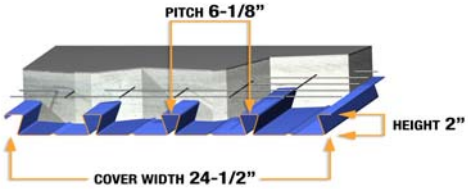
Metal Dek Group®
a unit of CSI®

VERSA-DEK® LS FLOOR (LRFD)

2" high x 6-1/8" pitch x 24-1/2" wide



SECTION PROPERTIES

fy=40 ksi

GAGE	Wd	I_D	Sp	Sn	Rbe			Rbi		
					2"	3"	4"	4"	5"	6"
22	2.23	0.407	0.288	0.281	1089	1254	1393	2076	2239	2386
20	2.71	0.495	0.361	0.347	1550	1777	1969	2947	3170	3372
18	3.58	0.658	0.483	0.484	2583	2942	3245	4892	5245	5563
16	4.51	0.832	0.614	0.617	3937	4461	4902	7441	7952	8414

MAXIMUM SUPERIMPOSED LRFD LOADS, (psf), NO STUDS ON BEAMS

h (Wc)		4 (44.4)				4.25 (47.4)				4.5 (50.4)				4.75 (53.5)			
Span	Load Combinations	GAGE															
		22	20	18	16	22	20	18	16	22	20	18	16	22	20	18	16
8'-0"	$\lambda_D D+\lambda_L L$ (Strength)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	D+L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
9'-0"	$\lambda_D D+\lambda_L L$ (Strength)	359	377	400	400	388	400	400	400	400	400	400	400	400	400	400	400
	D+L (Deflection)	359	377	400	400	388	400	400	400	400	400	400	400	400	400	400	400
	L (Deflection)	356	377	400	400	388	400	400	400	400	400	400	400	400	400	400	400
10'-0"	$\lambda_D D+\lambda_L L$ (Strength)	279	302	336	400	314	339	377	400	351	379	400	400	389	400	400	400
	D+L (Deflection)	279	302	336	400	314	339	377	400	351	379	400	400	389	400	400	400
	L (Deflection)	260	279	311	342	306	329	366	400	351	379	400	400	389	400	400	400
11'-0"	$\lambda_D D+\lambda_L L$ (Strength)	219	237	265	289	247	267	298	324	276	299	333	362	307	333	371	400
	D+L (Deflection)	219	237	265	289	247	267	298	324	276	299	333	362	307	333	371	400
	L (Deflection)	195	209	234	257	230	247	275	302	269	289	321	352	307	333	371	400
12'-0"	$\lambda_D D+\lambda_L L$ (Strength)	173	188	211	231	195	213	238	260	219	239	267	291	245	266	298	325
	D+L (Deflection)	173	188	211	231	195	213	238	260	219	239	267	291	245	266	298	325
	L (Deflection)	150	161	180	198	177	190	212	233	208	222	248	271	241	258	287	314
13'-0"	$\lambda_D D+\lambda_L L$ (Strength)	137	150	169	186	155	170	192	210	175	192	216	236	196	214	241	264
	D+L (Deflection)	131	143	164	184	155	170	192	210	175	192	216	236	196	214	241	264
	L (Deflection)	118	127	142	156	140	150	167	183	163	175	195	214	189	203	226	247
14'-0"	$\lambda_D D+\lambda_L L$ (Strength)	108	119	136	150	124	136	155	170	140	154	175	192	158	173	196	215
	D+L (Deflection)	95	105	122	138	118	130	149	168	140	154	175	192	158	173	196	215
	L (Deflection)	95	102	113	125	112	120	133	147	131	140	156	171	152	162	181	198
15'-0"	$\lambda_D D+\lambda_L L$ (Strength)	85	95	109	121	98	109	125	138	112	124	142	157	127	140	160	176
	D+L (Deflection)	69	77	90	103	86	96	112	127	107	118	136	153	127	140	160	176
	L (Deflection)	69	77	90	101	86	96	109	119	106	114	127	139	123	132	147	161
16'-0"	$\lambda_D D+\lambda_L L$ (Strength)	67	75	87	98	77	87	101	112	101	99	115	128	109	113	130	145
	D+L (Deflection)	48	55	66	76	63	70	83	95	79	88	103	117	97	107	124	141
	L (Deflection)	48	55	66	76	63	70	83	95	79	88	103	115	97	107	121	133
17'-0"	$\lambda_D D+\lambda_L L$ (Strength)	66	58	69	78	74	68	80	91	81	79	93	104	88	90	106	118
	D+L (Deflection)	33	38	47	55	44	50	61	71	57	64	76	88	71	80	94	108
	L (Deflection)	33	38	47	55	44	50	61	71	57	64	76	88	71	80	94	108
18'-0"	$\lambda_D D+\lambda_L L$ (Strength)	53	44	54	62	59	53	63	72	65	79	74	84	70	90	85	96
	D+L (Deflection)	20	25	32	39	29	34	43	51	40	46	56	66	51	58	70	82
	L (Deflection)	20	25	32	39	29	34	43	51	40	46	56	66	51	58	70	82
19'-0"	$\lambda_D D+\lambda_L L$ (Strength)	42	48	41	48	46	56	49	57	51	65	58	67	55	74	67	77
	D+L (Deflection)	10	14	20	26	17	22	29	36	26	31	39	48	35	41	51	61
	L (Deflection)	10	14	20	26	17	22	29	36	26	31	39	48	35	41	51	61
20'-0"	$\lambda_D D+\lambda_L L$ (Strength)	32	38	30	36	35	45	37	44	39	52	44	52	42	60	52	61
	D+L (Deflection)	2	5	10	15	8	11	18	23	15	19	26	33	22	27	36	44
	L (Deflection)	2	5	10	15	8	11	18	23	15	19	26	33	22	27	36	44

MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS

1span	6'-5"	7'-4"	8'-9"	10'-0"	6'-3"	7'-2"	8'-6"	9'-9"	6'-1"	7'-0"	8'-4"	9'-6"	6'-0"	6'-10"	8'-1"	9'-3"
2span	8'-4"	9'-2"	10'-10"	12'-2"	8'-1"	9'-0"	10'-7"	11'-11"	7'-11"	8'-9"	10'-4"	11'-8"	7'-9"	8'-7"	10'-2"	11'-5"
3span	8'-7"	9'-6"	11'-2"	12'-7"	8'-5"	9'-3"	10'-11"	12'-4"	8'-2"	9'-1"	10'-8"	12'-0"	8'-0"	8'-11"	10'-6"	11'-9"
cantilever	2'-9"	3'-3"	4'-2"	4'-10"	2'-9"	3'-2"	4'-1"	4'-9"	2'-8"	3'-2"	4'-0"	4'-8"	2'-8"	3'-1"	3'-11"	4'-7"
cy/100sf	1.13				1.21				1.29				1.37			

8'-0" ↑	$\lambda_D D+\lambda_L L$ (Strength)	400 ← **Max. superimposed LRFD factored dead + live load (psf) (governed by strength limitation)**
	D+L (Deflection)	400 ← **Max. superimposed LRFD unfactored dead + live load (psf) (governed by deflection limitation of L/240)**
	L (Deflection)	400 ← **Max. superimposed LRFD unfactored live load (psf) (governed by deflection limitation of L/360)**

Vertical load span (center to center spacing)

Wd Weight of deck (uncoated), psf

I_D Moment of inertia for deflection per foot of deck width (in^4)/ft

Sp Section modulus for positive bending per foot of deck width, (in^3)/ft

Sn Section modulus for negative bending per foot of deck width, (in^3)/ft

f'c 3000 psi

λ_D, λ_L Load factors for dead and live loads to be applied by Engineer in accordance with Building Codes.

Rbe Allowable exterior web crippling value per foot of deck, plf

Rbi Allowable interior web crippling value per foot of deck, plf

h Total height of concrete slab, in

Wc Weight of concrete (neglecting deflection), psf

D Uniform dead load, psf

L Uniform live load, psf

If welded wire fabric is not supplied per ACI requirements (0.00075*Ac), reduce loads by 10%. The section property table is based on 2001 AISI's Cold-Formed Steel Design Manual, 2004 Supplement. The live loads and unshored construction clear spans are based on the Steel Deck Institute's Composite Deck Design Handbook, March 1997 and Design Manual, Pub. No. 30, and ASCE's Standard for the Structural Design of Composite Slabs. The loads in these tables are based on a Simple Span Design Analysis.

