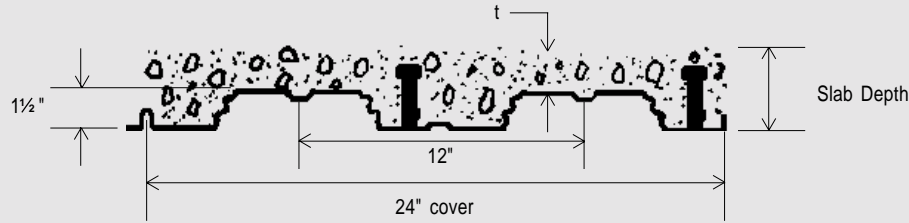




1.5" LOK-FLOOR



The **Deck Section Properties** are per foot of width. The I value is for positive bending (in.⁴); t is the gage thickness in inches; w is the weight in pounds per square foot; S_p and S_n are the section moduli for positive and negative bending (in.³); R_b and ϕV_n are the interior reaction and the shear in pounds (per foot of width); studs is the number of studs required per foot in order to obtain the full resisting moment, ϕM_n .

DECK PROPERTIES									
Gage	t	w	As	I	S _p	S _n	R _b	ϕV_n	studs
22	0.0295	1.5	0.430	0.189	0.206	0.207	692	1560	0.36
20	0.0358	1.8	0.520	0.237	0.267	0.270	972	1890	0.43
19	0.0418	2.1	0.610	0.276	0.327	0.330	1280	2200	0.51
18	0.0474	2.3	0.690	0.313	0.378	0.376	1610	2490	0.57
16	0.0598	3.0	0.870	0.395	0.474	0.474	2370	3130	0.72

The **Composite Properties** are a list of values for the composite slab. The **slab depth** is the distance from the bottom of the steel deck to the top of the slab in inches as shown on the sketch. U.L. ratings generally refer to the cover over the top of the deck so it is important to be aware of the difference in names. ϕM_n is the factored resisting moment provided by the composite slab when the "full" number of studs as shown in the upper table are in place; inch kips (per foot of width). A_c is the area of concrete available to resist shear, in.² per foot of width. **Vol.** is the volume of concrete in ft.³ per ft.² needed to make up the slab; no allowance for frame or deck deflection is included. **W** is the concrete weight in pounds per ft.². S_c is the section modulus of the "cracked" concrete composite slab; in.³ per foot of width. I_{av} is the average of the "cracked" and "uncracked" moments of inertia of the transformed composite slab; in.⁴ per foot of width. The I_{av} transformed section analysis is based on steel; therefore, to calculate deflections the appropriate modulus of elasticity to use is 29.5×10^6 psi. ϕM_{no} is the factored resisting moment of the composite slab if there are **no studs** on the beams (the deck is attached to the beams or walls on which it is resting) inch kips (per foot of width). ϕV_n is the factored vertical shear resistance of the composite system; it is the sum of the shear resistances of the steel deck and the concrete but is not allowed to exceed $\phi 4(f'_c)^{1/2} A_c$; pounds (per foot of width). The next three columns list the **maximum unshored spans** in feet; these values are obtained by using the construction loading requirements of the SDI; combined bending and shear, deflection, and interior reactions are considered in calculating these values. A_{wvf} is the minimum area of welded wire fabric recommended for temperature reinforcing in the composite slab; square inches per foot.

