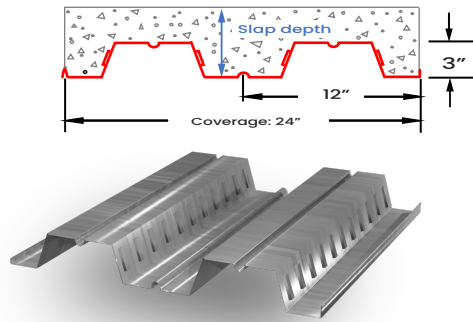


3" COMPOSITE DECK

50 ksi

3" Composite Deck provides positive bending reinforcement for the composite steel deck-slab. Also provides resistance to horizontal loads resulting from wind or seismic forces.

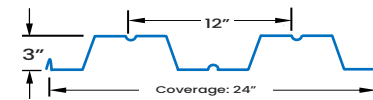


Material: Galvanized G90 or G60 ASTM A653 Structural Steel Fy = 50 ksi.

3" FORM DECK

50 ksi

3" Form Deck works as a floor deck when used as a concrete form. 3" Form Deck is generally attached to the structure using the same methods as the roof deck or floor deck.



Material: Galvanized G90 or G60 ASTM A653 Structural Steel Fy = 50 ksi.

Section Properties and Flexural Resistance (Bare Deck)

Gage	Design Thickness (inches)	Weight (psf)	F _y (ksi)	S _{e+} (in ²) per foot	S _{e-} (in ²) per foot	ASD (Ω = 1.67)		I _{d+} (in ⁴) per foot	I _{d-} (in ⁴) per foot
						M _p /Ω inch-lbs per foot	M _n /Ω inch-lbs per foot		
22	0.0295	1.7	50	0.389	0.436	11636	13066	0.756	0.712
20	0.0358	2.1	50	0.517	0.574	15470	17184	0.955	0.909
18	0.0474	2.7	50	0.778	0.842	23281	25223	1.335	1.289
16	0.0598	3.4	50	1.077	1.078	32243	32265	1.752	1.720

Note: All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI C-2017, ANSI/SDI NC-2017, and AISI S100-2012 and AISI S100-2016

Shear and Web Crippling (Bare Deck)

Gage	Design Thickness	F _y (ksi)	V _n /Ω lbs per foot	Web Crippling (R _n /Ω), lbs/ft One Flange Loading End Bearing			Web Crippling (R _n /Ω), lbs/ft One Flange Loading Interior Bearing		
				2"	3"	4"	2"	3"	4"
22	0.0295	50	1791	417	480	533	666	754	827
20	0.0358	50	2852	599	686	760	961	1082	1184
18	0.0474	50	4897	1008	1149	1267	1629	1822	1984
16	0.0598	50	6370	1549	1755	1929	2520	2800	3037

Note: All section properties and ASD flexural strengths are calculated in accordance with ANSI/SDI C-2017, ANSI/SDI NC-2017, and AISI S100-2012 and AISI S100-2016

ASD Uniform Superimposed Downward Loads (psf)

Span Cond.	Gage	Fy	7'- 0"	8'- 0"	9'- 0"	10'- 0"	11'- 0"	12'- 0"	13'- 0"	14'- 0"	15'- 0"	16'- 0"	17'-00"
Single	22	50	158	121	96	78	64	54	46	40	34	30	27
	20	50	210	161	127	103	85	72	61	53	46	40	36
	18	50	317	243	192	155	128	108	92	79	69	61	54
	16	50	439	336	265	215	178	149	127	110	96	84	74
Double	22	50	178	136	108	87	72	60	52	44	39	34	30
	20	50	234	179	141	115	95	80	68	58	51	45	40
	18	50	343	263	208	168	139	117	99	86	75	66	58
	16	50	439	336	266	215	178	149	127	110	96	84	74
Triple	22	50	222	170	134	109	90	76	64	56	48	43	38
	20	50	292	224	177	143	118	99	85	73	64	56	50
	18	50	429	328	259	210	174	146	124	107	93	82	73
	16	50	549	420	332	269	222	187	159	137	119	105	93

Notes:

- All section properties and ASD ($\Omega = 1.67$) uniform loads are calculated in accordance with ANSI/SDI C-2017, ANSI/SDI NC-2017 and AISI S100-2012 and AISI S100-2016.
- Loads shown in tables are uniformly distributed superimposed loads in psf. Span length assumes center-to-centerspacing of supports. Tabulated loads shall not be increased by assuming clear span dimensions.
- Bending Moment formulae used for flexural stress limitations are:
 - Simple and Two Span $M = W l^2/8$
 - Three Span or More $M = Wl^2/10$
- Web crippling and shear have not been accounted for in these tables. Required bearing should be determined based on specific span conditions.

