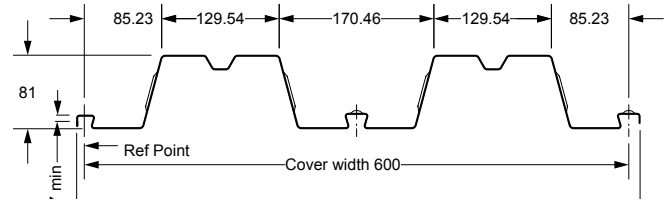


# Ultra Span-80 1.2t

Volume & Weight of Concrete (kN/m<sup>2</sup>) Table 1

Slab Depth (mm)	Volume (m <sup>3</sup> /m <sup>2</sup> )	Normal Weight Concrete	
		Wet	Dry
130	0.090	2.16	2.12
140	0.100	2.40	2.35
150	0.110	2.64	2.59
160	0.120	2.88	2.82
180	0.140	3.36	3.29
200	0.160	3.84	3.76
220	0.180	4.32	4.23
240	0.200	4.80	4.70
250	0.210	5.04	4.94
255	0.215	5.16	5.05
260	0.220	5.28	5.17
265	0.225	5.40	5.29

## Composite Slab Design Information



Volume & Weight Table

- The weight of concrete is: 2400 kg/m<sup>3</sup> (Wet)  
2350 kg/m<sup>3</sup> (Dry)
- Deck, mesh weight and reinforcing are not included.
- Ponding is not allowed for in this table

Note :- The height of the neutral axis is taken from the under side of the steel deck.

### Ultra Span-80 Construction tables

t = 1.2 mm

Table 7

Span (n10) Clear span + 150 mm	Progs	Slab Depth (mm)	Max Span (m)	Max Defl (mm)	Span (m)	Defl (mm)	Span (m)	Defl (mm)	Span (m)	Defl (mm)	Limit B&C 1.5	Span	L/130
												Depth	
 Single span		130	3.90	18	3.90	18	3.40	10	2.80	5		30.0	30
		140	4.20	27	3.90	20	3.30	10	2.80	5		30.0	32
		150	4.21	30	3.82	20	3.20	10	2.70	5		28.1	32
		160	4.13	29	3.78	20	3.14	10	2.70	5		25.8	32
		180	4.00	29	3.66	20	3.10	10	2.60	5		22.2	31
		200	3.89	30	3.55	20	3.00	10	2.50	5		19.4	30
		220	3.79	29	3.45	20	2.90	10	2.40	5		17.2	29
 Multiple span		130	4.55	14	4.55	14	4.20	10	3.45	5	0.99	35.0	35
		140	4.90	21	4.85	20	4.10	10	3.40	5	1.18	35.0	38
		150	5.25	31	4.75	20	4.00	10	3.35	5	1.40	35.0	40
		160	5.15	30	4.65	20	3.90	10	3.30	5	1.42	32.2	40
		180	4.96	30	4.50	20	3.80	10	3.20	5	1.47	27.6	38
		200	4.85	30	4.40	20	3.70	10	3.10	5	1.55	24.3	37
 Single span (propped)	1	130	4.55	0.9							0.42	35.0	35
	1	140	4.90	1.3							0.50	35.0	19
	1	150	5.25	1.9							0.58	35.0	20
	1	160	5.60	2.7							0.67	35.0	22
	1	180	6.30	5.0							0.87	35.0	24
	1	200	7.00	8.6							1.11	35.0	27
	1	220	7.69	14.0							1.38	35.0	30
	1	240	8.20	19.9							1.63	34.2	32
	1	250	8.80	27.8							1.89	35.2	34
	1	255	8.90	29.7							1.95	34.9	34
	2	260	9.10	6.6							1.16	35.0	35
2	265	9.22	7.1							1.20	34.8	35	

\*clear span + 150 mm

## USING THE CONSTRUCTION & COMPOSITE SPAN TABLES

Both the single span and the multiple span sections of this table are controlled by the span to depth ratio, the span/130 ratio and the calculated deflections. The multiple span and single span propped section is further controlled by a bending and crushing limit of 1.5.

The single span and multiple span sections provide both a value for the maximum possible span as well as spans of lower deflections.

The single span propped section is controlled by all of the above as well as inputs from the composite span tables. The live loads as indicated in red at the base of this table only apply to the single span propped section. Were the imposed load is 0 the result represents the dead load of the composite slab.

All strength calculations in the Composite Span tables are based on 30 MPa concrete.

