

Composite Decks

New Millennium produces a wide range of composite decks. This publication contains information on all the composite deck products currently being produced, for use by specifying engineers and architects. Composite deck is available in lengths from 6'-0" to 40'-0". Extra charges are applied to lengths less than 6'-0".

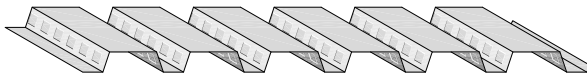
Composite decks are manufactured from steel with a yield strength of up to 80 ksi, conforming to ASTM A1008/A1008M for uncoated and painted deck and A653/A653M for galvanized deck. Refer to tables for the minimum yield strength used for each deck type; contact New Millennium for availability of higher yield strengths when required.

Primer-painted or galvanized composite deck finishes are available. The standard primer-painted finish is gray on the bottom side and uncoated on the top side. The galvanized finish is available in G30, G40, G60 and G90 coatings. Composite deck can also be furnished with a two-coat bright white primer bottom side with a galvanized top side. The primer-painted finish is intended to protect the steel for a reasonable installation period while exposed to ordinary atmospheric conditions and shall be considered an impermanent and provisional coating. Always store deck off the ground with one end elevated and protected from the elements with a weatherproof covering that is ventilated to avoid condensation.

New Millennium composite decks are approved by UL, LLC and listed in the UL and ULC Fire Resistance Directories. See pages 92 and 93 for a complete listing of approved UL Designs.

Composite deck attachment to supports can be made either by welding using a minimum visible 5/8" diameter puddle weld or properly designed mechanical fasteners, spaced an average of 12" on center, not to exceed 18" on center. Side laps are to be fastened together between supports at a maximum spacing of 36" on center whenever the deck span exceeds 5'-0".

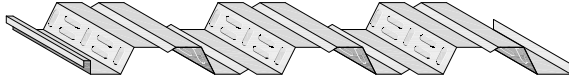
1.5CD, 1.5CDI DECK



- Type 1.5CD has embossments in the vertical ribs that bond with the concrete slab to develop a composite floor system. 1.5CD composite deck acts as a form during the concrete pour enabling the designer to space the structural members to over 11'-0" on center without any additional shoring. Once the concrete cures, the resulting composite floor system provides superior strength and stiffness.
- Available with nested side laps, type 1.5CD or interlocking side laps, type 1.5CDI.
- Also available with rolled-in hanger tabs.

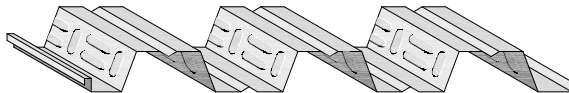


2.0CD DECK



- Type 2.0CD has embossments in the vertical ribs that bond with the concrete slab to develop a composite floor system. 2.0CD composite deck acts as a form during the concrete pour enabling the designer to space the structural members to over 14'-0" on center without any additional shoring. Once the concrete cures, the resulting composite floor system provides superior strength and stiffness.
- Available with interlocking side laps only.
- Also available with rolled in-hanger tabs.

3.0CD DECK

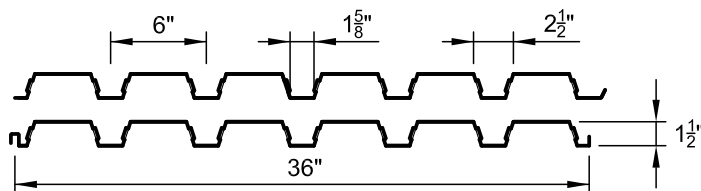


- Type 3.0CD has embossments in the vertical ribs that bond with the concrete slab to develop a composite floor system. 3.0CD composite deck acts as a form during the concrete pour enabling the designer to space the structural members to over 16'-0" on center without any additional shoring. Once the concrete cures, the resulting composite floor system provides both superior strength and stiffness.
- Available with interlocking side laps only.
- Also available with rolled in-hanger tabs.

Composite Decks - Types 1.5CD, 1.5CDI

PROPERTIES

Gage	Thickness (in.)	Coverage (in.)	Weight (psf)
22	0.0295	36	1.63
20	0.0358		1.98
18	0.0474		2.62
16	0.0598		3.30



SECTION PROPERTIES

Gage	F _y (ksi)	A _s (in. ² /ft.)	I _p (in. ⁴ /ft.)	I _n (in. ⁴ /ft.)	S _p (in. ³ /ft.)	S _n (in. ³ /ft.)
22	40	0.480	0.157	0.175	0.176	0.183
20		0.582	0.201	0.213	0.224	0.235
18		0.770	0.279	0.281	0.304	0.315
16		0.971	0.355	0.355	0.390	0.395

Note:
50 ksi material is also available.
See web site for load tables.

Section properties are calculated in accordance with the AISI Cold-Formed Steel Design Specifications, 2007 Edition.