Uniform Superimposed Service Load that Causes L/240 Deflection (psf)

Span Cond.	Gage	Fy	7'- 0"	8'- 0"	9'- 0"	10'- 0"	11'- 0"	12'- 0"	13'- 0"	14'- 0"	15'- 0"	16'- 0"	17'-00"
Single	22	50	136	91	64	47	35	27	21	17	14	11	10
	20	50	174	117	82	60	45	35	27	22	18	15	12
	18	50	247	165	116	85	64	49	39	31	25	21	17
	16	50	329	221	155	113	85	65	51	41	33	28	23
Double	22	50	328	220	154	112	84	65	51	41	33	27	23
	20	50	419	281	197	144	108	83	65	52	43	35	29
	18	50	594	398	279	204	153	118	93	74	60	50	41
	16	50	793	531	373	272	204	157	124	99	81	66	55
Triple	22	50	257	172	121	88	66	51	40	32	26	21	18
	20	50	328	220	154	112	84	65	51	41	33	27	23
	18	50	465	311	219	159	120	92	73	58	47	39	32
	16	50	620	416	292	213	160	123	97	78	63	52	43

Note: For loads that cause L/120 Deflection, multiply by 2.0. For loads that cause L/180 Deflection, multiply by 1.5. For loads that cause L/360 Deflection, multiply by 0.667.



Construction Span Table - 20 psf Construction Load

Normal Weight Concrete (145 pcf)				
Total Slab Depth	Gage	Maximum Unshored Clear Span		
		1 span	2 span	3 span
5.00" (t=2.00) 44 psf	22	10' 4"	11' 8"	12' 1"
	20	12' 3"	13' 5"	13' 10"
	18	13' 10"	16' 3"	16' 9"
	16	15' 2"	18' 4"	18' 11"
5.50" (t=2.50) 50 psf	22	9' 10"	11' 2"	11' 6"
	20	11' 8"	12' 10"	13' 3"
	18	13' 3"	15' 6"	16' 0"
	16	14' 6"	17' 6"	18' 1"
6.00" (t=3.00) 56 psf	22	9' 5"	10' 8"	11' 0"
	20	11' 8"	13' 4"	13' 10"
	18	12' 4"	14' 10"	15' 4"
	16	13' 6"	16' 10"	17' 5"
6.50" (t=3.50) 62 psf	22	9' 0"	10' 4"	10' 7"
	20	10' 8"	11' 2"	12' 3"
	18	12' 4"	14' 11"	14' 10"
	16	13' 6"	16' 5"	16' 9"
7.00" (t=4.00) 68 psf	22	8' 8"	9' 10"	10' 2"
	20	10' 4"	11' 8"	11' 10"
	18	12' 11"	13' 10"	14' 3"
	16	13' 1"	15' 8"	16' 2"
7.50" (t=4.50) 74 psf	22	8' 5"	9' 8"	9' 10"
	20	9' 11"	11' 0"	11' 5"
	18	11' 8"	13' 4"	13' 10"
	16	12' 9"	15' 2"	15' 8"

Lightweight Concrete (115 pcf)				
Total Slab Depth	Gage	Maximum Unshored Clear Span		
		1 span	2 span	3 span
5.00" (t=2.00) 34 psf	22	11' 4"	12' 8"	13' 2"
	20	13' 6"	14' 7"	15' 1"
	18	15' 1"	17' 8"	18' 3"
	16	16' 6"	19' 11"	20' 8"
5.50" (t=2.50) 39 psf	22	10' 9"	12' 2"	12' 7"
	20	12' 10"	13' 11"	14' 5"
	18	14' 5"	16' 11"	17' 5"
	16	15' 9"	19' 1"	19' 9"
6.00" (t=3.00) 43 psf	22	10' 5"	11' 9"	12' 2"
	20	12' 8"	14' 9"	15' 3"
	18	13' 11"	16' 4"	16' 11"
	16	15' 3"	18' 6"	19' 1"
6.50" (t=3.50) 48 psf	22	9' 12"	11' 4"	11' 8"
	20	11' 10"	13' 0"	13' 5"
	18	13' 5"	15' 9"	16' 3"
	16	14' 9"	17' 9"	18' 5"
7.00" (t=4.00) 52 psf	22	9' 8"	11' 0"	11' 4"
	20	11' 6"	12' 7"	13' 0"
	18	13' 1"	15' 3"	15' 10"
	16	14' 4"	17' 3"	17' 10"
7.50" (t=4.50) 57 psf	22	9' 4"	10' 8"	10' 11"
	20	11' 1"	12' 2"	12' 7"
	18	12' 8"	14' 9"	15' 3"
	16	13' 11"	16' 9"	17' 3"

Note: Web crippling and shear have not been accounted for in these tables. Required bearing should be determined based on specific span conditions.



