normal Weight Concrete

Slab Depth (mm)	Span (m)													
	Gauge 1.1mm							Gauge 1.2mm						
	Total Applied Load (kN/m²)							Total Applied Load (kN/m²)						
	2.0	4.0	5.0	6.7	8.0	10.0	12.0	2.0	4.0	5.0	6.7	8.0	10.0	12.0
160	4.08	3.45	3.23	2.94	2.77	2.55	2.38	4.20	3.55	3.32	3.02	2.84	2.63	2.45
170	4.19	3.57	3.35	3.05	2.88	2.66	2.48	4.32	3.68	3.45	3.15	2.97	2.74	2.56
180	4.32	3.70	3.48	3.18	3.00	2.78	2.60	4.45	3.81	3.58	3.27	3.09	2.86	2.68
190	4.43	3.81	3.59	3.29	3.11	2.88	2.70	4.55	3.93	3.70	3.39	3.20	2.97	2.78
200	4.56	3.95	3.73	3.42	3.23	3.01	2.82	4.67	4.05	3.82	3.51	3.31	3.08	2.88
210	4.66	4.06	3.84	3.53	3.34	3.11	2.91	4.77	4.16	3.93	3.62	3.42	3.18	2.98
220	4.78	4.18	3.95	3.65	3.45	3.22	3.02	4.88	4.27	4.04	3.72	3.52	3.28	3.08
230	4.89	4.29	4.07	3.76	3.56	3.32	3.12	4.99	4.38	4.16	3.84	3.64	3.39	3.19
240	4.99	4.40	4.18	3.87	3.67	3.42	3.22	5.09	4.49	4.26	3.95	3.74	3.49	3.28
250	5.09	4.50	4.28	3.97	3.77	3.52	3.31	5.19	4.59	4.37	4.05	3.84	3.59	3.38

Notes:

These tables are not applicable to slabs where the deck is supplied in single span lengths (use Multideck Design software to determine suitable bottom bar requirements)

Multideck 80-V2
Fire Resistance Load Tables
Dramix® Reinforced Concrete
(20kg/m³ RC-80/60-BN)

1 Hour Fire Rating - Lightweight Concrete

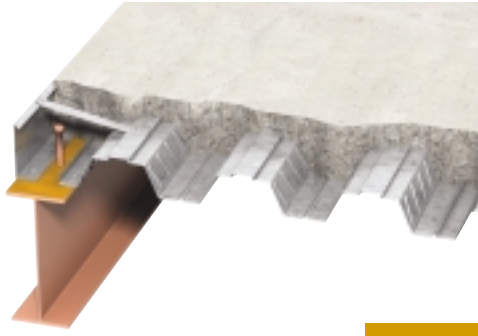
Slab Depth (mm)	Span (m)						
	Gauge 1.0mm						
	Total Applied Load (kN/m²)						
	2.0	4.0	5.0	6.7	8.0	10.0	12.0
140	5.20	4.23	3.91	3.52	3.29	3.01	2.79
150	5.36	4.39	4.07	3.66	3.43	3.14	2.91
160	5.51	4.55	4.23	3.81	3.57	3.27	3.05
170	5.65	4.69	4.37	3.95	3.70	3.40	3.16
180	5.78	4.84	4.51	4.09	3.83	3.52	3.28
190	5.91	4.97	4.64	4.21	3.96	3.64	3.40
200	6.04	5.10	4.77	4.34	4.09	3.77	3.51
210	6.16	5.23	4.91	4.47	4.21	3.88	3.63
220	6.27	5.35	5.03	4.59	4.32	3.99	3.73
230	2.88	5.48	5.16	4.72	4.45	4.12	3.84
240	6.52	5.61	5.28	4.84	4.57	4.23	3.96
250	6.64	5.74	5.41	4.96	4.69	4.34	4.07

1.5 Hour Fire Rating - Lightweight Concrete

Slab Depth (mm)	Span (m)						
	Gauge 1.0mm						
	Total Applied Load (kN/m²)						
	2.0	4.0	5.0	6.7	8.0	10.0	12.0
150	4.20	3.45	3.20	2.89	2.70	2.48	2.30
160	4.35	3.60	3.35	3.02	2.84	2.60	2.42
170	4.51	3.75	3.49	3.16	2.96	2.73	2.54
180	4.65	3.89	3.63	3.29	3.09	2.84	2.65
190	4.79	4.03	3.77	3.42	3.22	2.96	2.77
200	4.92	4.16	3.91	3.55	3.34	3.08	2.88
210	5.07	4.31	4.04	3.69	3.47	3.20	2.99
220	5.20	4.44	4.16	3.80	3.59	3.31	3.10
230	5.34	4.58	4.30	3.94	3.72	3.44	3.22
240	5.47	4.71	4.44	4.06	3.84	3.55	3.33
250	5.60	4.84	4.56	4.19	3.96	3.67	3.44