DESIGN STRENGTHS (No Concrete Fill)

Gage	F _y (ksi)	M _{n,p} /Ω (in.-lb./ft.)	M _{n,n} /Ω (in.-lb./ft.)	V _n /Ω (lb./ft.)	R _{be} /Ω (lb./ft.)	R _{bl} /Ω (lb./ft.)
22	40	4212	4391	2106	654	1181
20		5373	5625	2546	932	1696
18		7290	7553	3347	1557	2858
16		9331	9454	4190	2381	4396

Design Strengths for web crippling (R_{be}/Ω, R_{bl}/Ω) are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing.

MINIMUM SLAB REINFORCEMENT

Total Slab Depth (in.)	SDI Recommended Welded Wire Fabric	Wire Area (in. ² /ft.)
3 1/2	6x6 - W1.4xW1.4	0.028
4	6x6 - W1.4xW1.4	0.028
4 1/2	6x6 - W1.4xW1.4	0.028
5	6x6 - W2.0xW2.0	0.040
5 1/2	6x6 - W2.0xW2.0	0.040
6	4x4 - W1.4xW1.4	0.042

Reinforcement shown is the SDI minimum required for temperature and shrinkage (0.00075 x concrete area above top of deck).

CONSTRUCTION CLEAR SPANS - ASD

Total Slab Depth (in.)	Gage	F _y (ksi)	Concrete Weight (psf)		Maximum Construction Clear Span (ft. - in.)			Concrete Weight (psf)	Maximum Construction Clear Span (ft. - in.)			Concrete Volume (ft. ³ /ft. ²)
					Single	Double	Triple		Single	Double	Triple	
3 1/2	22	40	Normal Weight Concrete (145 pcf)	31	5 - 9	6 - 8	6 - 9	23	6 - 2	7 - 2	7 - 3	0.213
	20				6 - 9	7 - 11	8 - 0		7 - 4	8 - 5	8 - 8	
	18				8 - 4	9 - 8	9 - 10		9 - 0	9 - 9	10 - 1	
	16				9 - 8	10 - 9	11 - 1		10 - 6	10 - 10	11 - 3	
4	22	40		37	5 - 5	6 - 4	6 - 5	28	5 - 10	6 - 10	6 - 11	0.255
	20				6 - 5	7 - 6	7 - 7		7 - 0	8 - 2	8 - 3	
	18				7 - 11	9 - 2	9 - 3		8 - 7	9 - 9	10 - 1	
	16				9 - 1	10 - 2	10 - 6		9 - 11	10 - 10	11 - 3	
4 1/2	22	40		43	5 - 3	6 - 1	6 - 2	33	5 - 8	6 - 7	6 - 8	0.297
	20				6 - 2	7 - 2	7 - 3		6 - 8	7 - 10	7 - 11	
	18				7 - 6	8 - 9	8 - 10		8 - 2	9 - 6	9 - 8	
	16				8 - 8	9 - 8	10 - 1		9 - 6	10 - 7	10 - 11	
5	22	40		49	5 - 0	5 - 10	5 - 11	37	5 - 5	6 - 4	6 - 5	0.338
	20				5 - 11	6 - 10	6 - 11		6 - 5	7 - 6	7 - 7	
	18				7 - 2	8 - 4	8 - 5		7 - 10	9 - 2	9 - 3	
	16				8 - 4	9 - 3	9 - 7		9 - 1	10 - 2	10 - 6	
5 1/2	22	40		55	4 - 10	5 - 8	5 - 8	42	5 - 3	6 - 2	6 - 2	0.380
	20				5 - 8	6 - 7	6 - 8		6 - 2	7 - 3	7 - 4	
	18				6 - 11	8 - 0	8 - 1		7 - 7	8 - 10	8 - 11	
	16				8 - 0	8 - 11	9 - 3		8 - 9	9 - 10	10 - 2	
6	22	40		61	4 - 8	5 - 5	5 - 6	46	5 - 1	5 - 11	6 - 0	0.422
	20				5 - 6	6 - 4	6 - 5		6 - 0	7 - 0	7 - 1	
	18				6 - 8	7 - 8	7 - 9		7 - 4	8 - 6	8 - 7	
	16				7 - 9	8 - 7	8 - 11		8 - 6	9 - 6	9 - 10	

Notes:

- Maximum construction clear spans are based on ANSI/SDI C-2011 Standard for Composite Steel Floor Deck-Slabs.
- Maximum construction clear spans are based on minimum bearing lengths of 1 1/2" for end bearing and 3" for interior bearing. Check web crippling if minimums are not met.
- Concrete weights do not include weight of deck.
- Deck profile has been accounted for in determining concrete volumes. Deck and support deflections have not been included in concrete volumes.