COMPOSITE PROPERTIES													
	Slab Depth	ϕM_n in.k	A_c in ²	Vol. ft ³ /ft ²	W psf	S_c in ³	I_{av} in ⁴	ϕM_{no} in.k	ϕV_n lbs.	Max. unshored spans, ft.			A_{wvf}
										1span	2span	3span	
22 gage	4.00	36.40	30.7	0.271	39	0.97	4.4	27.28	4420	4.86	6.49	6.57	0.023
	4.50	42.43	36.0	0.313	45	1.16	6.2	32.47	4910	4.62	6.20	6.27	0.027
	4.75	45.45	38.8	0.333	48	1.25	7.3	35.12	5170	4.52	6.07	6.14	0.029
	5.00	48.46	41.7	0.354	51	1.35	8.4	37.79	5440	4.42	5.95	6.02	0.032
	5.50	54.50	47.0	0.396	57	1.54	11.1	43.20	5940	4.25	5.72	5.79	0.036
	5.75	57.51	49.4	0.417	60	1.64	12.7	45.94	6160	4.17	5.62	5.69	0.038
	6.00	60.53	51.8	0.438	63	1.74	14.3	48.68	6380	4.12	5.53	5.59	0.041
	6.50	66.56	56.5	0.479	69	1.93	18.1	54.22	6820	4.03	5.35	5.41	0.045
20 gage	6.75	69.57	58.9	0.500	73	2.03	20.2	57.00	7040	3.98	5.27	5.33	0.047
	7.00	72.59	61.3	0.521	76	2.13	22.4	59.79	7260	3.94	5.19	5.25	0.050
	4.00	43.31	30.7	0.271	39	1.16	4.8	32.48	4750	5.74	7.68	7.79	0.023
	4.50	50.61	36.0	0.313	45	1.38	6.7	38.69	5240	5.45	7.30	7.42	0.027
	4.75	54.25	38.8	0.333	48	1.49	7.8	41.86	5500	5.32	7.13	7.25	0.029
	5.00	57.90	41.7	0.354	51	1.61	9.0	45.06	5770	5.20	6.97	7.10	0.032
	5.50	65.19	47.0	0.396	57	1.84	11.8	51.55	6270	4.99	6.68	6.82	0.036
	5.75	68.84	49.4	0.417	60	1.95	13.5	54.83	6490	4.90	6.54	6.70	0.038
19 gage	6.00	72.49	51.8	0.438	63	2.07	15.2	58.13	6710	4.84	6.42	6.58	0.041
	6.50	79.78	56.5	0.479	69	2.31	19.2	64.78	7150	4.72	6.18	6.36	0.045
	6.75	83.43	58.9	0.500	73	2.43	21.4	68.12	7370	4.67	6.08	6.26	0.047
	7.00	87.07	61.3	0.521	76	2.55	23.7	71.48	7590	4.62	5.97	6.16	0.050
	4.00	49.98	30.7	0.271	39	1.34	5.1	37.46	5060	6.51	8.49	8.77	0.023
	4.50	58.54	36.0	0.313	45	1.59	7.1	44.68	5550	6.17	8.07	8.33	0.027
	4.75	62.81	38.8	0.333	48	1.72	8.2	48.37	5810	6.03	7.88	8.14	0.029
	5.00	67.09	41.7	0.354	51	1.86	9.5	52.10	6080	5.89	7.70	7.96	0.032
18 gage	5.50	75.65	47.0	0.396	57	2.13	12.5	59.67	6580	5.64	7.38	7.63	0.036
	5.75	79.92	49.4	0.417	60	2.26	14.2	63.49	6800	5.54	7.24	7.47	0.038
	6.00	84.20	51.8	0.438	63	2.40	16.1	67.34	7020	5.46	7.10	7.33	0.041
	6.50	92.76	56.5	0.479	69	2.68	20.2	75.10	7460	5.33	6.84	7.07	0.045
	6.75	97.03	58.9	0.500	73	2.82	22.5	79.00	7680	5.27	6.72	6.94	0.047
	7.00	101.31	61.3	0.521	76	2.96	25.0	82.92	7900	5.21	6.61	6.83	0.050
	4.00	55.70	30.7	0.271	39	1.49	5.3	41.82	5350	7.11	9.05	9.36	0.023
	4.50	65.38	36.0	0.313	45	1.78	7.4	49.93	5840	6.74	8.61	8.90	0.027
16 gage	4.75	70.22	38.8	0.333	48	1.93	8.6	54.07	6100	6.58	8.41	8.69	0.029
	5.00	75.06	41.7	0.354	51	2.08	10.0	58.27	6370	6.42	8.22	8.50	0.032
	5.50	84.73	47.0	0.396	57	2.38	13.1	66.77	6870	6.15	7.88	8.15	0.036
	5.75	89.57	49.4	0.417	60	2.53	14.9	71.08	7090	6.03	7.73	7.98	0.038
	6.00	94.41	51.8	0.438	63	2.69	16.8	75.41	7310	5.95	7.58	7.83	0.041
	6.50	104.09	56.5	0.479	69	3.00	21.1	84.14	7750	5.81	7.31	7.55	0.045
	6.75	108.93	58.9	0.500	73	3.16	23.5	88.54	7970	5.74	7.18	7.42	0.047
	7.00	113.76	61.3	0.521	76	3.31	26.1	92.95	8190	5.67	7.06	7.30	0.050
16 gage	4.00	55.70	30.7	0.271	39	1.83	5.8	41.82	5710	8.14	10.15	10.49	0.023
	4.50	65.38	36.0	0.313	45	2.19	8.1	49.93	6480	7.71	9.66	9.98	0.027
	4.75	70.22	38.8	0.333	48	2.37	9.5	54.07	6740	7.51	9.44	9.75	0.029
	5.00	75.06	41.7	0.354	51	2.56	10.9	58.27	7010	7.34	9.23	9.54	0.032
	5.50	84.73	47.0	0.396	57	2.94	14.3	66.77	7510	7.02	8.85	9.15	0.036
	5.75	89.57	49.4	0.417	60	3.13	16.3	71.08	7730	6.88	8.68	8.97	0.038
	6.00	94.41	51.8	0.438	63	3.32	18.3	75.41	7950	6.79	8.52	8.80	0.041
	6.50	104.09	56.5	0.479	69	3.71	23.0	84.14	8390	6.62	8.21	8.49	0.045
7.00	113.76	61.3	0.521	76	4.10	28.3	92.95	8830	6.46	7.94	8.21	0.050	