145 PCF NORMAL WEIGHT CONCRETE TABLE

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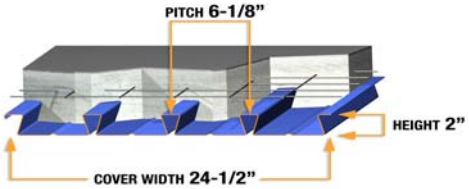
VERSA-DEK® LS FLOOR (LRFD)

2" high x 6-1/8" pitch x 24-1/2" wide



SECTION PROPERTIES

fy=40 ksi

GAGE	Wd	I_D	Sp	Sn	Rbe			Rbi		
					2"	3"	4"	4"	5"	6"
22	2.23	0.407	0.288	0.281	1089	1254	1393	2076	2239	2386
20	2.71	0.495	0.361	0.347	1550	1777	1969	2947	3170	3372
18	3.58	0.658	0.483	0.484	2583	2942	3245	4892	5245	5563
16	4.51	0.832	0.614	0.617	3937	4461	4902	7441	7952	8414

MAXIMUM SUPERIMPOSED LRFD LOADS, (psf), NO STUDS ON BEAMS

Span	h (Wc)	5 (56.5)				5.25 (59.5)				5.5 (62.5)				5.75 (65.5)			
	Load Combinations	GAGE															
		22	20	18	16	22	20	18	16	22	20	18	16	22	20	18	16
8'-0"	λ_DD+λ_LL (Strength)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	D+L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
9'-0"	λ_DD+λ_LL (Strength)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	D+L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
10'-0"	λ_DD+λ_LL (Strength)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	D+L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
11'-0"	λ_DD+λ_LL (Strength)	340	368	400	400	374	400	400	400	400	400	400	400	400	400	400	400
	D+L (Deflection)	340	368	400	400	374	400	400	400	400	400	400	400	400	400	400	400
	L (Deflection)	340	368	400	400	374	400	400	400	400	400	400	400	400	400	400	400
12'-0"	λ_DD+λ_LL (Strength)	272	295	330	360	300	326	364	396	329	357	399	400	360	390	400	400
	D+L (Deflection)	272	295	330	360	300	326	364	396	329	357	399	400	360	390	400	400
	L (Deflection)	272	295	330	360	300	326	364	396	329	357	399	400	360	390	400	400
13'-0"	λ_DD+λ_LL (Strength)	218	238	268	293	242	264	296	324	266	290	326	356	291	317	356	389
	D+L (Deflection)	218	238	268	293	242	264	296	324	266	290	326	356	291	317	356	389
	L (Deflection)	218	234	259	284	242	264	296	324	266	290	326	356	291	317	356	389
14'-0"	λ_DD+λ_LL (Strength)	176	193	219	240	196	214	242	266	216	237	267	293	237	260	293	321
	D+L (Deflection)	176	193	219	240	196	214	242	266	216	237	267	293	237	260	293	321
	L (Deflection)	175	187	208	227	196	214	237	260	216	237	267	293	237	260	293	321
15'-0"	λ_DD+λ_LL (Strength)	142	157	179	197	155	175	199	219	165	193	220	242	175	213	242	266
	D+L (Deflection)	142	157	179	197	155	175	199	219	165	193	220	242	175	213	242	266
	L (Deflection)	142	152	169	185	155	174	193	211	165	193	219	240	175	213	242	266
16'-0"	λ_DD+λ_LL (Strength)	117	127	146	162	126	142	163	181	134	158	181	201	143	175	200	221
	D+L (Deflection)	117	127	146	162	126	142	163	181	134	158	181	201	143	175	200	221
	L (Deflection)	117	125	139	152	126	142	159	174	134	158	181	198	143	175	200	221
17'-0"	λ_DD+λ_LL (Strength)	95	122	119	133	102	136	134	149	109	147	149	166	115	156	165	184
	D+L (Deflection)	88	97	114	130	102	117	134	149	109	138	149	166	115	156	165	184
	L (Deflection)	88	97	114	127	102	117	133	145	109	136	149	165	115	153	165	184
18'-0"	λ_DD+λ_LL (Strength)	76	101	97	109	81	113	109	123	87	121	122	137	93	129	136	153
	D+L (Deflection)	65	73	86	99	79	89	104	119	87	106	122	137	93	126	136	153
	L (Deflection)	65	73	86	99	79	89	104	119	87	106	122	137	93	126	136	153
19'-0"	λ_DD+λ_LL (Strength)	60	84	78	88	64	93	88	100	69	100	100	113	73	106	134	126
	D+L (Deflection)	46	53	64	75	58	66	79	92	69	81	96	110	73	97	113	126
	L (Deflection)	46	53	64	75	58	66	79	92	69	81	96	110	73	97	113	126
20'-0"	λ_DD+λ_LL (Strength)	46	69	81	71	50	76	91	81	53	81	102	92	57	87	113	104
	D+L (Deflection)	31	37	47	56	41	48	59	70	52	60	73	85	57	73	87	101
	L (Deflection)	31	37	47	56	41	48	59	70	52	60	73	85	57	73	87	101

MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS

1span	5'-10"	6'-8"	7'-11"	9'-1"	5'-9"	6'-7"	7'-9"	8'-11"	5'-8"	6'-6"	7'-8"	8'-9"	5'-7"	6'-5"	7'-7"	8'-8"
2span	7'-7"	8'-5"	9'-11"	11'-2"	7'-5"	8'-3"	9'-9"	11'-0"	7'-4"	8'-1"	9'-7"	10'-9"	7'-2"	8'-0"	9'-5"	10'-7"
3span	7'-10"	8'-9"	10'-3"	11'-7"	7'-8"	8'-6"	10'-1"	11'-4"	7'-7"	8'-5"	9'-11"	11'-1"	7'-5"	8'-3"	9'-8"	10'-11"
cantilever	2'-7"	3'-1"	3'-10"	4'-6"	2'-7"	3'-0"	3'-9"	4'-5"	2'-7"	3'-0"	3'-9"	4'-4"	2'-6"	2'-11"	3'-8"	4'-4"
cy/100sf	1.44				1.52				1.60				1.67			

8'-0"	λ_DD+λ_LL (Strength)	400
	D+L (Deflection)	400
	L (Deflection)	400

Max. superimposed LRFD factored dead + live load (psf) (governed by strength limitation)
Max. superimposed LRFD unfactored dead + live load (psf) (governed by deflection limitation of L/240)
Max. superimposed LRFD unfactored live load (psf) (governed by deflection limitation of L/360)
Vertical load span (center to center spacing)

Wd	Weight of deck (uncoated), psf	Rbe	Allowable exterior web crippling value per foot of deck, plf
I_D	Moment of inertia for deflection per foot of deck width (in^4)/ft	Rbi	Allowable interior web crippling value per foot of deck, plf
Sp	Section modulus for positive bending per foot of deck width, (in^3)/ft	h	Total height of concrete slab, in
Sn	Section modulus for negative bending per foot of deck width, (in^3)/ft	Wc	Weight of concrete (neglecting deflection), psf
f'c	3000 psi	D	Uniform dead load, psf
λ_D, λ_L	Load factors for dead and live loads to be applied by Engineer in accordance with Building Codes.	L	Uniform live load, psf

If welded wire fabric is not supplied per ACI requirements (0.00075*Ac), reduce loads by 10%. The section property table is based on 2001 AISI's Cold-Formed Steel Design Manual, 2004 Supplement. The live loads and unshored construction clear spans are based on the Steel Deck Institute's Composite Deck Design Handbook, March 1997 and Design Manual, Pub. No. 30, and ASCE's Standard for the Structural Design of Composite Slabs. The loads in these tables are based on a Simple Span Design Analysis.

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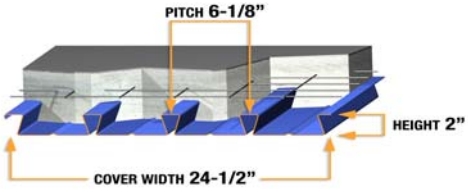

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MAXIMUM SUPERIMPOSED LRFD LOADS, (psf), NO STUDS ON BEAMS