MAXIMUM CANTILEVER CLEAR SPANS - ASD

Total Slab Depth (in.)	F _y (ksi)	Normal Weight Concrete (145 pcf)				Light Weight Concrete (110 pcf)			
		22 Ga.	20 Ga.	18 Ga.	16 Ga.	22 Ga.	20 Ga.	18 Ga.	16 Ga.
3 1/2	40	1 - 11	2 - 5	3 - 1	3 - 8	2 - 0	2 - 6	3 - 3	3 - 9
4		1 - 11	2 - 4	2 - 11	3 - 6	2 - 0	2 - 5	3 - 1	3 - 9
4 1/2		1 - 10	2 - 3	2 - 10	3 - 4	1 - 11	2 - 5	3 - 0	3 - 7
5		1 - 10	2 - 2	2 - 9	3 - 2	1 - 11	2 - 4	2 - 11	3 - 6
5 1/2		1 - 9	2 - 2	2 - 8	3 - 1	1 - 10	2 - 3	2 - 11	3 - 4
6		1 - 9	2 - 1	2 - 7	2 - 11	1 - 10	2 - 3	2 - 10	3 - 3

Maximum cantilever clear spans shown are based on the following criteria:

- Loading and deflection criteria in the ANSI/SDI C-2011 Standard for Composite Steel Floor Deck-Slabs
- Adjacent clear span assumed to be at least 3 times longer than the cant. and no greater than the max. constr. clear span shown in table
- Bearing width at perimeter support assumed to be 3" minimum.



Composite Decks - Types 1.5CD, 1.5CDI

ALLOWABLE SUPERIMPOSED UNIFORM LOADS - ASD

Total Slab Depth (in.)	Gage	Allowable Superimposed Uniform Load (psf)													
		Clear Span (ft. - in.)													
		5 - 0	5 - 6	6 - 0	6 - 6	7 - 0	7 - 6	8 - 0	8 - 6	9 - 0	9 - 6	10 - 0	10 - 6	11 - 0	11 - 6
3 1/2	22	400	376	310	260	219	187	160	138	120	104	91	79	69	61
	20	400	400	373	313	265	227	195	169	148	129	113	100	88	78
	18	400	400	400	400	346	297	257	224	191	162	139	120	105	91
	16	400	400	400	400	400	366	301	251	212	180	154	133	116	101
4	22	400	400	391	327	277	236	203	175	152	133	116	102	89	78
	20	400	400	400	395	335	287	248	215	187	164	144	127	113	100
	18	400	400	400	400	400	377	326	284	249	220	195	173	154	136
	16	400	400	400	400	400	400	400	355	312	267	229	198	172	150
4 1/2	22	400	400	400	398	337	288	248	214	186	163	142	125	110	97
	20	400	400	400	400	400	350	302	263	229	201	177	157	139	123
	18	400	400	400	400	400	400	399	348	306	270	239	213	190	170
	16	400	400	400	400	400	400	400	400	383	339	302	269	241	213
5	22	400	400	400	400	399	341	294	254	221	194	170	149	131	116
	20	400	400	400	400	400	400	359	312	273	240	211	187	166	147
	18	400	400	400	400	400	400	400	400	364	322	285	254	227	203
	16	400	400	400	400	400	400	400	400	400	361	322	289	260	230
5 1/2	22	400	400	400	400	400	396	341	295	257	225	198	174	154	136
	20	400	400	400	400	400	400	400	363	317	279	246	218	194	172
	18	400	400	400	400	400	400	400	400	400	375	333	296	265	237
	16	400	400	400	400	400	400	400	400	400	400	377	338	304	270
6	22	400	400	400	400	400	400	389	337	294	257	226	199	176	156
	20	400	400	400	400	400	400	400	400	363	319	282	250	222	198
	18	400	400	400	400	400	400	400	400	400	400	381	340	304	272
	16	400	400	400	400	400	400	400	400	400	400	400	400	388	349

ALLOWABLE SUPERIMPOSED UNIFORM LOADS - ASD

Total Slab Depth (in.)	Gage	Allowable Superimposed Uniform Load (psf)													
		Clear Span (ft. - in.)													
		5 - 0	5 - 6	6 - 0	6 - 6	7 - 0	7 - 6	8 - 0	8 - 6	9 - 0	9 - 6	10 - 0	10 - 6	11 - 0	11 - 6
3 1/2	22	400	361	300	252	213	183	158	137	119	104	90	77	67	59
	20	400	400	357	300	256	219	190	159	134	114	98	84	73	64
	18	400	400	400	386	323	262	216	180	152	129	111	96	83	73
	16	400	400	400	400	359	292	240	200	169	143	123	106	92	81
4	22	400	400	379	318	270	232	200	174	152	133	117	104	92	81
	20	400	400	400	381	324	279	241	210	184	162	144	125	109	95
	18	400	400	400	400	400	361	313	267	225	191	164	142	123	108
	16	400	400	400	400	400	400	355	296	249	212	182	157	137	120
4 1/2	22	400	400	400	389	330	283	245	213	186	164	144	128	113	101
	20	400	400	400	400	397	341	296	258	226	200	177	157	140	125
	18	400	400	400	400	400	400	385	337	297	263	232	200	174	152
	16	400	400	400	400	400	400	400	400	352	300	257	222	193	169
5	22	400	400	400	400	392	337	291	254	222	195	172	153	136	121
	20	400	400	400	400	400	400	352	308	270	238	211	188	168	150
	18	400	400	400	400	400	400	400	400	355	314	280	250	224	202
	16	400	400	400	400	400	400	400	400	400	391	349	302	263	230
5 1/2	22	400	400	400	400	400	392	339	295	259	228	201	178	159	142
	20	400	400	400	400	400	400	400	359	315	278	247	220	196	176
	18	400	400	400	400	400	400	400	400	400	368	328	293	263	237
	16	400	400	400	400	400	400	400	400	400	400	367	331	299	263
6	22	400	400	400	400	400	400	387	338	296	261	231	205	182	163
	20	400	400	400	400	400	400	400	400	361	319	283	252	226	202
	18	400	400	400	400	400	400	400	400	400	400	376	337	302	272
	16	400	400	400	400	400	400	400	400	400	400	400	400	381	344

