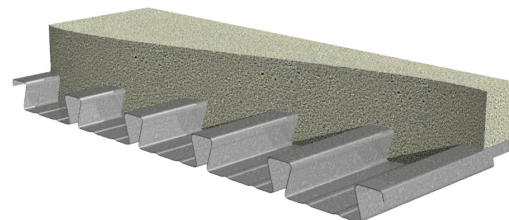


2.0DS-30 FL FORMLOK® DOVETAIL DECK GRADE 50 STEEL

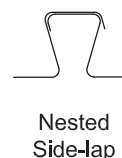
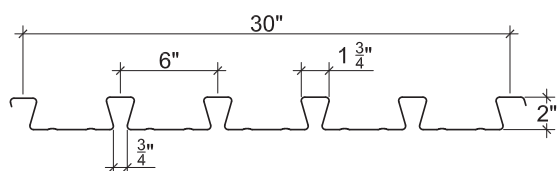
LRFD

2.0DS-30 FL DOVETAIL DECK

- Enhanced 2-Coat Polyester Paint
- White Factory Primer Paint
- Galvanized Finish
- UL Listed



Nominal Dimensions



Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e + I_g)/3$		Effective Section Modulus at $F_y = 50$ ksi		Design Moment		Vertical Web Shear ϕV_n (lb/ft)
				I_{d+} (in ⁴ /ft)	I_{d-} (in ⁴ /ft)	S_{e+} (in ³ /ft)	S_{e-} (in ³ /ft)	ϕM_{n+} (lb-ft/ft)	ϕM_{n-} (lb-ft/ft)	
22	2.2	0.0299	50	0.430	0.382	0.301	0.306	1130	1146	5068
20	2.7	0.0359	50	0.520	0.473	0.378	0.373	1417	1398	6047
18	3.6	0.0478	50	0.695	0.661	0.527	0.509	1977	1907	7949
16	4.5	0.0598	50	0.872	0.856	0.667	0.648	2501	2430	9812

Design Reactions at Supports Based on Web Crippling, ϕR_n (lb/ft)

Deck Gage	Bearing Length of Webs									
	One-Flange Loading					Two-Flange Loading				
	End Bearing				Interior Bearing	End Bearing				Interior Bearing
	1½"	2"	3"	4"	3" 5"	1½"	2"	3"	4"	3" 5"
22	1275	1401	1613	1791	2316 2669	1315	1416	1586	1729	2833 3298
20	1785	1955	2241	2482	3252 3724	1946	2090	2330	2532	4025 4656
18	3014	3286	3743	4127	5514 6249	3553	3794	4200	4541	6926 7930
16	4534	4924	5578	6130	8315 9340	5637	5996	6599	7108	10538 11960

Standard Features

- ASTM A653 SS GR 50 Min. with G90
- Standard lengths – 6'-0" to 40'-0"
- Tables conform to ANSI/SDI C-2017
- IAPMO UES ER-423 and UL Listed

Optional Features

- Inquire regarding cost and lead times for:
 - 21, 19 or 17 gage
 - Alternative metallic and painted finishes

2.0DS-30 FL FORMLOK® DOVETAIL DECK-SLAB

NORMAL WEIGHT CONCRETE (145 pcf)

LRFD

		Maximum Unshored Spans			Composite Deck-Slab Properties				
Slab Depth		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	8'-5"	9'-4"	9'-8"	45.5	5.74	6.46	5.59
		20	9'-8"	10'-3"	10'-7"	46.0	6.14	7.60	5.59
		18	10'-8"	11'-11"	12'-4"	46.9	6.85	9.75	5.59
		16	11'-5"	13'-5"	13'-4"	47.8	7.48	11.80	5.59
5¼"	3¼"	22	7'-7"	8'-5"	8'-8"	60.6	12.20	8.39	7.33
		20	8'-8"	9'-3"	9'-7"	61.1	13.00	9.90	7.33
		18	9'-9"	10'-9"	11'-2"	62.0	14.44	12.77	7.33
		16	10'-6"	12'-1"	12'-6"	62.9	15.73	15.52	7.33
5½"	3½"	22	7'-6"	8'-3"	8'-6"	63.6	13.88	8.79	7.68
		20	8'-6"	9'-1"	9'-5"	64.1	14.79	10.37	7.68
		18	9'-8"	10'-7"	10'-11"	65.0	16.41	13.39	7.68
		16	10'-4"	11'-11"	12'-4"	65.9	17.88	16.29	7.68

Notes:

- Maximum unshored spans are based on 20 psf uniform construction live load and 150 plf concentrated construction live load.
- Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Design Load, ϕW_n , / Deflection at L/360 (psf) NWC (145 pcf), $f'_c = 3000$ 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	462/250	304/145	251/114	209/91	175/74	147/61	104/43	74/31
	20	552/268	367/155	304/122	255/97	215/79	182/65	132/46	96/33
	18	723/299	485/173	405/136	341/109	290/88	248/73	184/51	138/37
	16	886/327	598/189	501/148	424/119	362/96	311/79	233/56	178/40
5¼"	22	598/533	393/308	324/242	269/194	225/157	189/130	134/91	95/66
	20	718/568	476/328	395/258	330/207	278/168	236/138	171/97	124/71
	18	946/630	634/365	529/287	446/229	379/186	324/154	240/108	180/78
	16	1165/687	786/397	659/312	557/250	476/203	409/167	307/117	234/85
5½"	22	626/606	411/351	339/276	282/221	236/179	198/148	140/104	99/75
	20	752/646	499/373	414/294	346/235	291/191	247/157	179/110	130/80
	18	993/717	665/415	555/326	468/261	398/212	340/175	252/122	189/89
	16	1224/781	825/452	691/355	585/284	500/231	429/190	323/133	246/97

Notes:

- For high loads long term concrete creep should be considered.
- See Composite Deck-Slab Superimposed Load tool for alternate slabs or ASD design.