Composite Deck-Slab Allowable Superimposed Load (ASD)

Slab Thickness	F _y : 50 ksi		f' _c : 3000 psi						Normal Weight Concrete (145 pcf)								
	Gage	Weight (psf)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
5"	22	44	324	284	251	223	199	178	160	144	130	118	107	98	89	81	74
	20	44	393	346	306	272	243	218	196	177	161	146	133	122	112	102	94
	18	44	393	346	306	272	243	218	196	177	161	146	133	122	112	102	94
	16	44	400	400	400	360	323	290	262	238	216	197	181	166	152	140	129
5.5"	22	44	400	400	400	400	400	366	331	301	274	251	230	211	195	180	166
	20	50	381	334	295	262	233	209	188	169	153	139	126	115	105	96	88
	18	50	400	400	358	319	285	256	230	208	189	172	157	143	131	120	111
	16	50	400	400	358	319	285	256	230	208	189	172	157	143	131	120	111
6"	22	50	400	400	400	400	377	340	307	278	253	231	212	194	179	165	152
	20	50	400	400	400	400	400	400	386	351	320	293	268	247	228	210	195
	18	56	400	386	341	303	270	242	218	196	178	161	147	134	122	112	102
	16	56	400	400	400	368	329	296	267	241	219	199	182	166	152	140	129
6.5"	22	56	400	400	400	368	329	296	267	241	219	199	182	166	152	140	129
	20	56	400	400	400	400	400	392	355	322	293	267	245	225	207	190	176
	18	56	400	400	400	400	400	400	400	400	369	338	310	285	263	243	225
	16	62	400	400	389	346	308	276	249	225	203	185	168	153	140	128	117
7"	22	62	400	400	400	400	376	337	304	275	250	228	208	190	174	160	147
	20	62	400	400	400	400	376	337	304	275	250	228	208	190	174	160	147
	18	62	400	400	400	400	400	400	400	367	334	305	280	257	236	218	201
	16	62	400	400	400	400	400	400	400	400	400	385	354	325	300	277	257
7.5"	22	68	400	400	400	390	348	312	281	254	230	209	190	173	158	145	133
	20	68	400	400	400	400	400	381	343	311	282	257	235	215	197	181	167
	18	68	400	400	400	400	400	381	343	311	282	257	235	215	197	181	167
	16	68	400	400	400	400	400	400	400	400	377	344	316	290	267	246	227



Composite Deck-Slab Allowable Superimposed Load (ASD)

Slab Thickness	F _y : 50 ksi		f' _c : 3000 psi							Lightweight Concrete (115 pcf)							
	Gage	Weight (psf)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
5"	22	34	317	278	246	219	196	176	158	143	130	118	108	99	90	83	76
	20	34	382	336	298	265	238	214	193	175	159	145	133	122	112	103	95
	18	34	400	400	391	349	313	282	256	232	212	194	178	163	150	139	128
	16	34	400	400	400	400	392	354	320	292	266	244	224	206	190	176	163
5.5"	22	39	372	327	289	257	230	206	186	168	153	139	127	116	106	98	90
	20	39	400	394	349	311	279	251	226	205	187	170	156	143	131	121	111
	18	39	400	400	400	400	366	330	299	272	248	226	208	191	176	163	150
	16	39	400	400	400	400	400	400	373	340	310	284	261	240	222	205	191
6"	22	43	400	379	335	298	267	240	216	196	178	162	148	135	124	114	105
	20	43	400	400	400	360	323	291	263	238	217	198	181	166	153	141	130
	18	43	400	400	400	400	400	382	346	314	287	262	241	221	204	189	175
	16	43	400	400	400	400	400	400	400	392	358	328	302	278	257	238	221
6.5"	22	48	400	400	382	340	305	274	247	224	203	185	169	155	142	130	120
	20	48	400	400	400	400	368	332	300	272	248	226	207	190	175	161	149
	18	48	400	400	400	400	400	400	395	359	327	299	275	253	233	215	199
	16	48	400	400	400	400	400	400	400	400	400	375	344	317	293	271	252
7"	22	52	400	400	400	385	344	310	279	253	230	210	192	176	161	148	137
	20	52	400	400	400	400	400	375	339	308	280	256	234	215	198	182	169
	18	52	400	400	400	400	400	400	400	400	370	339	311	286	264	244	226
	16	52	400	400	400	400	400	400	400	400	400	400	389	359	332	307	285
7.5"	22	57	400	400	400	400	384	346	312	283	257	234	214	196	180	166	153
	20	57	400	400	400	400	400	400	379	344	313	286	262	240	221	204	189
	18	57	400	400	400	400	400	400	400	400	400	378	347	320	295	273	253
	16	57	400	400	400	400	400	400	400	400	400	400	400	400	371	344	319

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