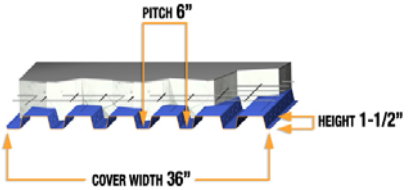
Metal Dek Group®
a unit of CSI®

COMPOSITE FLOOR DEK 1.5 (ASD)

1.5" high x 6" pitch x 36" wide

SECTION PROPERTIES

GAGE	Wd	I_D	Sp	Sn	Rbe			Rbi		
					2"	3"	4"	4"	5"	6"
22 (Fy = 50ksi)	1.65	0.167	0.178	0.188	1174	1351	1501	2049	2210	2355
20 (Fy = 50ksi)	2.00	0.210	0.232	0.240	1670	1914	2121	2951	3174	3377
18 (Fy = 40ksi)	2.65	0.292	0.320	0.328	2224	2534	2795	3985	4272	4532
16 (Fy = 40ksi)	3.35	0.370	0.412	0.415	3391	3841	4221	6132	6553	6933



SIMPLE SPAN - MAXIMUM SUPERIMPOSED ASD LOADS, (psf), NO STUDS ON BEAMS

Span	Load Combinations	h (Wc) 3.5" (23.17)				3.75" (25.46)				4" (27.75)				4.25" (30.05)			
		GAGE															
		22	20	18	16	22	20	18	16	22	20	18	16	22	20	18	16
6' - 0"	D+L (Strength)	303	383	325	313	331	400	371	357	358	400	400	400	383	400	400	400
	D+L (Deflection)	303	383	325	313	331	400	371	357	358	400	400	400	383	400	400	400
	L (Deflection)	303	383	325	313	331	400	371	357	358	400	400	400	383	400	400	400
6' - 6"	D+L (Strength)	243	313	277	267	328	344	316	304	369	374	356	344	400	400	397	384
	D+L (Deflection)	243	313	277	267	328	344	316	304	369	374	356	344	400	400	397	384
	L (Deflection)	243	313	277	267	328	344	316	304	369	374	356	344	400	400	397	384
7' - 0"	D+L (Strength)	247	257	239	230	281	281	272	262	316	303	307	296	352	324	342	331
	D+L (Deflection)	247	257	239	230	281	281	272	262	316	303	307	296	352	324	342	331
	L (Deflection)	247	257	239	230	281	281	272	262	316	303	307	296	352	324	342	331
7' - 6"	D+L (Strength)	213	212	208	200	242	230	237	229	273	319	260	258	304	356	278	289
	D+L (Deflection)	213	212	208	200	242	230	237	229	273	319	260	258	304	356	278	289
	L (Deflection)	213	212	208	200	242	230	237	229	273	319	260	258	304	356	278	289
8' - 0"	D+L (Strength)	185	216	183	176	211	247	199	201	238	278	216	227	265	310	242	254
	D+L (Deflection)	185	216	183	176	211	247	199	201	238	278	216	227	265	310	242	254
	L (Deflection)	177	193	183	176	211	236	199	201	238	278	216	227	265	310	242	254
8' - 6"	D+L (Strength)	162	190	146	156	185	217	167	178	208	244	189	201	232	272	212	225
	D+L (Deflection)	162	190	146	156	185	217	167	178	208	244	189	201	232	272	212	225
	L (Deflection)	148	161	146	156	181	197	167	178	208	238	189	201	232	272	212	225
9' - 0"	D+L (Strength)	143	168	129	139	163	191	147	159	184	216	167	179	205	241	187	179
	D+L (Deflection)	143	168	129	139	163	191	147	159	184	216	167	179	205	241	187	179
	L (Deflection)	125	135	129	139	153	166	147	159	184	200	167	179	205	239	187	179
9' - 6"	D+L (Strength)	127	149	114	125	145	170	130	142	163	192	148	141	182	214	166	159
	D+L (Deflection)	127	148	114	125	145	170	130	142	163	192	148	141	182	214	166	159
	L (Deflection)	106	115	114	125	130	141	130	142	157	170	148	141	182	203	166	159
10' - 0"	D+L (Strength)	113	133	101	96	129	152	116	111	145	171	131	126	162	191	147	141
	D+L (Deflection)	111	123	101	96	129	152	116	111	145	171	131	126	162	191	147	141
	L (Deflection)	91	99	101	96	111	121	116	111	134	146	131	126	161	174	147	141
10' - 6"	D+L (Strength)	101	119	90	86	115	136	104	99	130	154	117	112	145	172	132	126
	D+L (Deflection)	93	103	90	86	115	129	104	99	130	154	117	112	145	172	132	126
	L (Deflection)	78	85	90	86	96	104	104	99	116	126	117	112	139	151	132	126
11' - 0"	D+L (Strength)	91	107	81	76	104	122	93	88	117	138	105	101	131	155	118	113
	D+L (Deflection)	77	86	81	76	98	109	93	88	117	135	105	101	131	155	118	113
	L (Deflection)	68	74	81	76	84	91	93	88	101	110	105	101	121	131	118	113
11' - 6"	D+L (Strength)	82	97	72	69	93	111	83	79	105	125	95	90	118	140	106	102
	D+L (Deflection)	65	72	72	69	82	92	83	79	103	114	95	90	118	140	106	102
	L (Deflection)	60	65	72	69	73	79	83	79	88	96	95	90	106	115	106	102
12' - 0"	D+L (Strength)	74	87	65	62	84	100	75	71	95	113	85	81	107	127	96	92
	D+L (Deflection)	54	61	65	62	69	77	75	71	87	97	85	81	107	119	96	92
	L (Deflection)	53	57	65	62	64	70	75	71	78	84	85	81	93	101	96	92

MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS

1span	6' - 7"	7' - 10"	8' - 4"	9' - 9"	6' - 4"	7' - 7"	8' - 1"	9' - 6"	6' - 2"	7' - 5"	7' - 10"	9' - 2"	6' - 0"	7' - 2"	7' - 8"	8' - 11"
2span	8' - 8"	10' - 3"	10' - 8"	11' - 10"	8' - 5"	10' - 0"	10' - 4"	11' - 7"	8' - 3"	9' - 9"	10' - 2"	11' - 4"	8' - 0"	9' - 6"	9' - 11"	11' - 1"
3span	8' - 9"	10' - 6"	11' - 0"	12' - 3"	8' - 6"	10' - 3"	10' - 9"	12' - 0"	8' - 4"	10' - 0"	10' - 6"	11' - 9"	8' - 2"	9' - 9"	10' - 3"	11' - 5"
cantilever	2' - 6"	3' - 1"	3' - 4"	4' - 0"	2' - 6"	3' - 1"	3' - 3"	4' - 0"	2' - 6"	3' - 0"	3' - 3"	3' - 11"	2' - 5"	3' - 0"	3' - 2"	3' - 10"
cy/100sf	0.78				0.86				0.93				1.01			

	D+L (Strength)	303
6' - 0"	D+L (Deflection)	303
	L (Deflection)	303

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

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

Construction spans shown based on 2" exterior bearing and 4" interior bearing width.

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.

110 PCF CONCRETE

REV: 7/30/09

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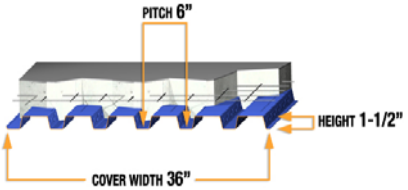
COMPOSITE FLOOR DEK 1.5 (ASD)

1.5" high x 6" pitch x 36" wide

SECTION PROPERTIES

GAGE	Wd	I_D	Sp	Sn	Rbe			Rbi		
					2"	3"	4"	4"	5"	6"
22 (Fy = 50ksi)	1.65	0.167	0.178	0.188	1174	1351	1501	2049	2210	2355
20 (Fy = 50ksi)	2.00	0.210	0.232	0.240	1670	1914	2121	2951	3174	3377
18 (Fy = 40ksi)	2.65	0.292	0.320	0.328	2224	2534	2795	3985	4272	4532
16 (Fy = 40ksi)	3.35	0.370	0.412	0.415	3391	3841	4221	6132	6553	6933