Allowable Superimposed Uniform Loads shown in tables above are based on the following criteria:

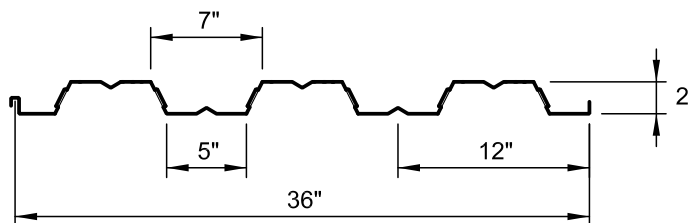
- Unfactored service level loads, determined using SDI design method per ANSI/SDI C-2011 Standard for Composite Steel Floor Deck-Slabs
- Single span conditions without negative bending reinforcing over supports
- The presence of shear studs have not been considered, design strength may be increased if shear studs are used
- Slab deflection is limited to a minimum of Clear Span/360 or 1" under service level superimposed loading.



Composite Decks - Type 2.0CD

PROPERTIES

Gage	Thickness (in.)	Coverage (in.)	Weight (psf)
22	0.0295	36	1.57
20	0.0358		1.90
18	0.0474		2.51
16	0.0598		3.17



SECTION PROPERTIES

Gage	F _y (ksi)	A _s (in. ² /ft.)	I _p (in. ⁴ /ft.)	I _n (in. ⁴ /ft.)	S _p (in. ³ /ft.)	S _n (in. ³ /ft.)
22	40	0.460	0.337	0.330	0.257	0.263
20		0.558	0.417	0.412	0.342	0.347
18		0.738	0.554	0.556	0.505	0.511
16		0.931	0.698	0.702	0.650	0.653

Note:
50 ksi material is also available.
See web site for load tables.

Section properties are calculated in accordance with the AISI Cold-Formed Steel Design Specifications, 2007 Edition.

DESIGN STRENGTHS (No Concrete Fill)

Gage	F _y (ksi)	M _{n,p} /Ω (in.-lb./ft.)	M _{n,r} /Ω (in.-lb./ft.)	V _n /Ω (lb./ft.)	R _{wp} /Ω (lb./ft.)	R _{bl} /Ω (lb./ft.)
22	40	6152	6288	1638	321	617
20		8186	8310	2182	459	882
18		12105	12228	2879	769	1477
16		15567	15647	3619	1176	2260

Design Strengths for web crippling (R_{wp}/Ω, R_{bl}/Ω) are based on minimum bearing lengths of 2" for end bearing and 4" for interior bearing.

CONSTRUCTION CLEAR SPANS - ASD

Total Slab Depth (in.)	Gage	F _y (ksi)	Concrete Weight (psf)	Maximum Construction Clear Span (ft. - in.)			Concrete Weight (psf)	Maximum Construction Clear Span (ft. - in.)			Concrete Volume (ft. ³ /ft. ²)	
				Single	Double	Triple		Single	Double	Triple		
4	22	40	Normal Weight Concrete (145 pcf)	36	7 - 2	8 - 4	8 - 5	27	7 - 9	8 - 11	9 - 2	0.248
	20				8 - 8	9 - 9	10 - 1		9 - 5	10 - 3	10 - 8	
	18				10 - 9	11 - 9	12 - 2		11 - 7	12 - 5	12 - 10	
	16				11 - 6	13 - 3	13 - 6		12 - 3	14 - 0	14 - 4	
4 1/2	22	40		42	6 - 10	7 - 9	8 - 0	32	7 - 5	8 - 8	8 - 9	0.289
	20				8 - 2	9 - 3	9 - 7		9 - 0	10 - 1	10 - 5	
	18				10 - 3	11 - 2	11 - 7		11 - 2	12 - 2	12 - 7	
	16				11 - 0	12 - 7	13 - 0		11 - 10	13 - 9	13 - 10	
5	22	40		48	6 - 6	7 - 1	7 - 8	36	7 - 1	8 - 4	8 - 5	0.331
	20				7 - 10	8 - 10	9 - 2		8 - 7	9 - 8	10 - 0	
	18				9 - 10	10 - 8	11 - 1		10 - 9	11 - 8	12 - 1	
	16				10 - 7	12 - 1	12 - 6		11 - 5	13 - 2	13 - 5	
5 1/2	22	40		54	6 - 1	6 - 6	7 - 4	41	6 - 10	7 - 10	8 - 1	0.373
	20				7 - 6	8 - 6	8 - 9		8 - 3	9 - 4	9 - 8	
	18				9 - 5	10 - 3	10 - 7		10 - 4	11 - 3	11 - 8	
	16				10 - 2	11 - 7	12 - 0		11 - 1	12 - 9	13 - 1	
6	22	40		60	5 - 6	6 - 0	6 - 10	46	6 - 8	7 - 4	7 - 10	0.414
	20				7 - 3	8 - 2	8 - 5		8 - 0	9 - 0	9 - 4	
	18				9 - 2	9 - 10	10 - 2		10 - 0	10 - 11	11 - 3	
	16				9 - 10	11 - 2	11 - 6		10 - 9	12 - 3	12 - 8	
6 1/2	22	40		66	5 - 0	5 - 6	6 - 3	50	6 - 5	6 - 10	7 - 7	0.456
	20				7 - 0	7 - 10	8 - 1		7 - 9	8 - 8	9 - 0	
	18				8 - 10	9 - 6	9 - 10		9 - 8	10 - 6	10 - 11	
	16				9 - 7	10 - 9	11 - 1		10 - 5	11 - 10	12 - 3	