		L, Uniform Live Loads, psf *														
		Slab Depth	ϕM_n in.k	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00
22 gage	4.00	36.40	400	400	390	330	280	240	205	180	155	140	120	105	95	
	4.50	42.43	400	400	400	385	325	280	240	210	185	160	140	125	110	
	5.00	48.46	400	400	400	400	375	320	275	240	210	185	160	145	125	
	5.50	54.50	400	400	400	400	400	360	310	270	235	205	185	160	145	
	6.00	60.53	400	400	400	400	400	400	345	300	265	230	205	180	160	
	6.50	66.56	400	400	400	400	400	400	400	380	330	290	255	225	200	175
	6.75	69.57	400	400	400	400	400	400	400	395	345	300	265	235	205	185
7.00	72.59	400	400	400	400	400	400	400	400	360	315	275	245	215	190	
20 gage	4.00	43.31	400	400	400	395	340	290	250	220	190	170	150	135	120	
	4.50	50.61	400	400	400	400	395	340	295	255	225	200	175	155	140	
	5.00	57.90	400	400	400	400	400	390	335	295	260	225	200	180	160	
	5.50	65.19	400	400	400	400	400	400	380	330	290	255	225	200	180	
	6.00	72.49	400	400	400	400	400	400	400	370	325	285	255	225	200	
	6.50	79.78	400	400	400	400	400	400	400	400	355	315	280	250	220	
	6.75	83.43	400	400	400	400	400	400	400	400	375	330	290	260	230	
7.00	87.07	400	400	400	400	400	400	400	400	390	345	305	270	240		
19 gage	4.00	49.98	400	400	400	400	395	340	295	255	225	200	175	160	140	
	4.50	58.54	400	400	400	400	400	400	345	300	265	235	210	185	165	
	5.00	67.09	400	400	400	400	400	400	395	345	305	270	240	215	190	
	5.50	75.65	400	400	400	400	400	400	400	390	345	305	270	240	215	
	6.00	84.20	400	400	400	400	400	400	400	400	385	340	300	270	240	
	6.50	92.76	400	400	400	400	400	400	400	400	400	375	335	295	265	
	6.75	97.03	400	400	400	400	400	400	400	400	400	390	350	310	280	
7.00	101.31	400	400	400	400	400	400	400	400	400	400	365	325	290		
18 gage	4.00	55.70	400	400	400	400	400	380	330	290	255	225	200	180	160	
	4.50	65.38	400	400	400	400	400	400	390	340	300	265	235	210	190	
	5.00	75.06	400	400	400	400	400	400	400	395	345	305	270	245	220	
	5.50	84.73	400	400	400	400	400	400	400	400	390	345	310	275	245	
	6.00	94.41	400	400	400	400	400	400	400	400	400	385	345	305	275	
	6.50	104.09	400	400	400	400	400	400	400	400	400	400	380	340	305	
	6.75	108.93	400	400	400	400	400	400	400	400	400	400	400	355	320	
7.00	113.76	400	400	400	400	400	400	400	400	400	400	400	370	335		
16 gage	4.00	55.70	400	400	400	400	400	380	330	290	255	225	200	180	160	
	4.50	65.38	400	400	400	400	400	400	390	340	300	265	235	210	190	
	5.00	75.06	400	400	400	400	400	400	400	395	345	305	270	245	220	
	5.50	84.73	400	400	400	400	400	400	400	400	390	345	310	275	245	
	6.00	94.41	400	400	400	400	400	400	400	400	400	385	345	305	275	
	6.50	104.09	400	400	400	400	400	400	400	400	400	400	380	340	305	
	6.75	108.93	400	400	400	400	400	400	400	400	400	400	400	355	320	
7.00	113.76	400	400	400	400	400	400	400	400	400	400	400	370	335		
22 gage	4.00	27.28	400	345	285	240	200	170	145	125	110	95	85	75	65	
	4.50	32.47	400	400	340	285	240	205	175	150	130	115	100	90	75	
	5.00	37.79	400	400	400	335	280	240	205	180	155	135	120	105	90	
	5.50	43.20	400	400	400	380	325	275	235	205	180	155	135	120	105	
	6.00	48.68	400	400	400	400	365	310	270	230	200	175	155	135	120	
	6.50	54.22	400	400	400	400	400	350	300	260	225	195	175	150	135	
	6.75	57.00	400	400	400	400	400	365	315	275	240	210	180	160	140	
7.00	59.79	400	400	400	400	400	385	330	285	250	220	190	170	150		
20 gage	4.00	32.48	400	400	345	290	245	210	180	155	135	120	105	90	80	
	4.50	38.69	400	400	400	345	295	250	215	190	165	145	125	110	100	