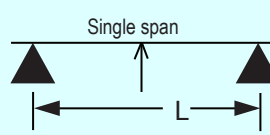
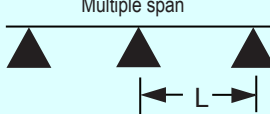
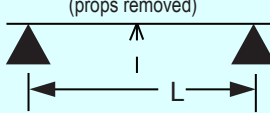
The values of span in this section are further influenced by the deflections imposed by the weight of live load plus dead load. The allowable deflection is a function of span/300.

A further restraint is the bending moment. The calculated bending moment must not exceed moment capacity the values of which are shown in the appropriate 'Composite Properties Tables'

To assist a designer in calculations of deflection, due to long term loading, properties of the composite slab using a modular ratio of 18 are shown along side the modular ratio of 10.

Deflection calculations in the composite tables are based on a modular ratio of 10.

Strength calculations in the Composite Span tables are based on 30 MPa concrete.

Ultra Span-80 Composite span tables										t = 1.2 mm		Table 8	
Support Condition	Slab Depth (mm)	30 Mpa concrete n=10 Imposed Load (kPa)				30 Mpa concrete n=18 Imposed Load (kPa)				BM (kNm)	L/300	n=10 Span Ratio	n=18 Span Ratio
		0	3.5	5	10	0	3.5	5	10				
 <p>Single span</p>	130	3.90	3.90	3.90	3.70	3.90	3.90	3.90	3.60	30.9	13.0	30.0	30.0
	140	4.20	4.20	4.20	4.10	4.20	4.20	4.20	3.80	38.6	14.0	30.0	30.0
	150	4.21	4.21	4.21	4.21	4.21	4.21	4.21	4.00	41.3	14.0	28.1	28.1
	160	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.13	40.3	13.8	25.8	25.8
	180	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	38.9	13.3	22.2	22.2
	200	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	37.8	13.0	19.4	19.4
	220	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	36.8	12.6	17.2	17.2
 <p>Multiple span</p>	130	4.55	4.55	4.55	3.70	4.55	4.55	4.55	3.70	31.0	15.2	35.0	35.0
	140	4.90	4.90	4.90	4.10	4.90	4.90	4.90	4.10	38.7	16.3	35.0	35.0
	150	5.25	5.25	5.25	4.40	5.25	5.25	5.25	4.40	45.4	17.5	35.0	35.0
	160	5.15	5.15	5.15	4.80	5.15	5.15	5.15	4.80	54.8	17.2	32.2	32.2
	180	4.96	4.96	4.96	4.96	4.96	4.96	4.96	4.96	60.1	16.5	27.6	27.6
	200	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	59.1	16.2	24.3	24.3
	220	4.67	4.67	4.67	4.67	4.67	4.67	4.67	4.67	56.2	15.6	21.2	21.2
 <p>Single span (props removed)</p>	130	4.55	4.55	4.30	3.20	4.55	4.55	3.80	3.20	23.2	15.2	35.0	35.0
	140	4.90	4.90	4.60	3.50	4.90	4.90	4.10	3.20	28.2	16.3	35.0	35.0
	150	5.25	5.20	4.80	3.90	5.25	4.60	4.30	3.60	35.6	17.5	35.0	35.0
	160	5.60	5.40	5.10	4.20	5.60	4.90	4.50	3.80	42.0	18.7	35.0	35.0
	180	6.30	6.00	5.60	4.80	6.30	5.30	5.00	4.20	56.7	21.0	35.0	35.0
	200	7.00	6.50	6.10	5.20	7.00	5.70	5.40	4.60	68.7	23.3	35.0	35.0
	220	7.69	6.90	6.50	5.70	7.50	6.20	5.80	5.00	85.1	25.6	35.0	34.1
	240	8.20	7.40	7.00	6.10	7.90	6.60	6.20	5.40	100.3	27.3	34.2	32.9
	250	8.80	7.70	7.20	6.30	8.10	6.80	6.40	5.60	108.7	29.3	35.2	32.4
	255	8.90	7.80	7.40	6.40	8.20	6.90	6.50	5.70	112.9	29.7	34.9	32.2
	260	9.10	7.90	7.50	6.50	8.30	7.00	6.60	5.80	117.3	30.3	35.0	31.9
	265	9.22	8.00	7.60	6.60	8.40	7.10	6.70	5.90	121.8	30.7	34.8	31.7

\* clear span + 150 mm