Notes:

- Maximum construction clear spans are based on ANSI/SDI C-2011 Standard for Composite Steel Floor Deck-Slabs.
- Maximum construction clear spans are based on minimum bearing lengths of 2" for end bearing and 4" for interior bearing. Check web crippling if minimums are not met.
- Concrete weights do not include weight of deck.
- Deck profile has been accounted for in determining concrete volumes. Deck and support deflections have not been included in concrete volumes.

MAXIMUM CANTILEVER CLEAR SPANS - ASD

Total Slab Depth (in.)	F _y (ksi)	Normal Weight Concrete (145 pcf)				Light Weight Concrete (110 pcf)			
		22 Ga.	20 Ga.	18 Ga.	16 Ga.	22 Ga.	20 Ga.	18 Ga.	16 Ga.
4	40	2 - 7	3 - 3	4 - 0	4 - 6	2 - 8	3 - 5	4 - 3	4 - 9
4 1/2		2 - 6	3 - 1	3 - 10	4 - 4	2 - 7	3 - 4	4 - 2	4 - 7
5		2 - 5	3 - 0	3 - 8	4 - 2	2 - 7	3 - 2	4 - 0	4 - 5
5 1/2		2 - 4	2 - 11	3 - 6	4 - 0	2 - 6	3 - 1	3 - 10	4 - 4
6		2 - 3	2 - 9	3 - 4	3 - 10	2 - 5	3 - 0	3 - 9	4 - 2
6 1/2		2 - 1	2 - 8	3 - 3	3 - 8	2 - 5	3 - 0	3 - 7	4 - 1

Maximum cantilever clear spans shown are based on the following criteria:

- Loading and deflection criteria in the ANSI/SDI C-2011 Standard for Composite Steel Floor Deck-Slabs
- Adjacent clear span assumed to be at least 3 times longer than the cant. and no greater than the max. constr. clear span shown in table
- Bearing width at perimeter support assumed to be 3" minimum.



Composite Decks - Type 2.0CD

ALLOWABLE SUPERIMPOSED UNIFORM LOADS - ASD

Total Slab Depth (in.)	Gage	Allowable Superimposed Uniform Load (psf)													
		Clear Span (ft. - in.)													
		6 - 0	7 - 0	8 - 0	8 - 6	9 - 0	9 - 6	10 - 0	10 - 6	11 - 0	11 - 6	12 - 0	12 - 6	13 - 0	13 - 6
4	22	359	254	186	160	139	121	105	92	81	71	62	54	47	41
	20	400	309	227	197	172	150	132	116	102	91	80	71	63	55
	18	400	400	301	263	230	203	179	159	141	126	113	101	90	81
	16	400	400	338	295	259	228	202	180	160	143	129	115	104	93
4 1/2	22	400	307	225	194	169	147	128	112	99	86	76	67	58	51
	20	400	374	276	239	209	183	161	142	125	111	98	87	77	68
	18	400	400	366	319	280	246	218	194	172	154	138	124	111	100
	16	400	400	400	359	315	278	247	220	196	175	157	142	128	115
5	22	400	363	267	230	200	175	153	134	118	103	91	80	70	61
	20	400	400	327	284	248	217	191	169	149	132	118	104	93	82
	18	400	400	400	378	332	293	259	231	206	184	165	148	133	119
	16	400	400	400	400	375	331	294	262	234	210	188	170	153	138
5 1/2	22	400	400	310	268	233	203	178	156	138	121	107	94	83	73
	20	400	400	380	330	288	253	223	197	174	155	138	122	109	97
	18	400	400	400	400	386	341	302	269	240	215	193	173	156	140
	16	400	400	400	400	400	386	343	306	273	245	221	199	180	162
6	22	400	400	354	306	266	233	204	179	158	139	123	108	96	84
	20	400	400	400	377	330	290	255	226	200	178	158	141	126	112
	18	400	400	400	400	400	391	347	309	276	247	222	199	180	162
	16	400	400	400	400	400	400	394	351	314	282	254	229	207	187
6 1/2	22	400	400	399	345	301	263	231	203	179	158	140	123	109	96
	20	400	400	400	400	372	327	289	255	227	202	180	160	143	128
	18	400	400	400	400	400	400	392	349	312	280	251	226	204	184
	16	400	400	400	400	400	400	400	398	356	320	288	260	235	213

