Form Decks - Type 1.0FD, 1.0FDV

ASD

PROPERTIES **SECTION PROPERTIES** **DESIGN STRENGTHS (No Concrete Fill)**

Gage	F_y (ksi)	Coverage (in.)	Thickness (in.)	Weight (psf)	I_p (in.^{4}/ft.)	I_n (in.^{4}/ft.)	S_p (in.^{3}/ft.)	S_n (in.^{3}/ft.)	Mn,p/Ω (in.-lb./ft.)	Mn,n/Ω (in.-lb./ft.)	Vn/Ω (lb./ft.)	*Rbe/Ω (lb./ft.)	*Rbi/Ω (lb./ft.)
26	60	36	0.0179	0.94	0.041	0.041	0.068	0.073	2428	2633	2216	466	828
24	60	36	0.0238	1.24	0.056	0.056	0.098	0.105	3518	3780	3652	789	1422
22	60	36	0.0295	1.54	0.070	0.070	0.129	0.132	4631	4732	4516	1169	2126
20	60	36	0.0358	1.87	0.085	0.085	0.160	0.160	5749	5738	5467	1665	3047

CONSTRUCTION SPANS

Total Slab Depth (in.)	Gage	Concrete Weight (psf)	Maximum Construction Clear Span (ft. - in.) Single	Double	Triple	Concrete Weight (psf)	Maximum Construction Clear Span (ft. - in.) Single	Double	Triple	Concrete Volume ft.^{3}/ft.^{2}
		Normal Weight Concrete (145 pcf)				Light Weight Concrete (110 pcf)				
2 1/2	26	24	3 - 8	4 - 9	4 - 9	18	3 - 11	5 - 0	5 - 0	0.167
	24	24	4 - 10	6 - 3	6 - 4	18	5 - 2	6 - 8	6 - 9	
	22	24	5 - 10	7 - 8	7 - 7	18	6 - 4	7 - 9	8 - 1	
	20	24	6 - 6	8 - 7	8 - 1	18	7 - 1	8 - 7	8 - 10	
3	26	30	3 - 6	4 - 6	4 - 6	23	3 - 8	4 - 9	4 - 10	0.209
	24	30	4 - 6	5 - 11	6 - 0	23	4 - 11	6 - 4	6 - 5	
	22	30	5 - 6	7 - 3	7 - 1	23	5 - 11	7 - 9	7 - 9	
	20	30	6 - 1	8 - 2	7 - 6	23	6 - 8	8 - 7	8 - 3	
3 1/2	26	36	3 - 4	4 - 4	4 - 4	28	3 - 7	4 - 7	4 - 8	0.250
	24	36	4 - 3	5 - 8	5 - 8	28	4 - 8	6 - 1	6 - 2	
	22	36	5 - 2	6 - 10	6 - 8	28	5 - 8	7 - 5	7 - 4	
	20	36	5 - 9	7 - 9	7 - 1	28	6 - 3	8 - 5	7 - 9	
4	26	42	3 - 2	4 - 2	4 - 2	32	3 - 5	4 - 5	4 - 6	0.292
	24	42	4 - 1	5 - 5	5 - 6	32	4 - 5	5 - 10	5 - 11	
	22	42	4 - 11	6 - 6	6 - 4	32	5 - 5	7 - 1	6 - 11	
	20	42	5 - 6	7 - 4	6 - 9	32	6 - 0	8 - 0	7 - 5	
4 1/2	26	48	3 - 0	4 - 0	4 - 0	37	3 - 3	4 - 3	4 - 4	0.334
	24	48	3 - 11	5 - 2	5 - 3	37	4 - 3	5 - 8	5 - 8	
	22	48	4 - 8	6 - 3	6 - 1	37	5 - 2	6 - 10	6 - 8	
	20	48	5 - 3	7 - 1	6 - 6	37	5 - 9	7 - 8	7 - 1	
5	26	54	2 - 11	3 - 10	3 - 11	41	3 - 2	4 - 2	4 - 3	0.375
	24	54	3 - 9	5 - 0	5 - 1	41	4 - 1	5 - 5	5 - 6	
	22	54	4 - 6	6 - 0	5 - 10	41	4 - 11	6 - 7	6 - 5	
	20	54	5 - 1	6 - 9	6 - 3	41	5 - 6	7 - 5	6 - 10	

Notes:
1. Section properties are calculated in accordance with the AISI Cold-Formed Steel Design Specifications, 2007 Edition.
2. Web crippling design strengths and maximum construction spans are based on 1.5" for end bearing and 3" for interior bearing. Check web crippling if minimums are not met.
3. Maximum construction spans are based on ANSI/SDI NC-2010 Standard for Non-Composite Steel Floor Deck and the following construction loading:
   - Deck self-weight and concrete weight plus worst-case of either a 150 lb. concentrated load or a 20 psf uniform load; or
   - Deck self-weight plus a 50 psf uniform construction load, whichever controls.
4. Concrete weights do not include weight of deck.
5. Deck profile has been accounted for in determining concrete volumes. Deck and support deflections have not been included in concrete volumes or weights.