Span	h (Wc)	6 (68.6)				6.25 (71.6)				6.5 (74.6)				6.75 (77.6)			
	Load Combinations	GAGE															
		22	20	18	16	22	20	18	16	22	20	18	16	22	20	18	16
8'-0"	λ_DD+λ_LL (Strength)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	D+L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
9'-0"	λ_DD+λ_LL (Strength)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	D+L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
10'-0"	λ_DD+λ_LL (Strength)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	D+L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
11'-0"	λ_DD+λ_LL (Strength)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	D+L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	L (Deflection)	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
12'-0"	λ_DD+λ_LL (Strength)	391	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	D+L (Deflection)	391	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
	L (Deflection)	391	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
13'-0"	λ_DD+λ_LL (Strength)	318	346	388	400	345	376	400	400	373	400	400	400	400	400	400	400
	D+L (Deflection)	318	346	388	400	345	376	400	400	373	400	400	400	400	400	400	400
	L (Deflection)	318	346	388	400	345	376	400	400	373	400	400	400	400	400	400	400
14'-0"	λ_DD+λ_LL (Strength)	259	284	320	351	241	309	348	381	254	334	377	400	266	361	400	400
	D+L (Deflection)	259	284	320	351	241	309	348	381	254	334	377	400	266	361	400	400
	L (Deflection)	259	284	320	351	241	309	348	381	254	334	377	400	266	361	400	400
15'-0"	λ_DD+λ_LL (Strength)	186	233	265	291	196	254	289	317	207	276	313	345	217	283	339	373
	D+L (Deflection)	186	233	265	291	196	254	289	317	207	276	313	345	217	283	339	373
	L (Deflection)	186	233	265	291	196	254	289	317	207	276	313	345	217	283	339	373
16'-0"	λ_DD+λ_LL (Strength)	151	200	220	243	160	212	240	265	168	223	261	288	177	234	283	313
	D+L (Deflection)	151	200	220	243	160	212	240	265	168	223	261	288	177	234	283	313
	L (Deflection)	151	200	220	243	160	212	240	265	168	223	261	288	177	234	283	313
17'-0"	λ_DD+λ_LL (Strength)	122	166	182	203	129	175	200	222	136	185	218	242	143	194	237	263
	D+L (Deflection)	122	166	182	203	129	175	200	222	136	185	218	242	143	194	237	263
	L (Deflection)	122	166	182	203	129	175	200	222	136	185	218	242	143	194	237	263
18'-0"	λ_DD+λ_LL (Strength)	98	137	151	169	104	145	166	186	109	153	207	203	115	161	225	221
	D+L (Deflection)	98	137	151	169	104	145	166	186	109	153	207	203	115	161	225	221
	L (Deflection)	98	137	151	169	104	145	166	186	109	153	200	203	115	161	222	221
19'-0"	λ_DD+λ_LL (Strength)	78	113	148	140	82	119	162	155	87	126	177	170	91	132	192	186
	D+L (Deflection)	78	113	133	140	82	119	154	155	87	126	177	170	91	132	192	186
	L (Deflection)	78	113	133	140	82	119	153	155	87	126	170	170	91	132	189	186
20'-0"	λ_DD+λ_LL (Strength)	61	92	125	116	64	97	138	129	68	103	150	142	71	108	164	182
	D+L (Deflection)	61	88	104	116	64	97	122	129	68	103	141	142	71	108	162	182
	L (Deflection)	61	88	104	116	64	97	122	129	68	103	141	142	71	108	162	177
MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS																	
1span		5'-6"	6'-4"	7'-5"	8'-6"	5'-5"	6'-3"	7'-4"	8'-5"	5'-5"	6'-2"	7'-3"	8'-4"	5'-4"	6'-1"	7'-2"	8'-2"
2span		7'-1"	7'-10"	9'-3"	10'-5"	6'-11"	7'-8"	9'-1"	10'-3"	6'-10"	7'-7"	8'-11"	10'-1"	6'-8"	7'-5"	8'-9"	9'-11"
3span		7'-3"	8'-1"	9'-6"	10'-9"	7'-2"	7'-11"	9'-4"	10'-7"	7'-0"	7'-10"	9'-3"	10'-5"	6'-11"	7'-8"	9'-1"	10'-3"
cantilever		2'-6"	2'-11"	3'-7"	4'-3"	2'-5"	2'-10"	3'-7"	4'-2"	2'-5"	2'-10"	3'-6"	4'-1"	2'-5"	2'-9"	3'-6"	4'-1"
cy/100sf		1.75				1.83				1.91				1.98			

8'-0"	λ_DD+λ_LL (Strength)	400
	D+L (Deflection)	400
	L (Deflection)	400

Max. superimposed LRFD factored dead + live load (psf) (governed by strength limitation)

Max. superimposed LRFD unfactored dead + live load (psf) (governed by deflection limitation of L/240)

Max. superimposed LRFD unfactored live load (psf) (governed by deflection limitation of L/360)

Vertical load span (center to center spacing)

Wd	Weight of deck (uncoated), psf	Rbe	Allowable exterior web crippling value per foot of deck, plf
I_D	Moment of inertia for deflection per foot of deck width (in^4)/ft	Rbi	Allowable interior web crippling value per foot of deck, plf
Sp	Section modulus for positive bending per foot of deck width, (in^3)/ft	h	Total height of concrete slab, in
Sn	Section modulus for negative bending per foot of deck width, (in^3)/ft	Wc	Weight of concrete (neglecting deflection), psf
f'c	3000 psi	D	Uniform dead load, psf
λ_D, λ_L	Load factors for dead and live loads to be applied by Engineer in accordance with Building Codes.	L	Uniform live load, psf

If welded wire fabric is not supplied per ACI requirements (0.00075*Ac), reduce loads by 10%. The section property table is based on 2001 AISI's Cold-Formed Steel Design Manual, 2004 Supplement. The live loads and unshored construction clear spans are based on the Steel Deck Institute's Composite Deck Design Handbook, March 1997 and Design Manual, Pub. No. 30, and ASCE's Standard for the Structural Design of Composite Slabs. The loads in these tables are based on a Simple Span Design Analysis.

145 PCF NORMAL WEIGHT CONCRETE TABLE