ALLOWABLE SUPERIMPOSED UNIFORM LOADS - ASD

Total Slab Depth (in.)	Gage	Allowable Superimposed Uniform Load (psf)													
		Clear Span (ft. - in.)													
		7 - 0	8 - 0	9 - 0	9 - 6	10 - 0	10 - 6	11 - 0	11 - 6	12 - 0	12 - 6	13 - 0	13 - 6	14 - 0	14 - 6
4	22	250	184	140	122	108	95	84	74	66	59	52	46	41	36
	20	301	223	170	150	132	117	104	93	83	74	67	60	53	48
	18	390	292	224	196	168	145	126	111	97	86	77	68	61	55
	16	400	325	251	218	187	161	140	123	108	96	85	76	68	61
4 1/2	22	303	224	170	149	131	116	103	91	81	72	64	57	51	45
	20	365	271	207	183	161	143	128	114	102	91	82	73	66	59
	18	400	355	273	242	215	192	171	154	135	120	106	95	85	77
	16	400	395	305	270	240	215	193	170	150	132	118	105	94	85
5	22	358	266	202	177	156	138	123	109	97	86	77	69	61	54
	20	400	322	246	217	192	171	152	136	122	109	98	88	79	71
	18	400	400	325	288	256	228	205	184	166	150	135	123	111	101
	16	400	400	363	322	287	257	230	207	187	169	154	140	127	114
5 1/2	22	400	309	235	207	182	161	143	128	114	101	91	81	72	64
	20	400	375	287	253	224	200	178	159	143	128	115	104	94	84
	18	400	400	379	336	299	267	239	215	194	176	159	144	131	119
	16	400	400	400	377	336	300	270	243	220	199	181	164	150	136
6	22	400	353	269	237	209	185	165	147	131	117	105	94	84	75
	20	400	400	329	291	258	229	205	183	164	148	133	120	108	98
	18	400	400	400	386	343	307	275	248	224	202	184	167	152	138
	16	400	400	400	400	386	346	311	280	253	230	209	190	173	158
6 1/2	22	400	399	304	268	237	210	187	166	149	133	119	107	95	85
	20	400	400	372	329	292	260	232	208	187	168	151	136	123	111
	18	400	400	400	400	389	348	312	281	254	230	209	190	173	157
	16	400	400	400	400	400	392	353	318	288	261	237	216	197	180

Allowable Superimposed Uniform Loads shown in tables above are based on the following criteria:

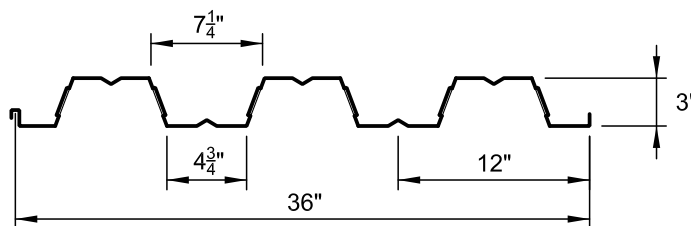
- Unfactored service level loads, determined using SDI design method per ANSI/SDI C-2011 Standard for Composite Steel Floor Deck-Slabs
- Single span conditions without negative bending reinforcing over supports
- The presence of shear studs have not been considered, design strength may be increased if shear studs are used
- Slab deflection is limited to a minimum of Clear Span/360 or 1" under service level superimposed loading.



Composite Decks - Type 3.0CD

PROPERTIES

Gage	Thickness (in.)	Coverage (in.)	Weight (psf)
22	0.0295	36	1.71
20	0.0358		2.07
18	0.0474		2.74
16	0.0598		3.45



SECTION PROPERTIES

Gage	F _y (ksi)	A _s (in. ² /ft.)	I _p (in. ⁴ /ft.)	I _n (in. ⁴ /ft.)	S _p (in. ³ /ft.)	S _n (in. ³ /ft.)
22	40	0.502	0.763	0.755	0.407	0.427
20		0.608	0.943	0.939	0.537	0.559
18		0.804	1.250	1.260	0.794	0.807
16		1.014	1.576	1.588	1.012	1.019

Note:
50 ksi material is also available.
See web site for load tables.

Section properties are calculated in accordance with the AISI Cold-Formed Steel Design Specifications, 2007 Edition.

DESIGN STRENGTHS (No Concrete Fill)

Gage	F _y (ksi)	M _{n,p} /Q (in.-lb./ft.)	M _{n,n} /Q (in.-lb./ft.)	V _n /Q (lb./ft.)	R _{be} /Q (lb./ft.)	R _{bl} /Q (lb./ft.)
22	40	9746	10218	1534	336	677
20		12866	13393	2413	482	967
18		19010	19340	4220	811	1615
16		24237	24416	5309	1245	2466

Design Strengths for web crippling (R_{be}/Q, R_{bl}/Q) are based on minimum bearing lengths of 2 1/2" for end bearing and 5" for interior bearing.