SLAB DESIGN - ALLOWABLE SUPERIMPOSED UNIFORM LOADS

Total Slab Depth, h (in.)	Reinforcement (Mesh or Deformed Bars)	A_s (in.^{2}/ft.)	Allowable Superimposed Uniform Load (psf) Clear Span (ft. - in.) 2 - 6	2 - 9	3 - 0	3 - 3	3 - 6	3 - 9	4 - 0	4 - 6	5 - 0	5 - 6	6 - 0
		NWC (γc = 145 pcf, f'c = 3000 psi, n = 9, Fys = 60000 psi)											
2 1/2	6x6 - W2.9xW2.9	0.058	201	166	139	119	102	89	78	62	50	41	35
	4x4 - W2.0xW2.0	0.060	207	171	144	123	106	92	81	64	52	43	36
	6x6 - W4.0xW4.0	0.080	268	222	186	159	137	119	105	83	67	55	47
3	6x6 - W2.9xW2.9	0.058	272	225	189	161	139	121	106	84	68	56	47
	4x4 - W2.0xW2.0	0.060	281	232	195	166	144	125	110	87	70	58	49
	6x6 - W4.0xW4.0	0.080	367	304	255	217	187	163	143	113	92	76	64
3 1/2	6x6 - W4.0xW4.0	0.080	400	400	400	400	400	400	359	284	230	190	160
	4x4 - W2.9xW2.9	0.087	400	400	400	400	400	400	392	310	251	207	174
	4x4 - W4.0xW4.0	0.120	400	400	400	400	400	400	400	400	332	275	231
4	6x6 - W4.0xW4.0	0.080	400	400	400	400	400	400	400	345	279	231	194
	4x4 - W2.9xW2.9	0.087	400	400	400	400	400	400	400	376	305	252	212
	4x4 - W4.0xW4.0	0.120	400	400	400	400	400	400	400	400	400	341	287
4 1/2	4x4 - W2.9xW2.9	0.087	400	400	400	400	400	400	400	400	359	296	249
	4x4 - W4.0xW4.0	0.120	400	400	400	400	400	400	400	400	400	400	338
	#3 @ 9" o.c.	0.147	400	400	400	400	400	400	400	400	400	400	400
5	4x4 - W4.0xW4.0	0.120	400	400	400	400	400	400	400	400	400	400	390
	#3 @ 9" o.c.	0.147	400	400	400	400	400	400	400	400	400	400	400
	#4 @ 12" o.c.	0.196	400	400	400	400	400	400	400	400	400	400	400

Notes:
1. Allowable Superimposed Uniform Loads shown are for end spans and are based on the following criteria:
   - Unfactored service level loads, determined using ACI design method and uniform load factor of 1.6. Loads shown in table are for end spans.
   - Reinforcement placed at middle of tc for h ≤ 3". For h > 3", mesh is draped over supports or bars are placed for positive and negative bending, where positive steel rests on deck and negative steel cover = 3/4".
   - Galvanized deck. If non-galvanized deck or temporary shoring is used, the weight of the slab must be deducted from the uniform loads.
   - Three span conditions and ACI moment coefficients.
   - Slab deflection is limited to a minimum of Clear Span/360 or 1" under service level superimposed loading.
2. (As)* does not meet ACI minimum steel requirements for reinforcement (0.0018Ac).