SIMPLE SPAN - MAXIMUM SUPERIMPOSED ASD LOADS, (psf), NO STUDS ON BEAMS

Span	Load Combinations	h (Wc) 4.5" (32.34)				4.75" (34.63)				5" (36.92)				5.25" (39.21)			
		GAGE															
		22	20	18	16	22	20	18	16	22	20	18	16	22	20	18	16
6' - 0"	D+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
6' - 6"	D+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
7' - 0"	D+L (Strength)	388	343	365	367	400	400	386	400	400	400	400	400	400	400	400	400
	D+L (Deflection)	388	343	365	367	400	400	386	400	400	400	400	400	400	400	400	400
	L (Deflection)	388	343	365	367	400	400	386	400	400	400	400	400	400	400	400	400
7' - 6"	D+L (Strength)	336	393	308	320	368	400	339	352	400	400	370	384	400	400	400	400
	D+L (Deflection)	336	393	308	320	368	400	339	352	400	400	370	384	400	400	400	400
	L (Deflection)	336	393	308	320	368	400	339	352	400	400	370	384	400	400	400	400
8' - 0"	D+L (Strength)	292	343	268	281	321	376	295	309	349	400	323	338	378	400	350	366
	D+L (Deflection)	292	343	268	281	321	376	295	309	349	400	323	338	378	400	350	366
	L (Deflection)	292	343	268	281	321	376	295	309	349	400	323	338	378	400	350	366
8' - 6"	D+L (Strength)	257	301	235	249	281	331	259	274	307	361	283	274	332	391	307	298
	D+L (Deflection)	257	301	235	249	281	331	259	274	307	361	283	274	332	391	307	298
	L (Deflection)	257	301	235	249	281	331	259	274	307	361	283	274	332	391	307	298
9' - 0"	D+L (Strength)	227	267	207	200	249	293	228	220	271	319	250	242	293	346	271	263
	D+L (Deflection)	227	267	207	200	249	293	228	220	271	319	250	242	293	346	271	263
	L (Deflection)	227	267	207	200	249	293	228	220	271	319	250	242	293	346	271	263
9' - 6"	D+L (Strength)	201	237	184	177	221	260	203	195	241	284	222	214	261	308	241	233
	D+L (Deflection)	201	237	184	177	221	260	203	195	241	284	222	214	261	308	241	233
	L (Deflection)	201	237	184	177	221	260	203	195	241	284	222	214	261	308	241	233
10' - 0"	D+L (Strength)	180	212	164	158	197	233	181	174	215	254	198	191	233	275	215	208
	D+L (Deflection)	180	212	164	158	197	233	181	174	215	254	198	191	233	275	215	208
	L (Deflection)	180	206	164	158	197	233	181	174	215	254	198	191	233	275	215	208
10' - 6"	D+L (Strength)	161	190	147	141	177	209	162	156	193	228	177	171	209	247	192	186
	D+L (Deflection)	161	190	147	141	177	209	162	156	193	228	177	171	209	247	192	186
	L (Deflection)	161	178	147	141	177	209	162	156	193	228	177	171	209	247	192	186
11' - 0"	D+L (Strength)	145	171	132	126	159	188	145	140	173	206	159	153	188	223	173	167
	D+L (Deflection)	145	171	132	126	159	188	145	140	173	206	159	153	188	223	173	167
	L (Deflection)	143	155	132	126	159	182	145	140	173	206	159	153	188	223	173	167
11' - 6"	D+L (Strength)	131	155	119	114	143	170	131	126	157	186	143	138	170	202	156	151
	D+L (Deflection)	131	155	119	114	143	170	131	126	157	186	143	138	170	202	156	151
	L (Deflection)	125	136	119	114	143	159	131	126	157	185	143	138	170	202	156	151
12' - 0"	D+L (Strength)	118	141	107	103	130	155	118	114	142	169	130	125	154	183	141	136
	D+L (Deflection)	118	141	107	103	130	155	118	114	142	169	130	125	154	183	141	136
	L (Deflection)	110	119	107	103	129	140	118	114	142	163	130	125	154	183	141	136

MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS

1span	5' - 11"	7' - 0"	7' - 5"	8' - 9"	5' - 9"	6' - 10"	7' - 3"	8' - 6"	5' - 8"	6' - 9"	7' - 1"	8' - 4"	5' - 6"	6' - 7"	7' - 0"	8' - 2"
2span	7' - 10"	9' - 4"	9' - 9"	10' - 10"	7' - 8"	9' - 2"	9' - 6"	10' - 8"	7' - 7"	8' - 11"	9' - 4"	10' - 5"	7' - 5"	8' - 9"	9' - 2"	10' - 3"
3span	8' - 0"	9' - 6"	10' - 0"	11' - 3"	7' - 9"	9' - 3"	9' - 10"	11' - 0"	7' - 8"	9' - 1"	9' - 8"	10' - 9"	7' - 6"	8' - 11"	9' - 5"	10' - 7"
cantilever	2' - 5"	2' - 11"	3' - 2"	3' - 9"	2' - 5"	2' - 11"	3' - 1"	3' - 9"	2' - 4"	2' - 10"	3' - 1"	3' - 8"	2' - 4"	2' - 10"	3' - 0"	3' - 7"
cy/100sf	1.09				1.17				1.24				1.32			

	D+L (Strength)	400
6' - 0"	D+L (Deflection)	400
	L (Deflection)	400

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

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

Construction spans shown based on 2" exterior bearing and 4" interior bearing width.