CONSTRUCTION CLEAR SPANS - ASD

Total Slab Depth (in.)	Gage	F _y (ksi)	Concrete Weight (psf)	Maximum Construction Clear Span (ft. - in.)			Concrete Weight (psf)	Maximum Construction Clear Span (ft. - in.)			Concrete Volume (ft. ³ /ft. ²)	
				Single	Double	Triple		Single	Double	Triple		
5	22	40	Normal Weight Concrete (145 pcf)	42	8 - 5	8 - 5	9 - 7	32	10 - 1	10 - 0	11 - 5	0.292
	20				10 - 11	11 - 8	12 - 1		12 - 0	12 - 9	13 - 2	
	18				12 - 10	14 - 0	14 - 6		13 - 8	15 - 4	15 - 10	
	16				13 - 6	15 - 8	15 - 11		14 - 5	17 - 1	16 - 11	
5 1/2	22	40		48	7 - 5	7 - 8	8 - 9	37	9 - 8	9 - 3	10 - 6	0.333
	20				10 - 4	10 - 11	11 - 6		11 - 6	12 - 3	12 - 8	
	18				12 - 5	13 - 5	13 - 11		13 - 3	14 - 8	15 - 2	
	16				13 - 1	15 - 0	15 - 5		14 - 0	16 - 5	16 - 5	
6	22	40		54	6 - 7	7 - 1	8 - 1	41	8 - 7	8 - 7	9 - 9	0.375
	20				9 - 11	10 - 1	11 - 1		11 - 0	11 - 9	12 - 2	
	18				12 - 1	12 - 10	13 - 4		12 - 11	14 - 2	14 - 8	
	16				12 - 9	14 - 5	14 - 11		13 - 7	15 - 10	16 - 0	
6 1/2	22	40		60	5 - 11	6 - 7	7 - 5	46	7 - 9	8 - 0	9 - 1	0.417
	20				9 - 6	9 - 4	10 - 7		10 - 7	11 - 4	11 - 9	
	18				11 - 9	12 - 5	12 - 10		12 - 7	13 - 8	14 - 2	
	16				12 - 5	13 - 11	14 - 5		13 - 3	15 - 3	15 - 7	
7	22	40		66	5 - 5	6 - 1	6 - 9	50	7 - 1	7 - 6	8 - 6	0.458
	20				9 - 2	8 - 8	9 - 11		10 - 2	10 - 8	11 - 4	
	18				11 - 6	12 - 0	12 - 5		12 - 3	13 - 3	13 - 8	
	16				12 - 2	13 - 5	13 - 10		13 - 0	14 - 10	15 - 3	
7 1/2	22	40		72	5 - 0	5 - 8	6 - 3	55	6 - 6	7 - 0	8 - 0	0.500
	20				8 - 10	8 - 2	9 - 3		9 - 10	10 - 0	11 - 0	
	18				11 - 1	11 - 7	12 - 0		12 - 0	12 - 10	13 - 3	
	16				11 - 11	13 - 0	13 - 5		12 - 9	14 - 4	14 - 10	

Notes:

- Maximum construction clear spans are based on ANSI/SDI C-2011 Standard for Composite Steel Floor Deck-Slabs.
- Maximum construction clear spans are based on minimum bearing lengths of 2 1/2" for end bearing and 5" for interior bearing. Check web crippling if minimums are not met.
- Concrete weights do not include weight of deck.
- Deck profile has been accounted for in determining concrete volumes. Deck and support deflections have not been included in concrete volumes.

MAXIMUM CANTILEVER CLEAR SPANS - ASD

Total Slab Depth (in.)	F _y (ksi)	Normal Weight Concrete (145 pcf)				Light Weight Concrete (110 pcf)			
		22 Ga.	20 Ga.	18 Ga.	16 Ga.	22 Ga.	20 Ga.	18 Ga.	16 Ga.
5	40	3 - 2	4 - 0	4 - 10	5 - 3	3 - 9	4 - 4	5 - 3	5 - 8
5 1/2		2 - 11	3 - 10	4 - 7	5 - 1	3 - 6	4 - 2	5 - 0	5 - 5
6		2 - 8	3 - 8	4 - 5	4 - 11	3 - 3	4 - 0	4 - 10	5 - 4
6 1/2		2 - 5	3 - 6	4 - 3	4 - 9	3 - 0	3 - 11	4 - 8	5 - 2
7		2 - 3	3 - 3	4 - 1	4 - 7	2 - 10	3 - 9	4 - 6	5 - 1
7 1/2		2 - 1	3 - 1	4 - 0	4 - 5	2 - 8	3 - 8	4 - 5	4 - 11

Maximum cantilever clear spans shown are based on the following criteria:

- Loading and deflection criteria in the ANSI/SDI C-2011 Standard for Composite Steel Floor Deck-Slabs
- Adjacent clear span assumed to be at least 3 times longer than the cant. and no greater than the max. constr. clear span shown in table
- Bearing width at perimeter support assumed to be 3" minimum.