Form Decks - Type 1.0FD, 1.0FDV

ASD

ALLOWABLE CONSTRUCTION UNIFORM LOADS

Gage	Span Condition	Loading Condition	Uniform Load (psf) Clear Span (ft. - in.) 3 - 0	3 - 3	3 - 6	3 - 9	4 - 0	4 - 6	5 - 0	5 - 6	6 - 0	6 - 6	7 - 0	7 - 6	8 - 0
26	Single	Total Load	180	153	132	115	101	80	65	54	45	38	33	29	25
		Deflection L/180	134	105	84	69	56	40	29	22	17	13	11	9	7
		Deflection L/240	100	79	63	51	42	30	22	16	13	10	8	6	5
		W1*	53	41	31	24	18	9	3						
	Double	Total Load	192	164	142	124	109	86	70	58	49	41	36	31	27
		Deflection L/180	322	253	203	165	136	95	69	52	40	32	25	21	17
		Deflection L/240	241	190	152	123	102	71	52	39	30	24	19	15	13
		W1*	127	100	80	64	51	32	20	11	5				
	Triple	Total Load	206	176	152	132	117	92	75	62	52	44	38	33	29
		Deflection L/180	252	198	158	129	106	75	54	41	31	25	20	16	13
		Deflection L/240	189	148	119	97	80	56	41	31	24	19	15	12	10
		W1*	130	103	82	66	53	34	21	12	5	1			
24	Single	Total Load	261	222	191	167	147	116	94	78	65	56	48	42	37
		Deflection L/180	183	144	115	94	77	54	40	30	23	18	14	12	10
		Deflection L/240	137	108	86	70	58	41	30	22	17	13	11	9	7
		W1*	131	100	76	58	48	33	23	16	11	7	4	2	
	Double	Total Load	277	236	204	178	157	124	100	83	70	60	51	45	39
		Deflection L/180	439	345	276	225	185	130	95	71	55	43	35	28	23
		Deflection L/240	329	259	207	169	139	98	71	53	41	32	26	21	17
		W1*	232	190	157	131	110	79	58	42	31	22	16	11	7
	Triple	Total Load	296	253	218	191	168	133	108	89	75	64	55	48	42
		Deflection L/180	344	270	216	176	145	102	74	56	43	34	27	22	18
		Deflection L/240	258	203	162	132	109	76	56	42	32	25	20	16	14
		W1*	238	195	161	135	113	81	59	44	32	24	17	12	8
22	Single	Total Load	343	292	252	220	193	152	123	102	86	73	63	55	48
		Deflection L/180	227	179	143	116	96	67	49	37	28	22	18	15	12
		Deflection L/240	170	134	107	87	72	50	37	28	21	17	13	11	9
		W1*	213	170	136	110	88	58	43	32	24	18	14	10	8
	Double	Total Load	347	296	256	223	196	155	126	104	87	74	64	56	49
		Deflection L/180	545	429	343	279	230	162	118	89	68	54	43	35	29
		Deflection L/240	409	322	258	209	173	121	88	66	51	40	32	26	22
		W1*	309	261	223	193	168	127	96	74	58	45	36	28	22
	Triple	Total Load	371	317	273	238	210	166	135	111	94	80	69	60	53
		Deflection L/180	427	336	269	219	180	126	92	69	53	42	34	27	23
		Deflection L/240	320	252	202	164	135	95	69	52	40	31	25	20	17
		W1*	328	277	237	204	175	126	92	69	53	42	34	27	23
20	Single	Total Load	426	363	313	273	240	189	153	127	106	91	78	68	60
		Deflection L/180	275	217	173	141	116	82	59	45	34	27	22	18	15
		Deflection L/240	207	162	130	106	87	61	45	34	26	20	16	13	11
		W1*	275	217	173	141	116	82	59	45	34	27	22	18	15
	Double	Total Load	421	359	310	270	238	188	152	126	106	90	78	68	60
		Deflection L/180	663	521	417	339	280	196	143	108	83	65	52	42	35
		Deflection L/240	497	391	313	255	210	147	107	81	62	49	39	32	26
		W1*	383	324	278	240	210	163	130	105	83	65	52	42	35
	Triple	Total Load	450	384	332	289	254	201	163	135	113	97	83	73	64
		Deflection L/180	519	408	327	266	219	154	112	84	65	51	41	33	27
		Deflection L/240	389	306	245	199	164	115	84	63	49	38	31	25	21
		W1*	407	344	295	255	219	154	112	84	65	51	41	33	27

This table can be used in cases where the desired slab depth exceeds those published in the tables on the preceding page. The W1 value is critical where the deck is being used as a conventional concrete form subjected to SDI minimum construction loads and serviceability criteria. The allowable weight of concrete and deck (W1) has been backed out of the minimum SDI construction loads and serviceability criteria.

Loading Condition Notes:

- Total Load = Maximum allowable total combined uniform design load (psf).
- Deflection L/180 = Uniform load (psf) resulting in a deflection of clear span/180.
- Deflection L/240 = Uniform load (psf) resulting in a deflection of clear span/240.
- W1 = Maximum permissible weight of concrete and deck (psf) when combined with the SDI specified design construction loads.