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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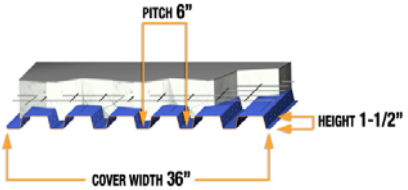

SIMPLE SPAN - MAXIMUM SUPERIMPOSED ASD LOADS, (psf), NO STUDS ON BEAMS

Span	Load Combinations	h (Wc) 5.5" (41.5)				5.75" (43.8)				6" (46.09)				6.25" (48.38)			
		GAGE															
		22	20	18	16	22	20	18	16	22	20	18	16	22	20	18	16
6' - 0"	D+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
6' - 6"	D+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
7' - 0"	D+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
7' - 6"	D+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
8' - 0"	D+L (Strength)	400	400	379	396	400	400	400	396	400	400	400	400	400	400	400	400
	D+L (Deflection)	400	400	379	396	400	400	400	396	400	400	400	400	400	400	400	400
	L (Deflection)	400	400	379	396	400	400	400	396	400	400	400	400	400	400	400	400
8' - 6"	D+L (Strength)	358	400	332	323	384	400	357	347	400	400	382	372	400	400	400	398
	D+L (Deflection)	358	400	332	323	384	400	357	347	400	400	382	372	400	400	400	398
	L (Deflection)	358	400	332	323	384	400	357	347	400	400	382	372	400	400	400	398
9' - 0"	D+L (Strength)	316	373	293	285	339	400	315	307	362	400	338	329	386	400	360	351
	D+L (Deflection)	316	373	293	285	339	400	315	307	362	400	338	329	386	400	360	351
	L (Deflection)	316	373	293	285	339	400	315	307	362	400	338	329	386	400	360	351
9' - 6"	D+L (Strength)	281	332	260	253	302	357	280	272	322	381	300	292	343	400	320	312
	D+L (Deflection)	281	332	260	253	302	357	280	272	322	381	300	292	343	400	320	312
	L (Deflection)	281	332	260	253	302	357	280	272	322	381	300	292	343	400	320	312
10' - 0"	D+L (Strength)	251	297	232	225	269	319	250	243	288	341	268	261	306	363	286	278
	D+L (Deflection)	251	297	232	225	269	319	250	243	288	341	268	261	306	363	286	278
	L (Deflection)	251	297	232	225	269	319	250	243	288	341	268	261	306	363	286	278
10' - 6"	D+L (Strength)	225	267	208	202	242	287	224	218	258	307	240	233	275	327	256	250
	D+L (Deflection)	225	267	208	202	242	287	224	218	258	307	240	233	275	327	256	250
	L (Deflection)	225	267	208	202	242	287	224	218	258	307	240	233	275	327	256	250
11' - 0"	D+L (Strength)	203	241	187	181	218	259	202	196	233	277	216	210	248	295	231	224
	D+L (Deflection)	203	241	187	181	218	259	202	196	233	277	216	210	248	295	231	224
	L (Deflection)	203	241	187	181	218	259	202	196	233	277	216	210	248	295	231	224
11' - 6"	D+L (Strength)	183	218	169	164	197	234	182	176	210	251	195	189	224	267	208	203
	D+L (Deflection)	183	218	169	164	197	234	182	176	210	251	195	189	224	267	208	203
	L (Deflection)	183	218	169	164	197	234	182	176	210	251	195	189	224	267	208	203
12' - 0"	D+L (Strength)	166	198	153	148	178	213	165	160	191	228	177	171	203	243	189	183
	D+L (Deflection)	166	198	153	148	178	213	165	160	191	228	177	171	203	243	189	183
	L (Deflection)	166	198	153	148	178	213	165	160	191	228	177	171	203	243	189	183

MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS

1span	5' - 5"	6' - 5"	6' - 10"	8' - 0"	5' - 4"	6' - 4"	6' - 8"	7' - 10"	5' - 3"	6' - 2"	6' - 7"	7' - 8"	5' - 2"	6' - 1"	6' - 6"	7' - 6"
2span	7' - 3"	8' - 7"	9' - 0"	10' - 1"	7' - 2"	8' - 6"	8' - 10"	9' - 11"	7' - 0"	8' - 4"	8' - 8"	9' - 8"	6' - 11"	8' - 2"	8' - 6"	9' - 7"
3span	7' - 4"	8' - 9"	9' - 3"	10' - 5"	7' - 3"	8' - 7"	9' - 1"	10' - 3"	7' - 1"	8' - 5"	8' - 11"	10' - 0"	7' - 0"	8' - 4"	8' - 10"	9' - 10"
cantilever	2' - 4"	2' - 9"	3' - 0"	3' - 7"	2' - 3"	2' - 9"	2' - 11"	3' - 6"	2' - 3"	2' - 9"	2' - 11"	3' - 6"	2' - 3"	2' - 8"	2' - 11"	3' - 5"
cy/100sf	1.40				1.47				1.55				1.63			

	D+L (Strength)	400
6' - 0"	D+L (Deflection)	400
	L (Deflection)	400

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

Construction spans shown based on 2" exterior bearing and 4" interior bearing width.

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.

110 PCF CONCRETE

REV: 7/30/09