2.0DS-30 FL FORMLOK® DOVETAIL DECK-SLAB LIGHT WEIGHT CONCRETE (110 pcf)

LRFD

		Maximum Unshored Spans				Composite Deck-Slab Properties			
Slab Depth		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'-4"	10'-3"	10'-7"	35.0	4.44	6.18	5.59
		20	10'-8"	11'-4"	11'-8"	35.5	4.77	7.24	5.59
		18	11'-7"	13'-2"	13'-4"	36.4	5.36	9.24	5.59
		16	12'-2"	14'-9"	14'-2"	37.3	5.88	11.12	5.59
4½"	2½"	22	8'-11"	9'-10"	10'-2"	39.6	6.12	6.92	6.29
		20	10'-3"	10'-10"	11'-3"	40.1	6.58	8.12	6.29
		18	11'-3"	12'-7"	13'-0"	41.0	7.37	10.37	6.29
		16	11'-10"	14'-2"	13'-9"	41.9	8.07	12.51	6.29
5¼"	3¼"	22	8'-5"	9'-4"	9'-8"	46.5	9.36	8.07	7.28
		20	9'-8"	10'-3"	10'-7"	47.0	10.04	9.49	7.33
		18	10'-8"	11'-11"	12'-4"	47.9	11.23	12.16	7.33
		16	11'-5"	13'-5"	13'-4"	48.8	12.29	14.71	7.33

Notes:

- Maximum unshored spans are based on 20 psf uniform construction live load and 150 plf concentrated construction live load.
- Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Design Load, ϕW_n , / Deflection at L/360 (psf) LWC (110 pcf), $f'_c = 3000$ 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	452/194	301/112	250/88	210/70	177/57	151/47	110/33	81/24
	20	536/208	359/120	300/94	252/76	214/61	183/50	136/35	102/26
	18	695/234	469/135	393/106	333/85	284/69	244/57	184/40	141/29
	16	845/257	573/148	481/117	409/93	350/76	302/62	229/44	177/32
4½"	22	505/267	336/154	279/121	234/97	198/79	168/65	123/45	90/33
	20	601/287	402/166	336/130	283/104	240/85	205/70	152/49	114/35
	18	780/322	527/186	441/146	374/117	319/95	274/78	206/55	158/40
	16	950/352	644/204	541/160	460/128	394/104	340/86	258/60	199/44
5¼"	22	589/408	392/236	325/186	273/149	230/121	196/99	143/70	105/51
	20	702/438	470/253	392/199	330/159	280/129	240/107	177/75	133/54
	18	915/490	618/284	518/223	438/178	375/145	322/119	242/84	185/61
	16	1118/536	758/310	637/244	542/195	464/159	401/131	304/92	235/67

Notes:

- For high loads long term concrete creep should be considered.
- See Composite Deck-Slab Superimposed Load tool for alternate slabs or ASD design.

2.0DS-30 FL FORMLOK® DOVETAIL DECK-SLAB

LRFD

2.0DS-30 FL Deck-Slab Information

$f'_c = 3000$ psi

Total Slab Depth (in.)	Cover Depth (in.)	Theoretical Concrete Volume (yd³/100 ft²)	Min. A _s for T&S (in.²)	Recommended Reinforcing for Temperature and Shrinkage	
				WWR	(OR) Bekaert Dramix® Steel Fiber Alternate to WWR (lb/yd³)
					4D 65/60BG
Normal Weight Concrete (145 pcf)					
4	2	1.11	0.028	6x6-W1.4xW1.4	23
4½	2½	1.26	0.028	6x6-W1.4xW1.4	18
4¾	2¾	1.34	0.028	6x6-W1.4xW1.4	16
5	3	1.41	0.028	6x6-W1.4xW1.4	15
5¼	3¼	1.49	0.029	6x6-W2.1xW2.1	15
5½	3½	1.57	0.032	6x6-W2.1xW2.1	15
6	4	1.72	0.036	6x6-W2.1xW2.1	15
6¾	4¾	1.95	0.043	6x6-W2.9xW2.9	15
Light Weight Concrete (110 pcf)					
4	2	1.11	0.028	6X6-W1.4xW1.4	33
4½	2½	1.26	0.028	6x6-W1.4xW1.4	25
5	3	1.41	0.028	6x6-W1.4xW1.4	20
5¼	3¼	1.49	0.029	6x6-W2.1xW2.1	20
5½	3½	1.57	0.032	6x6-W2.1xW2.1	20
6	4	1.72	0.036	6x6-W2.1xW2.1	20

Notes:

1. FRC reinforcement is based on IAPMO UES ER-465.
2. Dramix® fibers may be used in UL or ULC fire rated assemblies in lieu of WWR. See UL file R19307 for additional information.

For information on Bekaert Dramix® fibers contact 770-514-2295 or infobuilding@bekaert.com.

NOTICE: Design defects that could cause injury or death may result from relying on the information in this document without independent verification by a qualified professional. The information in this document is provided "AS IS". Nucor Corporation and its affiliates expressly disclaim: (i) any and all representations, warranties and conditions and (ii) all liability arising out of or related to this document and the information in it.