

2.0DS-30 FL FORMLOK® DOVETAIL DECK

LIGHT WEIGHT CONCRETE (115 pcf)

Imperial
LSD

Slab Depth		Maximum Unshored Spans			Composite Deck-Slab Properties				
		Deck Gage	Maximum Unshored Construction Clear Span			Concrete + Deck (psf)	Deflection $I_d = (I_{cr} + I_u)/2$ (in ⁴ /ft)	Moment ϕM_{no} (kip-ft/ft)	Shear ϕV_{no} (kip/ft)
Total	Topping		1	2	3				
4"	2"	22	9'-5"	10'-4"	10'-8"	36.5	5.05	5.95	6.02
		20	10'-5"	11'-4"	11'-9"	37.0	5.42	6.99	6.02
		18	11'-4"	13'-2"	13'-3"	37.9	6.07	8.95	6.02
		16	12'-1"	14'-9"	14'-1"	38.8	6.64	10.80	6.02
4½"	2½"	22	9'-0"	9'-11"	10'-3"	41.3	6.98	6.66	6.77
		20	10'-0"	10'-11"	11'-3"	41.8	7.47	7.83	6.77
		18	10'-11"	12'-8"	12'-11"	42.7	8.35	10.04	6.77
		16	11'-8"	14'-3"	13'-8"	43.6	9.13	12.14	6.77
5¼"	3¼"	22	8'-6"	9'-4"	9'-8"	48.5	10.68	7.75	7.23
		20	9'-5"	10'-4"	10'-8"	49.0	11.42	9.13	7.90
		18	10'-4"	12'-0"	12'-5"	49.9	12.74	11.74	7.90
		16	11'-1"	13'-6"	13'-2"	50.8	13.92	14.24	7.90

Notes:

- Maximum unshored spans are based on 20.9 psf uniform construction live load and 151 plf concentrated construction live load.
- Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n / Deflection at L/360 (psf) LWC (115 pcf), $f'_c = 4000$ psi

Total Slab Depth	Deck Gage	Span (ft-in.)							
		10'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	18'-0"	20'-0"
4"	22	430/220	285/127	236/100	197/80	166/65	140/53	101/37	73/27
	20	513/236	342/136	284/107	239/86	202/70	172/57	126/40	93/29
	18	668/265	449/153	376/120	317/96	270/78	232/64	173/45	131/33
	16	815/290	551/168	462/132	392/105	335/86	288/70	218/49	167/36
4½"	22	481/304	318/176	263/138	220/111	185/90	156/74	112/52	81/38
	20	574/326	382/189	318/148	267/119	226/96	192/79	141/56	104/40
	18	749/365	504/211	421/166	356/133	303/108	260/89	194/62	147/45
	16	916/399	619/230	519/181	440/145	376/118	324/97	245/68	188/49
5¼"	22	559/466	370/270	306/212	255/170	214/138	181/113	130/80	94/58
	20	669/499	446/288	371/227	311/181	263/147	224/121	164/85	121/62
	18	877/556	590/322	493/253	416/202	355/165	304/135	227/95	172/69
	16	1075/608	727/352	610/276	517/221	442/180	381/148	288/104	221/76

Notes:

- The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2024.
- For high loads long term concrete creep should be considered.
- Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

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2.0DS-30 FL Deck-Slab Information

Total Slab Depth (in.)	Cover Depth (in.)	Theoretical Concrete Volume (yd ³ /100 ft ²)	Min. A _s for T&S (in. ²)	Recommended WWR for Temperature and Shrinkage
Normal Weight Concrete (145 pcf)				f'_c = 3000 psi
4	2	1.11	0.028	6x6-W1.4xW1.4
4½	2½	1.26	0.028	6x6-W1.4xW1.4
4¾	2¾	1.34	0.028	6x6-W1.4xW1.4
5	3	1.41	0.028	6x6-W1.4xW1.4
5¼	3¼	1.49	0.032	6x6-W2.1xW2.1
5½	3½	1.57	0.041	6x6-W2.1xW2.1
6	4	1.72	0.059	6x6-W3.0xW3.0
6¾	4¾	1.95	0.086	4x4-W2.9xW2.9
Light Weight Concrete (110 pcf)				f'_c = 4000 psi
4	2	1.11	0.028	6x6-W1.4xW1.4
4½	2½	1.26	0.028	6x6-W1.4xW1.4
5	3	1.34	0.028	6x6-W1.4xW1.4
5¼	3¼	1.49	0.032	6x6-W2.1xW2.1
5½	3½	1.57	0.041	6x6-W2.1xW2.1
6	4	1.72	0.059	6x6-W3.0xW3.0

Notes:

1. Recommended temperature and shrinkage reinforcement in accordance with CSSBI S3-2019, Table 2.

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