Notes:
These tables are not applicable to slabs where the deck is supplied in single span lengths (use Multideck Design software to determine suitable bottom bar requirements)

Multideck 80-V2
Fire Resistance Load Tables
Dramix® Reinforced Concrete
(20kg/m³ RC-80/60-BN)



1 Hour Fire Rating - Lightweight Concrete

Slab Depth (mm)	Span (m)													
	Gauge 1.1mm							Gauge 1.2mm						
	Total Applied Load (kN/m²)							Total Applied Load (kN/m²)						
	2.0	4.0	5.0	6.7	8.0	10.0	12.0	2.0	4.0	5.0	6.7	8.0	10.0	12.0
140	5.39	4.39	4.06	3.65	3.41	3.12	2.90	5.57	4.53	4.20	3.77	3.52	3.22	2.98
150	5.55	4.55	4.22	3.80	3.55	3.25	3.02	5.73	4.70	4.35	3.92	3.66	3.36	3.12
160	5.70	4.70	4.37	3.95	3.69	3.38	3.15	5.88	4.86	4.52	4.07	3.81	3.50	3.25
170	5.84	4.85	4.52	4.09	3.83	3.52	3.27	6.02	5.01	4.66	4.21	3.95	3.63	3.38
180	5.98	5.00	4.66	4.23	3.96	3.65	3.40	6.16	5.16	4.81	4.36	4.09	3.76	3.50
190	6.11	5.13	4.80	4.36	4.09	3.77	3.52	6.29	5.29	4.95	4.49	4.22	3.88	3.62
200	6.23	5.27	4.93	4.48	4.21	3.88	3.63	6.41	5.42	5.08	4.62	4.34	4.00	3.73
210	6.35	5.40	5.06	4.61	4.34	4.01	3.74	2.88	5.55	5.20	4.74	4.47	4.12	3.84
220	6.48	5.53	5.20	4.74	4.47	4.13	3.85	6.66	5.69	5.34	4.88	4.59	4.24	3.96
230	6.59	5.65	5.31	4.86	4.58	4.23	3.96	6.77	5.80	5.46	4.99	4.71	4.35	4.07
240	6.70	5.77	5.43	4.98	4.70	4.34	4.07	6.88	5.92	5.58	5.11	4.82	4.46	4.18
250	6.83	5.90	5.56	5.10	4.82	4.47	4.18	7.01	6.05	5.71	5.23	4.95	4.59	4.30

1.5 Hour Fire Rating - Lightweight Concrete

Slab Depth (mm)	Span (m)													
	Gauge 1.1mm							Gauge 1.2mm						
	Total Applied Load (kN/m²)							Total Applied Load (kN/m²)						
	2.0	4.0	5.0	6.7	8.0	10.0	12.0	2.0	4.0	5.0	6.7	8.0	10.0	12.0
150	4.33	3.55	3.30	2.98	2.78	2.55	2.38	4.46	3.66	3.40	3.06	2.87	2.63	2.45
160	4.49	3.71	3.45	3.12	2.92	2.69	2.50	4.61	3.81	3.55	3.20	3.00	2.75	2.56
170	4.63	3.86	3.59	3.25	3.05	2.80	2.61	4.76	3.96	3.69	3.34	3.13	2.88	2.68
180	4.77	4.00	3.73	3.38	3.17	2.92	2.73	4.91	4.11	3.84	3.48	3.27	3.00	2.80
190	4.91	4.13	3.87	3.51	3.30	3.04	2.84	5.04	4.24	3.97	3.60	3.39	3.13	2.91
200	5.05	4.27	4.00	3.64	3.42	3.16	2.95	5.17	4.38	4.10	3.73	3.51	3.23	3.02
210	5.19	4.41	4.14	3.77	3.55	3.28	3.06	5.30	4.52	4.23	3.86	3.63	3.35	3.13
220	5.32	4.55	4.27	3.90	3.68	3.40	3.18	5.44	4.64	4.36	3.98	3.76	3.47	3.24
230	5.45	4.68	4.41	4.03	3.80	3.52	3.29	5.56	4.78	4.49	4.11	3.88	3.59	3.36
240	5.58	4.80	4.52	4.15	3.91	3.63	3.40	5.70	4.91	4.63	4.23	4.00	3.70	3.47
250	5.71	4.94	4.66	4.27	4.04	3.74	3.51	5.81	5.03	4.74	4.35	4.12	3.81	3.58

Notes:

These tables are not applicable to slabs where the deck is supplied in single span lengths (use Multideck Design software to determine suitable bottom bar requirements)