	5.00	45.06	400	400	400	400	345	295	255	220	190	170	150	130	115	
	5.50	51.55	400	400	400	400	395	335	290	255	220	195	170	150	135	
	6.00	58.13	400	400	400	400	400	380	330	285	250	220	195	170	150	
	6.50	64.78	400	400	400	400	400	400	370	320	280	245	215	190	170	
	6.75	68.12	400	400	400	400	400	400	390	335	295	260	230	200	180	
7.00	71.48	400	400	400	400	400	400	400	355	310	270	240	210	190		
19 gage	4.00	37.46	400	400	400	340	290	245	215	185	160	140	125	110	100	
	4.50	44.68	400	400	400	400	345	295	255	220	195	170	150	135	120	
	5.00	52.10	400	400	400	400	400	345	300	260	230	200	175	155	140	
	5.50	59.67	400	400	400	400	400	395	345	300	260	230	205	180	160	
	6.00	67.34	400	400	400	400	400	400	390	340	295	260	230	205	185	
	6.50	75.10	400	400	400	400	400	400	400	380	335	295	260	230	205	
	6.75	79.00	400	400	400	400	400	400	400	400	350	310	275	245	215	
7.00	82.92	400	400	400	400	400	400	400	400	370	325	285	255	225		
18 gage	4.00	41.82	400	400	400	380	325	280	240	210	185	160	145	125	115	
	4.50	49.93	400	400	400	400	390	335	290	250	220	195	170	155	135	
	5.00	58.27	400	400	400	400	400	390	340	295	260	230	200	180	160	
	5.50	66.77	400	400	400	400	400	400	390	340	300	265	235	210	185	
	6.00	75.41	400	400	400	400	400	400	400	385	340	300	265	235	210	
	6.50	84.14	400	400	400	400	400	400	400	400	380	335	295	265	235	
	6.75	88.54	400	400	400	400	400	400	400	400	400	355	315	280	250	
7.00	92.95	400	400	400	400	400	400	400	400	400	370	330	295	260		
16 gage	4.00	41.82	400	400	400	380	325	280	240	210	185	160	145	125	115	
	4.50	49.93	400	400	400	400	390	335	290	250	220	195	170	155	135	
	5.00	58.27	400	400	400	400	400	390	340	295	260	230	200	180	160	
	5.50	66.77	400	400	400	400	400	400	390	340	300	265	235	210	185	
	6.00	75.41	400	400	400	400	400	400	400	385	340	300	265	235	210	
	6.50	84.14	400	400	400	400	400	400	400	400	380	335	295	265	235	
	6.75	88.54	400	400	400	400	400	400	400	400	400	355	315	280	250	
7.00	92.95	400	400	400	400	400	400	400	400	400	370	330	295	260		

1 STUD/FT.
 NO STUDS

* The Uniform Live Loads are based on the LRFD equation $\phi M_n = (1.6L + 1.2D)l/8$. Although there are other load combinations that may require investigation, this will control most of the time. The equation assumes there is no negative bending reinforcement over the beams and therefore each composite slab is a single span. Two sets of values are shown; ϕM_{n1} is used to calculate the uniform load when the full required number of studs is present; ϕM_{n0} is used to calculate the load when no studs are present. A straight line interpolation can be done if the average number of studs is between zero and the required number needed to develop the "full" factored moment. The tabulated loads are checked for shear controlling (it seldom does), and also limited to a live load deflection of 1/360 of the span.

An upper limit of 400 psf has been applied to the tabulated loads. This has been done to guard against equating large concentrated to uniform loads. Concentrated loads may require special analysis and design to take care of serviceability requirements not covered by simply using a uniform load value. On the other hand, for any load combination the values provided by the composite properties can be used in the calculations.

Welded wire fabric in the required amount is assumed for the table values. If welded wire fabric is not present, deduct 10% from the listed loads.

Refer to the example problems for the use of the tables.