

Form Decks - Type 0.6FD, 0.6FDV

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.)	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 _{bi} /Ω (lb./ft.)
28	60	35	0.0149	0.75	0.011	0.011	0.033	0.035	1190	1256	2074	583	910
26	60	35	0.0179	0.90	0.013	0.013	0.042	0.044	1517	1593	2486	811	1278
24	60	35	0.0238	1.19	0.018	0.018	0.060	0.060	2144	2142	3292	1352	2160
22	60	35	0.0295	1.48	0.022	0.022	0.073	0.073	2631	2631	4065	1984	3201

CONSTRUCTION SPANS

Total Slab Depth (in.)	Gage	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				
2 1/2	28	Normal Weight Concrete (145 pcf)	27	2 - 0	2 - 7	2 - 7	20	2 - 1	2 - 8	2 - 8	0.185		
	26		27	2 - 6	3 - 2	3 - 2	20	2 - 7	3 - 4	3 - 4			
	24		27	3 - 3	4 - 2	4 - 3	20	3 - 5	4 - 5	4 - 5			
	22		27	3 - 9	4 - 11	4 - 11	20	4 - 0	5 - 2	5 - 3			
3	28		Light Weight Concrete (110 pcf)	33	1 - 11	2 - 6	2 - 6	25	2 - 1	2 - 7	2 - 8	0.227	
	26			33	2 - 4	3 - 0	3 - 1	25	2 - 6	3 - 2	3 - 3		
	24			33	3 - 1	4 - 0	4 - 0	25	3 - 3	4 - 3	4 - 3		
	22			33	3 - 7	4 - 8	4 - 8	25	3 - 10	5 - 0	5 - 0		
3 1/2	28			Normal Weight Concrete (145 pcf)	39	1 - 11	2 - 5	2 - 5	30	2 - 0	2 - 6	2 - 7	0.269
	26				39	2 - 3	2 - 11	3 - 0	30	2 - 5	3 - 1	3 - 2	
	24				39	2 - 11	3 - 10	3 - 11	30	3 - 2	4 - 1	4 - 2	
	22				39	3 - 5	4 - 6	4 - 5	30	3 - 8	4 - 9	4 - 10	
4	28	Light Weight Concrete (110 pcf)			45	1 - 10	2 - 4	2 - 4	34	1 - 11	2 - 6	2 - 6	0.310
	26				45	2 - 2	2 - 10	2 - 11	34	2 - 4	3 - 0	3 - 1	
	24				45	2 - 10	3 - 8	3 - 9	34	3 - 1	4 - 0	4 - 0	
	22				45	3 - 3	4 - 4	4 - 3	34	3 - 7	4 - 7	4 - 7	
4 1/2	28		Normal Weight Concrete (145 pcf)		51	1 - 9	2 - 3	2 - 4	39	1 - 11	2 - 5	2 - 5	0.352
	26				51	2 - 1	2 - 9	2 - 10	39	2 - 3	2 - 11	3 - 0	
	24				51	2 - 9	3 - 7	3 - 7	39	2 - 11	3 - 10	3 - 11	
	22				51	3 - 2	4 - 2	4 - 1	39	3 - 5	4 - 6	4 - 5	
5	28			Light Weight Concrete (110 pcf)	57	1 - 9	2 - 3	2 - 3	43	1 - 10	2 - 4	2 - 5	0.394
	26				57	2 - 1	2 - 8	2 - 9	43	2 - 3	2 - 10	2 - 11	
	24				57	2 - 8	3 - 6	3 - 6	43	2 - 10	3 - 9	3 - 9	
	22				57	3 - 1	4 - 0	3 - 11	43	3 - 4	4 - 4	4 - 3	

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

SLAB DESIGN - ALLOWABLE SUPERIMPOSED UNIFORM LOADS

Total Slab Depth, h (in.)	Reinforcement (Mesh or Deformed Bars)	A _s (in. ² /ft.)	NWC (γ _c = 145 pcf, f _c = 3000 psi, n = 9, F _{ys} = 60000 psi)	Allowable Superimposed Uniform Load (psf)											
				Clear Span (ft. - in.)											
				2 - 0	2 - 3	2 - 6	2 - 9	3 - 0	3 - 3	3 - 6	3 - 9	4 - 0	4 - 6	5 - 0	
2 1/2	6x6 - W2.9xW2.9	0.058	NWC (γ _c = 145 pcf, f _c = 3000 psi, n = 9, F _{ys} = 60000 psi)	400	326	264	218	183	156	135	117	103	81	66	
	4x4 - W2.0xW2.0	0.060		400	336	272	225	189	161	139	121	106	84	68	
	6x6 - W4.0xW4.0	0.080		400	400	355	294	247	210	181	158	139	110	89	
3	4x4 - W2.0xW2.0	0.060		400	400	346	286	241	205	177	154	135	107	87	
	6x6 - W4.0xW4.0	0.080		400	400	400	375	315	269	232	202	177	140	114	
	4x4 - W2.9xW2.9	0.087		400	400	400	400	341	290	250	218	192	152	123	
3 1/2	6x6 - W4.0xW4.0	0.080		400	400	400	400	400	400	400	400	400	370	292	237
	4x4 - W2.9xW2.9	0.087		400	400	400	400	400	400	400	400	400	400	323	261
	4x4 - W4.0xW4.0	0.120		400	400	400	400	400	400	400	400	400	400	400	342
4	4x4 - W2.9xW2.9	0.087		400	400	400	400	400	400	400	400	400	400	395	320
	4x4 - W4.0xW4.0	0.120		400	400	400	400	400	400	400	400	400	400	400	400
	#3 @ 9" o.c.	0.147		400	400	400	400	400	400	400	400	400	400	400	400
4 1/2	4x4 - W4.0xW4.0	0.120	400	400	400	400	400	400	400	400	400	400	400	400	
	#3 @ 9" o.c.	0.147	400	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	400	
5	4x4 - W4.0xW4.0	0.120	400	400	400	400	400	400	400	400	400	400	400	400	
	#3 @ 9" o.c.	0.147	400	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	400	