Composite Decks - Type 3.0CD

ALLOWABLE SUPERIMPOSED UNIFORM LOADS - ASD

Total Slab Depth (in.)	Gage	Allowable Superimposed Uniform Load (psf)													
		Clear Span (ft. - in.)													
		7 - 0	8 - 0	9 - 0	10 - 0	11 - 0	12 - 0	12 - 6	13 - 0	13 - 6	14 - 0	14 - 6	15 - 0	15 - 6	16 - 0
5	22	329	242	182	139	107	83	73	64	56	49	43	37	32	27
	20	400	296	224	173	135	107	95	84	75	67	59	52	46	41
	18	400	391	300	234	186	149	134	120	108	97	88	79	71	64
	16	400	400	377	297	237	192	174	157	142	129	117	107	97	88
5 1/2	22	384	282	213	163	126	98	86	76	67	58	51	45	39	33
	20	400	345	262	203	159	126	112	99	89	79	70	62	55	49
	18	400	400	351	274	218	175	157	141	127	115	104	94	84	76
	16	400	400	400	347	278	225	204	184	167	152	138	126	114	104
6	22	400	325	245	188	146	113	100	88	78	68	60	52	46	39
	20	400	398	303	234	184	146	130	116	103	92	82	73	65	57
	18	400	400	400	317	252	203	182	164	148	134	121	109	99	89
	16	400	400	400	400	322	261	236	214	194	176	161	146	133	121
6 1/2	22	400	370	280	215	167	130	115	102	90	79	70	61	53	46
	20	400	400	345	267	210	167	149	133	119	106	94	84	75	66
	18	400	400	400	361	288	232	209	188	170	153	139	126	114	103
	16	400	400	400	400	367	298	270	245	222	202	184	168	153	140
7	22	400	400	315	242	188	147	130	115	102	90	79	70	61	53
	20	400	400	388	302	237	189	168	151	135	120	108	96	86	76
	18	400	400	400	400	325	262	236	213	192	174	158	143	129	117
	16	400	400	400	400	400	337	305	277	252	229	209	191	174	159
7 1/2	22	400	400	351	270	210	165	146	130	115	102	90	79	69	60
	20	400	400	400	337	265	211	189	169	151	135	121	108	97	86
	18	400	400	400	400	363	293	264	239	216	195	177	161	146	132
	16	400	400	400	400	400	378	342	310	282	257	235	214	196	179

ALLOWABLE SUPERIMPOSED UNIFORM LOADS - ASD

Total Slab Depth (in.)	Gage	Allowable Superimposed Uniform Load (psf)													
		Clear Span (ft. - in.)													
		8 - 0	9 - 0	10 - 0	11 - 0	12 - 0	13 - 0	13 - 6	14 - 0	14 - 6	15 - 0	15 - 6	16 - 0	16 - 6	17 - 0
5	22	240	183	141	111	88	70	62	56	50	44	39	35	31	27
	20	291	223	174	138	110	89	80	72	65	58	52	47	42	38
	18	380	293	231	185	150	122	111	101	92	83	76	69	63	57
	16	400	365	289	233	190	151	135	121	109	98	89	81	74	68
5 1/2	22	281	214	166	130	103	82	74	66	59	52	47	41	37	32
	20	340	260	203	161	129	105	94	85	76	69	62	56	50	45
	18	400	343	270	216	176	144	130	119	108	98	89	82	74	68
	16	400	400	338	272	222	184	167	153	140	127	115	105	96	88
6	22	324	247	192	151	120	96	86	77	69	61	55	49	43	38
	20	392	301	235	187	150	121	110	99	89	80	73	65	59	53
	18	400	396	312	250	203	167	151	138	125	114	104	95	87	79
	16	400	400	391	315	258	213	194	177	162	149	136	125	115	106
6 1/2	22	369	281	219	173	137	110	99	88	79	71	63	56	50	45
	20	400	343	269	214	172	139	126	114	103	93	84	76	68	62
	18	400	400	357	286	233	191	174	158	144	131	120	110	100	92
	16	400	400	400	360	295	244	223	203	186	171	157	144	133	122
7	22	400	317	247	195	156	125	112	100	90	81	72	65	58	51
	20	400	387	303	241	194	158	143	129	117	106	96	86	78	71
	18	400	400	400	324	263	217	197	179	164	149	137	125	114	105
	16	400	400	400	400	334	276	252	231	212	194	178	164	151	139
7 1/2	22	400	354	276	218	174	140	126	113	101	91	82	73	65	58
	20	400	400	339	270	218	177	160	145	131	119	108	98	88	80
	18	400	400	400	362	295	243	221	201	184	168	154	141	129	118
	16	400	400	400	400	374	310	283	259	238	218	201	185	170	157

Allowable Superimposed Uniform Loads shown in tables above are based on the following criteria:

- Unfactored service level loads, determined using SDI design method per ANSI/SDI C-2011 Standard for Composite Steel Floor Deck-Slabs
- Single span conditions without negative bending reinforcing over supports
- The presence of shear studs have not been considered, design strength may be increased if shear studs are used
- Slab deflection is limited to a minimum of Clear Span/360 or 1" under service level superimposed loading.