- Notes:
- 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 t 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.
 - (A_s)^{*} does not meet ACI minimum steel requirements for reinforcement (0.0018A_c).

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ALLOWABLE CONSTRUCTION UNIFORM LOADS

Gage	Span Condition	Loading Condition	Uniform Load (psf)												
			Clear Span (ft. - in.)												
			2 - 0	2 - 3	2 - 6	2 - 9	3 - 0	3 - 3	3 - 6	3 - 9	4 - 0	4 - 6	5 - 0	5 - 6	6 - 0
28	Single	Total Load	198	157	127	105	88	75	65	56	50	39	32	26	22
		Deflection L/180	119	84	61	46	35	28	22	18	15	10	8	6	4
		Deflection L/240	89	63	46	34	27	21	17	14	11	8	6	4	3
		W1*	32	16	5										
	Double	Total Load	208	164	133	110	93	79	68	59	52	41	33	28	23
		Deflection L/180	287	201	147	110	85	67	54	44	36	25	18	14	11
		Deflection L/240	215	151	110	83	64	50	40	33	27	19	14	10	8
		W1*	97	60	36	19	7								
	Triple	Total Load	222	176	143	118	99	85	73	64	56	44	36	30	25
		Deflection L/180	224	158	115	86	67	52	42	34	28	20	14	11	8
		Deflection L/240	168	118	86	65	50	39	31	26	21	15	11	8	6
		W1*	100	63	38	21	8								
26	Single	Total Load	253	200	162	134	112	96	83	72	63	50	40	33	28
		Deflection L/180	144	101	74	56	43	34	27	22	18	13	9	7	5
		Deflection L/240	108	76	55	42	32	25	20	16	14	10	7	5	4
		W1*	73	45	28	17	9	3							
	Double	Total Load	263	208	169	140	118	100	86	75	66	52	42	35	29
		Deflection L/180	347	244	178	133	103	81	65	53	43	30	22	17	13
		Deflection L/240	260	183	133	100	77	61	49	39	33	23	17	13	10
		W1*	168	116	81	56	38	25	15	7	1				
	Triple	Total Load	282	223	181	150	126	107	93	81	71	56	45	38	32
		Deflection L/180	272	191	139	104	80	63	51	41	34	24	17	13	10
		Deflection L/240	204	143	104	78	60	47	38	31	25	18	13	10	8
		W1*	173	120	84	59	40	27	16	8	2				
24	Single	Total Load	357	282	229	189	159	135	117	102	89	71	57	47	40
		Deflection L/180	192	135	98	74	57	45	36	29	24	17	12	9	7
		Deflection L/240	144	101	74	55	43	34	27	22	18	13	9	7	5
		W1*	177	119	79	54	40	29	21	15	10	3			
	Double	Total Load	354	280	227	188	158	135	116	101	89	70	57	47	40
		Deflection L/180	462	324	236	178	137	108	86	70	58	41	30	22	17
		Deflection L/240	346	243	177	133	103	81	65	53	43	30	22	17	13
		W1*	297	224	169	129	99	77	60	46	35	20	10	3	
	Triple	Total Load	379	300	243	201	169	144	124	108	95	75	61	50	42
		Deflection L/180	361	254	185	139	107	84	67	55	45	32	23	17	13
		Deflection L/240	271	190	139	104	80	63	51	41	34	24	17	13	10
		W1*	312	230	173	133	102	79	62	48	37	21	11	3	
22	Single	Total Load	438	346	281	232	195	166	143	125	110	87	70	58	49
		Deflection L/180	238	167	122	91	70	55	44	36	30	21	15	11	9
		Deflection L/240	178	125	91	69	53	42	33	27	22	16	11	9	7
		W1*	238	167	122	91	65	50	39	30	24	14	7	3	
	Double	Total Load	435	344	279	231	194	165	143	124	109	86	70	58	49
		Deflection L/180	572	402	293	220	170	133	107	87	72	50	37	28	21
		Deflection L/240	429	301	220	165	127	100	80	65	54	38	27	21	16
		W1*	378	294	234	185	146	117	94	76	62	41	27	17	9
	Triple	Total Load	465	368	299	247	208	177	153	133	117	93	75	62	52
		Deflection L/180	448	314	229	172	133	104	84	68	56	39	29	22	17
		Deflection L/240	336	236	172	129	100	78	63	51	42	29	21	16	12
		W1*	400	311	229	172	133	104	84	68	56	39	28	18	10

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.